Codata

0.6.0

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Chapter 1

Introduction

codata provides, automatically generated, source files for the lastest codata constants (2018). The raw codata from http://physics.nist.gov/constants are parsed line by line and converted into declarations as constants for different languages:

- Fortran module named fcodata.f90
- C header named ccodata.h
- Python module named pycodata.py
- CPython extension named cpycodata.c

The sources can be directly included in projects where they are needed.

Links:

- Sources: https://github.com/MilanSkocic/codata.
- Online documentation: https://milanskocic.github.io/codata/index.html.
- PDF documentation: https://milanskocic.github.io/codata/codata/refman.pdf.

1.1 Installation

See the file INSTALL.

1.2 Dependencies

See the file REQUIREMENTS.

1.3 License information

See the file LICENSE.

Chapter 2

install

Copy and paste the source code for the language of your choice.

Chapter 3

license

```
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```

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    more than your reasonable cost of physically performing this
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    Corresponding Source from a network server at no charge.

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    written offer to provide the Corresponding Source. This
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```

Chapter 4

requirements

gcc>=4.6 or msvc>=14

gfortran>=4.6 or ifort>=18

cmake>=3.10

Chapter 5

Codata 0.1.0 Release Note

5.1 Changes

Implementation of:

- the parser of the codata raw data
- the generator of the Fortran modules
- the C API and C header
- the python wrapper (will be moved to its repository next release).

5.2 Download

Codata Releases

5.3 Contributors

Milan Skocic

5.4 Commits

Full Changelog: https://github.com/MilanSkocic/codata/compare/....0.1.0

Chapter 6

Codata 0.2.0 Release Note

6.1 Changes

- Bug fixes for the codata 2010.
- Bug fixes in the tests linked to the codata 2010.
- Add python wrapper for the number of constants method.

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6.3 Contributors

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Full Changelog: https://github.com/MilanSkocic/codata/compare/0.1.0...0.2.0

Chapter 7

Codata 0.2.1 Release Note

7.1 Changes

- Integration of Intel Fortran compiler and MSVC in cmake scripts.
- Add specifications and instructions for compiling on Windows

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Codata Releases

7.3 Contributors

Milan Skocic

7.4 Commits

Full Changelog: https://github.com/MilanSkocic/codata/compare/0.2.0...0.2.1

Chapter 8

Codata 0.3.0 Release Note

8.1 Changes

- Only last codata constants.

8.2 Download

Codata Releases

8.3 Contributors

Milan Skocic

8.4 Commits

Full Changelog: https://github.com/MilanSkocic/codata/compare/0.2.1...0.3.0

Chapter 9

Codata 0.4.0 Release Note

9.1 Changes

- Bring back pywrapper in the codata repository to sync versions.
- Improvements of the documentation.

9.2 Download

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9.3 Contributors

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Full Changelog: https://github.com/MilanSkocic/codata/compare/0.3.0...0.4.0

Chapter 10

Codata 0.5.0 Release Note

10.1 Changes

- Changed the complete approach by not generating a library but only source files for different languages.
- Available languages: Fortran, C, python, CPython

10.2 Download

Codata Releases

10.3 Contributors

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10.4 Commits

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Chapter 11

Modules Index

11.1 Modules List

Here is a list of all modules with brief descriptions:

codata
    Codata constants - autogenerated 35
pycodata 195

Chapter 12

Data Type Index

12.1 Data Types List

Here are the data types with brief descriptions:

codata_file_props
Properties of the file for the codata raw data 327

Chapter 13

File Index

13.1 File List

Here is a list of all files with brief descriptions:

/Users/milan/programs/codata/src/ccodata.h
    Codata module - autogenerated 329
/Users/milan/programs/codata/src/cpycodata.c 486
/Users/milan/programs/codata/src/fcodata.f90
    Codata module - autogenerated 516
/Users/milan/programs/codata/src/generator.c
    Generator 561
/Users/milan/programs/codata/src/pycodata.py 576

Chapter 14

Module Documentation

14.1 codata Module Reference

Codata constants - autogenerated.

Variables

- real(real64), parameter alpha_particle_electron_mass_ratio =7294.29954142d0
- real(real64), parameter u_alpha_particle_electron_mass_ratio =0.00000024d0
- real(real64), parameter alpha_particle_mass =6.6446573357d-27

  kg
- real(real64), parameter u_alpha_particle_mass =0.0000000020d-27

  kg
- real(real64), parameter alpha_particle_mass_energy_equivalent =5.9719201914d-10

  J.
- real(real64), parameter u_alpha_particle_mass_energy_equivalent =0.0000000018d-10

  J.
- real(real64), parameter alpha_particle_mass_energy_equivalent_in_mev =3727.3794066d0

  MeV.
- real(real64), parameter u_alpha_particle_mass_energy_equivalent_in_mev =0.0000011d0

  MeV.
- real(real64), parameter alpha_particle_mass_in_u =4.001506179127d0

  u
- real(real64), parameter u_alpha_particle_mass_in_u =0.000000000063d0

  u
- real(real64), parameter alpha_particle_molar_mass =4.0015061777d-3

  kg mol^-1
- real(real64), parameter u_alpha_particle_molar_mass =0.0000000012d-3

  kg mol^-1
- real(real64), parameter alpha_particle_proton_mass_ratio =3.97259969009d0
- real(real64), parameter u_alpha_particle_proton_mass_ratio =0.00000000022d0
- real(real64), parameter alpha_particle_relative_atomic_mass =4.001506179127d0
- real(real64), parameter u_alpha_particle_relative_atomic_mass =0.000000000063d0
- real(real64), parameter angstrom_star =1.00001495d-10

  m

- real(real64), parameter u_angstrom_star =0.00000090d-10
  m
- real(real64), parameter atomic_mass_constant =1.66053906660d-27
  kg
- real(real64), parameter u_atomic_mass_constant =0.00000000050d-27
  kg
- real(real64), parameter atomic_mass_constant_energy_equivalent =1.49241808560d-10
  J.
- real(real64), parameter u_atomic_mass_constant_energy_equivalent =0.00000000045d-10
  J.
- real(real64), parameter atomic_mass_constant_energy_equivalent_in_mev =931.49410242d0
  MeV.
- real(real64), parameter u_atomic_mass_constant_energy_equivalent_in_mev =0.00000028d0
  MeV.
- real(real64), parameter atomic_mass_unit_electron_volt_relationship =9.3149410242d8
  eV
- real(real64), parameter u_atomic_mass_unit_electron_volt_relationship =0.0000000028d8
  eV
- real(real64), parameter atomic_mass_unit_hartree_relationship =3.4231776874d7
  E_h.
- real(real64), parameter u_atomic_mass_unit_hartree_relationship =0.0000000010d7
  E_h.
- real(real64), parameter atomic_mass_unit_hertz_relationship =2.25234271871d23
  Hz.
- real(real64), parameter u_atomic_mass_unit_hertz_relationship =0.00000000068d23
  Hz.
- real(real64), parameter atomic_mass_unit_inverse_meter_relationship =7.5130066104d14
  m^-1
- real(real64), parameter u_atomic_mass_unit_inverse_meter_relationship =0.0000000023d14
  m^-1
- real(real64), parameter atomic_mass_unit_joule_relationship =1.49241808560d-10
  J.
- real(real64), parameter u_atomic_mass_unit_joule_relationship =0.00000000045d-10
  J.
- real(real64), parameter atomic_mass_unit_kelvin_relationship =1.08095401916d13
  K.
- real(real64), parameter u_atomic_mass_unit_kelvin_relationship =0.00000000033d13
  K.
- real(real64), parameter atomic_mass_unit_kilogram_relationship =1.66053906660d-27
  kg
- real(real64), parameter u_atomic_mass_unit_kilogram_relationship =0.00000000050d-27
  kg
- real(real64), parameter atomic_unit_of_1st_hyperpolarizability =3.2063613061d-53
  C^3 m^3 J^-2.
- real(real64), parameter u_atomic_unit_of_1st_hyperpolarizability =0.0000000015d-53
  C^3 m^3 J^-2.
- real(real64), parameter atomic_unit_of_2nd_hyperpolarizability =6.2353799905d-65
  C^4 m^4 J^-3.
- real(real64), parameter u_atomic_unit_of_2nd_hyperpolarizability =0.0000000038d-65
  C^4 m^4 J^-3.
- real(real64), parameter atomic_unit_of_action =1.054571817d-34

J s.

- real(real64), parameter u_atomic_unit_of_action =0.0d0

  J s.
- real(real64), parameter atomic_unit_of_charge =1.602176634d-19

  C.
- real(real64), parameter u_atomic_unit_of_charge =0.0d0

  C.
- real(real64), parameter atomic_unit_of_charge_density =1.08120238457d12

  C m^-3.
- real(real64), parameter u_atomic_unit_of_charge_density =0.00000000049d12

  C m^-3.
- real(real64), parameter atomic_unit_of_current =6.623618237510d-3

  A.
- real(real64), parameter u_atomic_unit_of_current =0.000000000013d-3

  A.
- real(real64), parameter atomic_unit_of_electric_dipole_mom =8.4783536255d-30

  C m.
- real(real64), parameter u_atomic_unit_of_electric_dipole_mom =0.0000000013d-30

  C m.
- real(real64), parameter atomic_unit_of_electric_field =5.14220674763d11

  V m^-1.
- real(real64), parameter u_atomic_unit_of_electric_field =0.00000000078d11

  V m^-1.
- real(real64), parameter atomic_unit_of_electric_field_gradient =9.7173624292d21

  V m^-2.
- real(real64), parameter u_atomic_unit_of_electric_field_gradient =0.0000000029d21

  V m^-2.
- real(real64), parameter atomic_unit_of_electric_polarizability =1.64877727436d-41

  C^2 m^2 J^-1.
- real(real64), parameter u_atomic_unit_of_electric_polarizability =0.00000000050d-41

  C^2 m^2 J^-1.
- real(real64), parameter atomic_unit_of_electric_potential =27.211386245988d0

  V.
- real(real64), parameter u_atomic_unit_of_electric_potential =0.000000000053d0

  V.
- real(real64), parameter atomic_unit_of_electric_quadrupole_mom =4.4865515246d-40

  C m^2.
- real(real64), parameter u_atomic_unit_of_electric_quadrupole_mom =0.0000000014d-40

  C m^2.
- real(real64), parameter atomic_unit_of_energy =4.3597447222071d-18

  J.
- real(real64), parameter u_atomic_unit_of_energy =0.0000000000085d-18

  J.
- real(real64), parameter atomic_unit_of_force =8.2387234983d-8

  N.
- real(real64), parameter u_atomic_unit_of_force =0.0000000012d-8

  N.
- real(real64), parameter atomic_unit_of_length =5.29177210903d-11

  m
- real(real64), parameter u_atomic_unit_of_length =0.00000000080d-11

  m

- real(real64), parameter atomic_unit_of_mag__dipole_mom =1.85480201566d-23
  J T^-1.
- real(real64), parameter u_atomic_unit_of_mag__dipole_mom =0.00000000056d-23
  J T^-1.
- real(real64), parameter atomic_unit_of_mag__flux_density =2.35051756758d5
  T.
- real(real64), parameter u_atomic_unit_of_mag__flux_density =0.00000000071d5
  T.
- real(real64), parameter atomic_unit_of_magnetizability =7.8910366008d-29
  J T^-2.
- real(real64), parameter u_atomic_unit_of_magnetizability =0.0000000048d-29
  J T^-2.
- real(real64), parameter atomic_unit_of_mass =9.1093837015d-31
  kg
- real(real64), parameter u_atomic_unit_of_mass =0.0000000028d-31
  kg
- real(real64), parameter atomic_unit_of_momentum =1.99285191410d-24
  kg m s^-1
- real(real64), parameter u_atomic_unit_of_momentum =0.00000000030d-24
  kg m s^-1
- real(real64), parameter atomic_unit_of_permittivity =1.11265005545d-10
  F m^-1.
- real(real64), parameter u_atomic_unit_of_permittivity =0.00000000017d-10
  F m^-1.
- real(real64), parameter atomic_unit_of_time =2.4188843265857d-17
  s
- real(real64), parameter u_atomic_unit_of_time =0.0000000000047d-17
  s
- real(real64), parameter atomic_unit_of_velocity =2.18769126364d6
  m s^-1
- real(real64), parameter u_atomic_unit_of_velocity =0.00000000033d6
  m s^-1
- real(real64), parameter avogadro_constant =6.02214076d23
  mol^-1
- real(real64), parameter u_avogadro_constant =0.0d0
  mol^-1
- real(real64), parameter bohr_magneton =9.2740100783d-24
  J T^-1.
- real(real64), parameter u_bohr_magneton =0.0000000028d-24
  J T^-1.
- real(real64), parameter bohr_magneton_in_ev_t =5.7883818060d-5
  eV T^-1
- real(real64), parameter u_bohr_magneton_in_ev_t =0.0000000017d-5
  eV T^-1
- real(real64), parameter bohr_magneton_in_hz_t =1.39962449361d10
  Hz T^-1.
- real(real64), parameter u_bohr_magneton_in_hz_t =0.00000000042d10
  Hz T^-1.
- real(real64), parameter bohr_magneton_in_inverse_meter_per_tesla =46.686447783d0
  m^-1 T^-1
- real(real64), parameter u_bohr_magneton_in_inverse_meter_per_tesla =0.000000014d0

m^-1 T^-1

- real(real64), parameter bohr_magneton_in_k_t =0.67171381563d0

  K T^-1.
- real(real64), parameter u_bohr_magneton_in_k_t =0.00000000020d0

  K T^-1.
- real(real64), parameter bohr_radius =5.29177210903d-11

  m
- real(real64), parameter u_bohr_radius =0.00000000080d-11

  m
- real(real64), parameter boltzmann_constant =1.380649d-23

  J K^-1.
- real(real64), parameter u_boltzmann_constant =0.0d0

  J K^-1.
- real(real64), parameter boltzmann_constant_in_ev_k =8.617333262d-5

  eV K^-1
- real(real64), parameter u_boltzmann_constant_in_ev_k =0.0d0

  eV K^-1
- real(real64), parameter boltzmann_constant_in_hz_k =2.083661912d10

  Hz K^-1.
- real(real64), parameter u_boltzmann_constant_in_hz_k =0.0d0

  Hz K^-1.
- real(real64), parameter boltzmann_constant_in_inverse_meter_per_kelvin =69.50348004d0

  m^-1 K^-1
- real(real64), parameter u_boltzmann_constant_in_inverse_meter_per_kelvin =0.0d0

  m^-1 K^-1
- real(real64), parameter characteristic_impedance_of_vacuum =376.730313668d0

  ohm
- real(real64), parameter u_characteristic_impedance_of_vacuum =0.000000057d0

  ohm
- real(real64), parameter classical_electron_radius =2.8179403262d-15

  m
- real(real64), parameter u_classical_electron_radius =0.0000000013d-15

  m
- real(real64), parameter compton_wavelength =2.42631023867d-12

  m
- real(real64), parameter u_compton_wavelength =0.00000000073d-12

  m
- real(real64), parameter conductance_quantum =7.748091729d-5

  S.
- real(real64), parameter u_conductance_quantum =0.0d0

  S.
- real(real64), parameter conventional_value_of_ampere_90 =1.00000008887d0

  A.
- real(real64), parameter u_conventional_value_of_ampere_90 =0.0d0

  A.
- real(real64), parameter conventional_value_of_coulomb_90 =1.00000008887d0

  C.
- real(real64), parameter u_conventional_value_of_coulomb_90 =0.0d0

  C.
- real(real64), parameter conventional_value_of_farad_90 =0.99999998220d0

  F.

- real(real64), parameter u_conventional_value_of_farad_90 =0.0d0

  F.
- real(real64), parameter conventional_value_of_henry_90 =1.00000001779d0

  H.
- real(real64), parameter u_conventional_value_of_henry_90 =0.0d0

  H.
- real(real64), parameter conventional_value_of_josephson_constant =483597.9d9

  Hz V^-1.
- real(real64), parameter u_conventional_value_of_josephson_constant =0.0d0

  Hz V^-1.
- real(real64), parameter conventional_value_of_ohm_90 =1.00000001779d0

  ohm
- real(real64), parameter u_conventional_value_of_ohm_90 =0.0d0

  ohm
- real(real64), parameter conventional_value_of_volt_90 =1.00000010666d0

  V.
- real(real64), parameter u_conventional_value_of_volt_90 =0.0d0

  V.
- real(real64), parameter conventional_value_of_von_klitzing_constant =25812.807d0

  ohm
- real(real64), parameter u_conventional_value_of_von_klitzing_constant =0.0d0

  ohm
- real(real64), parameter conventional_value_of_watt_90 =1.00000019553d0

  W.
- real(real64), parameter u_conventional_value_of_watt_90 =0.0d0

  W.
- real(real64), parameter copper_x_unit =1.00207697d-13

  m
- real(real64), parameter u_copper_x_unit =0.00000028d-13

  m
- real(real64), parameter deuteron_electron_mag__mom__ratio =-4.664345551d-4
- real(real64), parameter u_deuteron_electron_mag__mom__ratio =0.000000012d-4
- real(real64), parameter deuteron_electron_mass_ratio =3670.48296788d0
- real(real64), parameter u_deuteron_electron_mass_ratio =0.00000013d0
- real(real64), parameter deuteron_g_factor =0.8574382338d0
- real(real64), parameter u_deuteron_g_factor =0.0000000022d0
- real(real64), parameter deuteron_mag__mom =4.330735094d-27

  J T^-1.
- real(real64), parameter u_deuteron_mag__mom =0.000000011d-27

  J T^-1.
- real(real64), parameter deuteron_mag__mom__to_bohr_magneton_ratio =4.669754570d-4
- real(real64), parameter u_deuteron_mag__mom__to_bohr_magneton_ratio =0.000000012d-4
- real(real64), parameter deuteron_mag__mom__to_nuclear_magneton_ratio =0.8574382338d0
- real(real64), parameter u_deuteron_mag__mom__to_nuclear_magneton_ratio =0.0000000022d0
- real(real64), parameter deuteron_mass =3.3435837724d-27

  kg
- real(real64), parameter u_deuteron_mass =0.0000000010d-27

  kg
- real(real64), parameter deuteron_mass_energy_equivalent =3.00506323102d-10

  J.
- real(real64), parameter u_deuteron_mass_energy_equivalent =0.00000000091d-10

J.

- real(real64), parameter deuteron_mass_energy_equivalent_in_mev =1875.61294257d0

  MeV.
- real(real64), parameter u_deuteron_mass_energy_equivalent_in_mev =0.00000057d0

  MeV.
- real(real64), parameter deuteron_mass_in_u =2.013553212745d0

  u
- real(real64), parameter u_deuteron_mass_in_u =0.000000000040d0

  u
- real(real64), parameter deuteron_molar_mass =2.01355321205d-3

  kg mol^-1
- real(real64), parameter u_deuteron_molar_mass =0.00000000061d-3

  kg mol^-1
- real(real64), parameter deuteron_neutron_mag__mom__ratio =-0.44820653d0
- real(real64), parameter u_deuteron_neutron_mag__mom__ratio =0.00000011d0
- real(real64), parameter deuteron_proton_mag__mom__ratio =0.30701220939d0
- real(real64), parameter u_deuteron_proton_mag__mom__ratio =0.00000000079d0
- real(real64), parameter deuteron_proton_mass_ratio =1.99900750139d0
- real(real64), parameter u_deuteron_proton_mass_ratio =0.00000000011d0
- real(real64), parameter deuteron_relative_atomic_mass =2.013553212745d0
- real(real64), parameter u_deuteron_relative_atomic_mass =0.000000000040d0
- real(real64), parameter deuteron_rms_charge_radius =2.12799d-15

  m
- real(real64), parameter u_deuteron_rms_charge_radius =0.00074d-15

  m
- real(real64), parameter electron_charge_to_mass_quotient =-1.75882001076d11

  C kg^-1.
- real(real64), parameter u_electron_charge_to_mass_quotient =0.00000000053d11

  C kg^-1.
- real(real64), parameter electron_deuteron_mag__mom__ratio =-2143.9234915d0
- real(real64), parameter u_electron_deuteron_mag__mom__ratio =0.0000056d0
- real(real64), parameter electron_deuteron_mass_ratio =2.724437107462d-4
- real(real64), parameter u_electron_deuteron_mass_ratio =0.000000000096d-4
- real(real64), parameter electron_g_factor =-2.00231930436256d0
- real(real64), parameter u_electron_g_factor =0.00000000000035d0
- real(real64), parameter electron_gyromag__ratio =1.76085963023d11

  s^-1 T^-1
- real(real64), parameter u_electron_gyromag__ratio =0.00000000053d11

  s^-1 T^-1
- real(real64), parameter electron_gyromag__ratio_in_mhz_t =28024.9514242d0

  MHz T^-1.
- real(real64), parameter u_electron_gyromag__ratio_in_mhz_t =0.0000085d0

  MHz T^-1.
- real(real64), parameter electron_helion_mass_ratio =1.819543074573d-4
- real(real64), parameter u_electron_helion_mass_ratio =0.000000000079d-4
- real(real64), parameter electron_mag__mom =-9.2847647043d-24

  J T^-1.
- real(real64), parameter u_electron_mag__mom =0.0000000028d-24

  J T^-1.
- real(real64), parameter electron_mag__mom__anomaly =1.15965218128d-3
- real(real64), parameter u_electron_mag__mom__anomaly =0.00000000018d-3
- real(real64), parameter electron_mag__mom__to_bohr_magneton_ratio =-1.00115965218128d0

- real(real64), parameter u_electron_mag__mom__to_bohr_magneton_ratio =0.00000000000018d0
- real(real64), parameter electron_mag__mom__to_nuclear_magneton_ratio =-1838.28197188d0
- real(real64), parameter u_electron_mag__mom__to_nuclear_magneton_ratio =0.00000011d0
- real(real64), parameter electron_mass =9.1093837015d-31

  kg
- real(real64), parameter u_electron_mass =0.0000000028d-31

  kg
- real(real64), parameter electron_mass_energy_equivalent =8.1871057769d-14

  J.
- real(real64), parameter u_electron_mass_energy_equivalent =0.0000000025d-14

  J.
- real(real64), parameter electron_mass_energy_equivalent_in_mev =0.51099895000d0

  MeV.
- real(real64), parameter u_electron_mass_energy_equivalent_in_mev =0.00000000015d0

  MeV.
- real(real64), parameter electron_mass_in_u =5.48579909065d-4

  u
- real(real64), parameter u_electron_mass_in_u =0.00000000016d-4

  u
- real(real64), parameter electron_molar_mass =5.4857990888d-7

  kg mol^-1
- real(real64), parameter u_electron_molar_mass =0.0000000017d-7

  kg mol^-1
- real(real64), parameter electron_muon_mag__mom__ratio =206.7669883d0
- real(real64), parameter u_electron_muon_mag__mom__ratio =0.0000046d0
- real(real64), parameter electron_muon_mass_ratio =4.83633169d-3
- real(real64), parameter u_electron_muon_mass_ratio =0.00000011d-3
- real(real64), parameter electron_neutron_mag__mom__ratio =960.92050d0
- real(real64), parameter u_electron_neutron_mag__mom__ratio =0.00023d0
- real(real64), parameter electron_neutron_mass_ratio =5.4386734424d-4
- real(real64), parameter u_electron_neutron_mass_ratio =0.0000000026d-4
- real(real64), parameter electron_proton_mag__mom__ratio =-658.21068789d0
- real(real64), parameter u_electron_proton_mag__mom__ratio =0.00000020d0
- real(real64), parameter electron_proton_mass_ratio =5.44617021487d-4
- real(real64), parameter u_electron_proton_mass_ratio =0.00000000033d-4
- real(real64), parameter electron_relative_atomic_mass =5.48579909065d-4
- real(real64), parameter u_electron_relative_atomic_mass =0.00000000016d-4
- real(real64), parameter electron_tau_mass_ratio =2.87585d-4
- real(real64), parameter u_electron_tau_mass_ratio =0.00019d-4
- real(real64), parameter electron_to_alpha_particle_mass_ratio =1.370933554787d-4
- real(real64), parameter u_electron_to_alpha_particle_mass_ratio =0.000000000045d-4
- real(real64), parameter electron_to_shielded_helion_mag__mom__ratio =864.058257d0
- real(real64), parameter u_electron_to_shielded_helion_mag__mom__ratio =0.000010d0
- real(real64), parameter electron_to_shielded_proton_mag__mom__ratio =-658.2275971d0
- real(real64), parameter u_electron_to_shielded_proton_mag__mom__ratio =0.0000072d0
- real(real64), parameter electron_triton_mass_ratio =1.819200062251d-4
- real(real64), parameter u_electron_triton_mass_ratio =0.000000000090d-4
- real(real64), parameter electron_volt =1.602176634d-19

  J.
- real(real64), parameter u_electron_volt =0.0d0

  J.
- real(real64), parameter electron_volt_atomic_mass_unit_relationship =1.07354410233d-9

u

- real(real64), parameter u_electron_volt_atomic_mass_unit_relationship =0.00000000032d-9

  u
- real(real64), parameter electron_volt_hartree_relationship =3.6749322175655d-2

  E_h.
- real(real64), parameter u_electron_volt_hartree_relationship =0.0000000000071d-2

  E_h.
- real(real64), parameter electron_volt_hertz_relationship =2.417989242d14

  Hz.
- real(real64), parameter u_electron_volt_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter electron_volt_inverse_meter_relationship =8.065543937d5

  m^-1
- real(real64), parameter u_electron_volt_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter electron_volt_joule_relationship =1.602176634d-19

  J.
- real(real64), parameter u_electron_volt_joule_relationship =0.0d0

  J.
- real(real64), parameter electron_volt_kelvin_relationship =1.160451812d4

  K.
- real(real64), parameter u_electron_volt_kelvin_relationship =0.0d0

  K.
- real(real64), parameter electron_volt_kilogram_relationship =1.782661921d-36

  kg
- real(real64), parameter u_electron_volt_kilogram_relationship =0.0d0

  kg
- real(real64), parameter elementary_charge =1.602176634d-19

  C.
- real(real64), parameter u_elementary_charge =0.0d0

  C.
- real(real64), parameter elementary_charge_over_h_bar =1.519267447d15

  A J^-1.
- real(real64), parameter u_elementary_charge_over_h_bar =0.0d0

  A J^-1.
- real(real64), parameter faraday_constant =96485.33212d0

  C mol^-1.
- real(real64), parameter u_faraday_constant =0.0d0

  C mol^-1.
- real(real64), parameter fermi_coupling_constant =1.1663787d-5

  GeV^-2.
- real(real64), parameter u_fermi_coupling_constant =0.0000006d-5

  GeV^-2.
- real(real64), parameter fine_structure_constant =7.2973525693d-3
- real(real64), parameter u_fine_structure_constant =0.0000000011d-3
- real(real64), parameter first_radiation_constant =3.741771852d-16

  W m^2.
- real(real64), parameter u_first_radiation_constant =0.0d0

  W m^2.
- real(real64), parameter first_radiation_constant_for_spectral_radiance =1.191042972d-16

  W m^2 sr^-1.

- real(real64), parameter u_first_radiation_constant_for_spectral_radiance =0.0d0
  W m^2 sr^-1.
- real(real64), parameter hartree_atomic_mass_unit_relationship =2.92126232205d-8
  u
- real(real64), parameter u_hartree_atomic_mass_unit_relationship =0.00000000088d-8
  u
- real(real64), parameter hartree_electron_volt_relationship =27.211386245988d0
  eV
- real(real64), parameter u_hartree_electron_volt_relationship =0.000000000053d0
  eV
- real(real64), parameter hartree_energy =4.3597447222071d-18
  J.
- real(real64), parameter u_hartree_energy =0.0000000000085d-18
  J.
- real(real64), parameter hartree_energy_in_ev =27.211386245988d0
  eV
- real(real64), parameter u_hartree_energy_in_ev =0.000000000053d0
  eV
- real(real64), parameter hartree_hertz_relationship =6.579683920502d15
  Hz.
- real(real64), parameter u_hartree_hertz_relationship =0.000000000013d15
  Hz.
- real(real64), parameter hartree_inverse_meter_relationship =2.1947463136320d7
  m^-1
- real(real64), parameter u_hartree_inverse_meter_relationship =0.0000000000043d7
  m^-1
- real(real64), parameter hartree_joule_relationship =4.3597447222071d-18
  J.
- real(real64), parameter u_hartree_joule_relationship =0.0000000000085d-18
  J.
- real(real64), parameter hartree_kelvin_relationship =3.1577502480407d5
  K.
- real(real64), parameter u_hartree_kelvin_relationship =0.0000000000061d5
  K.
- real(real64), parameter hartree_kilogram_relationship =4.8508702095432d-35
  kg
- real(real64), parameter u_hartree_kilogram_relationship =0.0000000000094d-35
  kg
- real(real64), parameter helion_electron_mass_ratio =5495.88528007d0
- real(real64), parameter u_helion_electron_mass_ratio =0.00000024d0
- real(real64), parameter helion_g_factor =-4.255250615d0
- real(real64), parameter u_helion_g_factor =0.000000050d0
- real(real64), parameter helion_mag__mom =-1.074617532d-26
  J T^-1.
- real(real64), parameter u_helion_mag__mom =0.000000013d-26
  J T^-1.
- real(real64), parameter helion_mag__mom__to_bohr_magneton_ratio =-1.158740958d-3
- real(real64), parameter u_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
- real(real64), parameter helion_mag__mom__to_nuclear_magneton_ratio =-2.127625307d0
- real(real64), parameter u_helion_mag__mom__to_nuclear_magneton_ratio =0.000000025d0
- real(real64), parameter helion_mass =5.0064127796d-27

kg

- real(real64), parameter u_helion_mass =0.0000000015d-27

  kg
- real(real64), parameter helion_mass_energy_equivalent =4.4995394125d-10

  J.
- real(real64), parameter u_helion_mass_energy_equivalent =0.0000000014d-10

  J.
- real(real64), parameter helion_mass_energy_equivalent_in_mev =2808.39160743d0

  MeV.
- real(real64), parameter u_helion_mass_energy_equivalent_in_mev =0.00000085d0

  MeV.
- real(real64), parameter helion_mass_in_u =3.014932247175d0

  u
- real(real64), parameter u_helion_mass_in_u =0.000000000097d0

  u
- real(real64), parameter helion_molar_mass =3.01493224613d-3

  kg mol^-1
- real(real64), parameter u_helion_molar_mass =0.00000000091d-3

  kg mol^-1
- real(real64), parameter helion_proton_mass_ratio =2.99315267167d0
- real(real64), parameter u_helion_proton_mass_ratio =0.00000000013d0
- real(real64), parameter helion_relative_atomic_mass =3.014932247175d0
- real(real64), parameter u_helion_relative_atomic_mass =0.000000000097d0
- real(real64), parameter helion_shielding_shift =5.996743d-5
- real(real64), parameter u_helion_shielding_shift =0.000010d-5
- real(real64), parameter hertz_atomic_mass_unit_relationship =4.4398216652d-24

  u
- real(real64), parameter u_hertz_atomic_mass_unit_relationship =0.0000000013d-24

  u
- real(real64), parameter hertz_electron_volt_relationship =4.135667696d-15

  eV
- real(real64), parameter u_hertz_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter hertz_hartree_relationship =1.5198298460570d-16

  E_h.
- real(real64), parameter u_hertz_hartree_relationship =0.0000000000029d-16

  E_h.
- real(real64), parameter hertz_inverse_meter_relationship =3.335640951d-9

  m^-1
- real(real64), parameter u_hertz_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter hertz_joule_relationship =6.62607015d-34

  J.
- real(real64), parameter u_hertz_joule_relationship =0.0d0

  J.
- real(real64), parameter hertz_kelvin_relationship =4.799243073d-11

  K.
- real(real64), parameter u_hertz_kelvin_relationship =0.0d0

  K.
- real(real64), parameter hertz_kilogram_relationship =7.372497323d-51

  kg

- real(real64), parameter u_hertz_kilogram_relationship =0.0d0

  kg
- real(real64), parameter hyperfine_transition_frequency_of_cs_133 =9192631770.0d0

  Hz.
- real(real64), parameter u_hyperfine_transition_frequency_of_cs_133 =0.0d0

  Hz.
- real(real64), parameter inverse_fine_structure_constant =137.035999084d0
- real(real64), parameter u_inverse_fine_structure_constant =0.000000021d0
- real(real64), parameter inverse_meter_atomic_mass_unit_relationship =1.33102505010d-15

  u
- real(real64), parameter u_inverse_meter_atomic_mass_unit_relationship =0.00000000040d-15

  u
- real(real64), parameter inverse_meter_electron_volt_relationship =1.239841984d-6

  eV
- real(real64), parameter u_inverse_meter_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter inverse_meter_hartree_relationship =4.5563352529120d-8

  E_h.
- real(real64), parameter u_inverse_meter_hartree_relationship =0.0000000000088d-8

  E_h.
- real(real64), parameter inverse_meter_hertz_relationship =299792458.0d0

  Hz.
- real(real64), parameter u_inverse_meter_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter inverse_meter_joule_relationship =1.986445857d-25

  J.
- real(real64), parameter u_inverse_meter_joule_relationship =0.0d0

  J.
- real(real64), parameter inverse_meter_kelvin_relationship =1.438776877d-2

  K.
- real(real64), parameter u_inverse_meter_kelvin_relationship =0.0d0

  K.
- real(real64), parameter inverse_meter_kilogram_relationship =2.210219094d-42

  kg
- real(real64), parameter u_inverse_meter_kilogram_relationship =0.0d0

  kg
- real(real64), parameter inverse_of_conductance_quantum =12906.40372d0

  ohm
- real(real64), parameter u_inverse_of_conductance_quantum =0.0d0

  ohm
- real(real64), parameter josephson_constant =483597.8484d9

  Hz V^-1.
- real(real64), parameter u_josephson_constant =0.0d0

  Hz V^-1.
- real(real64), parameter joule_atomic_mass_unit_relationship =6.7005352565d9

  u
- real(real64), parameter u_joule_atomic_mass_unit_relationship =0.0000000020d9

  u
- real(real64), parameter joule_electron_volt_relationship =6.241509074d18

  eV
- real(real64), parameter u_joule_electron_volt_relationship =0.0d0

eV

- real(real64), parameter joule_hartree_relationship =2.2937122783963d17

  E_h.
- real(real64), parameter u_joule_hartree_relationship =0.0000000000045d17

  E_h.
- real(real64), parameter joule_hertz_relationship =1.509190179d33

  Hz.
- real(real64), parameter u_joule_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter joule_inverse_meter_relationship =5.034116567d24

  m^-1
- real(real64), parameter u_joule_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter joule_kelvin_relationship =7.242970516d22

  K.
- real(real64), parameter u_joule_kelvin_relationship =0.0d0

  K.
- real(real64), parameter joule_kilogram_relationship =1.112650056d-17

  kg
- real(real64), parameter u_joule_kilogram_relationship =0.0d0

  kg
- real(real64), parameter kelvin_atomic_mass_unit_relationship =9.2510873014d-14

  u
- real(real64), parameter u_kelvin_atomic_mass_unit_relationship =0.0000000028d-14

  u
- real(real64), parameter kelvin_electron_volt_relationship =8.617333262d-5

  eV
- real(real64), parameter u_kelvin_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter kelvin_hartree_relationship =3.1668115634556d-6

  E_h.
- real(real64), parameter u_kelvin_hartree_relationship =0.0000000000061d-6

  E_h.
- real(real64), parameter kelvin_hertz_relationship =2.083661912d10

  Hz.
- real(real64), parameter u_kelvin_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter kelvin_inverse_meter_relationship =69.50348004d0

  m^-1
- real(real64), parameter u_kelvin_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter kelvin_joule_relationship =1.380649d-23

  J.
- real(real64), parameter u_kelvin_joule_relationship =0.0d0

  J.
- real(real64), parameter kelvin_kilogram_relationship =1.536179187d-40

  kg
- real(real64), parameter u_kelvin_kilogram_relationship =0.0d0

  kg
- real(real64), parameter kilogram_atomic_mass_unit_relationship =6.0221407621d26

  u

- real(real64), parameter u_kilogram_atomic_mass_unit_relationship =0.0000000018d26
  u
- real(real64), parameter kilogram_electron_volt_relationship =5.609588603d35
  eV
- real(real64), parameter u_kilogram_electron_volt_relationship =0.0d0
  eV
- real(real64), parameter kilogram_hartree_relationship =2.0614857887409d34
  E_h.
- real(real64), parameter u_kilogram_hartree_relationship =0.0000000000040d34
  E_h.
- real(real64), parameter kilogram_hertz_relationship =1.356392489d50
  Hz.
- real(real64), parameter u_kilogram_hertz_relationship =0.0d0
  Hz.
- real(real64), parameter kilogram_inverse_meter_relationship =4.524438335d41
  m^-1
- real(real64), parameter u_kilogram_inverse_meter_relationship =0.0d0
  m^-1
- real(real64), parameter kilogram_joule_relationship =8.987551787d16
  J.
- real(real64), parameter u_kilogram_joule_relationship =0.0d0
  J.
- real(real64), parameter kilogram_kelvin_relationship =6.509657260d39
  K.
- real(real64), parameter u_kilogram_kelvin_relationship =0.0d0
  K.
- real(real64), parameter lattice_parameter_of_silicon =5.431020511d-10
  m
- real(real64), parameter u_lattice_parameter_of_silicon =0.000000089d-10
  m
- real(real64), parameter lattice_spacing_of_ideal_si__220 =1.920155716d-10
  m
- real(real64), parameter u_lattice_spacing_of_ideal_si__220 =0.000000032d-10
  m
- real(real64), parameter loschmidt_constant__273_15_k__100_kpa =2.651645804d25
  m^-3
- real(real64), parameter u_loschmidt_constant__273_15_k__100_kpa =0.0d0
  m^-3
- real(real64), parameter loschmidt_constant__273_15_k__101_325_kpa =2.686780111d25
  m^-3
- real(real64), parameter u_loschmidt_constant__273_15_k__101_325_kpa =0.0d0
  m^-3
- real(real64), parameter luminous_efficacy =683.0d0
  lm W^-1
- real(real64), parameter u_luminous_efficacy =0.0d0
  lm W^-1
- real(real64), parameter mag__flux_quantum =2.067833848d-15
  Wb.
- real(real64), parameter u_mag__flux_quantum =0.0d0
  Wb.
- real(real64), parameter molar_gas_constant =8.314462618d0

J mol^-1 K^-1.

- real(real64), parameter u_molar_gas_constant =0.0d0

  J mol^-1 K^-1.
- real(real64), parameter molar_mass_constant =0.99999999965d-3

  kg mol^-1
- real(real64), parameter u_molar_mass_constant =0.00000000030d-3

  kg mol^-1
- real(real64), parameter molar_mass_of_carbon_12 =11.9999999958d-3

  kg mol^-1
- real(real64), parameter u_molar_mass_of_carbon_12 =0.0000000036d-3

  kg mol^-1
- real(real64), parameter molar_planck_constant =3.990312712d-10

  J Hz^-1 mol^-1.
- real(real64), parameter u_molar_planck_constant =0.0d0

  J Hz^-1 mol^-1.
- real(real64), parameter molar_volume_of_ideal_gas__273_15_k__100_kpa =22.71095464d-3

  m^3 mol^-1
- real(real64), parameter u_molar_volume_of_ideal_gas__273_15_k__100_kpa =0.0d0

  m^3 mol^-1
- real(real64), parameter molar_volume_of_ideal_gas__273_15_k__101_325_kpa =22.41396954d-3

  m^3 mol^-1
- real(real64), parameter u_molar_volume_of_ideal_gas__273_15_k__101_325_kpa =0.0d0

  m^3 mol^-1
- real(real64), parameter molar_volume_of_silicon =1.205883199d-5

  m^3 mol^-1
- real(real64), parameter u_molar_volume_of_silicon =0.000000060d-5

  m^3 mol^-1
- real(real64), parameter molybdenum_x_unit =1.00209952d-13

  m
- real(real64), parameter u_molybdenum_x_unit =0.00000053d-13

  m
- real(real64), parameter muon_compton_wavelength =1.173444110d-14

  m
- real(real64), parameter u_muon_compton_wavelength =0.000000026d-14

  m
- real(real64), parameter muon_electron_mass_ratio =206.7682830d0
- real(real64), parameter u_muon_electron_mass_ratio =0.0000046d0
- real(real64), parameter muon_g_factor =-2.0023318418d0
- real(real64), parameter u_muon_g_factor =0.0000000013d0
- real(real64), parameter muon_mag__mom =-4.49044830d-26

  J T^-1.
- real(real64), parameter u_muon_mag__mom =0.00000010d-26

  J T^-1.
- real(real64), parameter muon_mag__mom__anomaly =1.16592089d-3
- real(real64), parameter u_muon_mag__mom__anomaly =0.00000063d-3
- real(real64), parameter muon_mag__mom__to_bohr_magneton_ratio =-4.84197047d-3
- real(real64), parameter u_muon_mag__mom__to_bohr_magneton_ratio =0.00000011d-3
- real(real64), parameter muon_mag__mom__to_nuclear_magneton_ratio =-8.89059703d0
- real(real64), parameter u_muon_mag__mom__to_nuclear_magneton_ratio =0.00000020d0
- real(real64), parameter muon_mass =1.883531627d-28

  kg

- real(real64), parameter u_muon_mass =0.000000042d-28

  kg
- real(real64), parameter muon_mass_energy_equivalent =1.692833804d-11

  J.
- real(real64), parameter u_muon_mass_energy_equivalent =0.000000038d-11

  J.
- real(real64), parameter muon_mass_energy_equivalent_in_mev =105.6583755d0

  MeV.
- real(real64), parameter u_muon_mass_energy_equivalent_in_mev =0.0000023d0

  MeV.
- real(real64), parameter muon_mass_in_u =0.1134289259d0

  u
- real(real64), parameter u_muon_mass_in_u =0.0000000025d0

  u
- real(real64), parameter muon_molar_mass =1.134289259d-4

  kg mol^-1
- real(real64), parameter u_muon_molar_mass =0.000000025d-4

  kg mol^-1
- real(real64), parameter muon_neutron_mass_ratio =0.1124545170d0
- real(real64), parameter u_muon_neutron_mass_ratio =0.0000000025d0
- real(real64), parameter muon_proton_mag__mom__ratio =-3.183345142d0
- real(real64), parameter u_muon_proton_mag__mom__ratio =0.000000071d0
- real(real64), parameter muon_proton_mass_ratio =0.1126095264d0
- real(real64), parameter u_muon_proton_mass_ratio =0.0000000025d0
- real(real64), parameter muon_tau_mass_ratio =5.94635d-2
- real(real64), parameter u_muon_tau_mass_ratio =0.00040d-2
- real(real64), parameter natural_unit_of_action =1.054571817d-34

  J s.
- real(real64), parameter u_natural_unit_of_action =0.0d0

  J s.
- real(real64), parameter natural_unit_of_action_in_ev_s =6.582119569d-16

  eV s
- real(real64), parameter u_natural_unit_of_action_in_ev_s =0.0d0

  eV s
- real(real64), parameter natural_unit_of_energy =8.1871057769d-14

  J.
- real(real64), parameter u_natural_unit_of_energy =0.0000000025d-14

  J.
- real(real64), parameter natural_unit_of_energy_in_mev =0.51099895000d0

  MeV.
- real(real64), parameter u_natural_unit_of_energy_in_mev =0.00000000015d0

  MeV.
- real(real64), parameter natural_unit_of_length =3.8615926796d-13

  m
- real(real64), parameter u_natural_unit_of_length =0.0000000012d-13

  m
- real(real64), parameter natural_unit_of_mass =9.1093837015d-31

  kg
- real(real64), parameter u_natural_unit_of_mass =0.0000000028d-31

  kg
- real(real64), parameter natural_unit_of_momentum =2.73092453075d-22

kg m s^-1

- real(real64), parameter u_natural_unit_of_momentum =0.00000000082d-22

  kg m s^-1
- real(real64), parameter natural_unit_of_momentum_in_mev_c =0.51099895000d0

  MeV/c.
- real(real64), parameter u_natural_unit_of_momentum_in_mev_c =0.00000000015d0

  MeV/c.
- real(real64), parameter natural_unit_of_time =1.28808866819d-21

  s
- real(real64), parameter u_natural_unit_of_time =0.00000000039d-21

  s
- real(real64), parameter natural_unit_of_velocity =299792458.0d0

  m s^-1
- real(real64), parameter u_natural_unit_of_velocity =0.0d0

  m s^-1
- real(real64), parameter neutron_compton_wavelength =1.31959090581d-15

  m
- real(real64), parameter u_neutron_compton_wavelength =0.00000000075d-15

  m
- real(real64), parameter neutron_electron_mag__mom__ratio =1.04066882d-3
- real(real64), parameter u_neutron_electron_mag__mom__ratio =0.00000025d-3
- real(real64), parameter neutron_electron_mass_ratio =1838.68366173d0
- real(real64), parameter u_neutron_electron_mass_ratio =0.00000089d0
- real(real64), parameter neutron_g_factor =-3.82608545d0
- real(real64), parameter u_neutron_g_factor =0.00000090d0
- real(real64), parameter neutron_gyromag__ratio =1.83247171d8

  s^-1 T^-1
- real(real64), parameter u_neutron_gyromag__ratio =0.00000043d8

  s^-1 T^-1
- real(real64), parameter neutron_gyromag__ratio_in_mhz_t =29.1646931d0

  MHz T^-1.
- real(real64), parameter u_neutron_gyromag__ratio_in_mhz_t =0.0000069d0

  MHz T^-1.
- real(real64), parameter neutron_mag__mom =-9.6623651d-27

  J T^-1.
- real(real64), parameter u_neutron_mag__mom =0.0000023d-27

  J T^-1.
- real(real64), parameter neutron_mag__mom__to_bohr_magneton_ratio =-1.04187563d-3
- real(real64), parameter u_neutron_mag__mom__to_bohr_magneton_ratio =0.00000025d-3
- real(real64), parameter neutron_mag__mom__to_nuclear_magneton_ratio =-1.91304273d0
- real(real64), parameter u_neutron_mag__mom__to_nuclear_magneton_ratio =0.00000045d0
- real(real64), parameter neutron_mass =1.67492749804d-27

  kg
- real(real64), parameter u_neutron_mass =0.00000000095d-27

  kg
- real(real64), parameter neutron_mass_energy_equivalent =1.50534976287d-10

  J.
- real(real64), parameter u_neutron_mass_energy_equivalent =0.00000000086d-10

  J.
- real(real64), parameter neutron_mass_energy_equivalent_in_mev =939.56542052d0

  MeV.

- real(real64), parameter u_neutron_mass_energy_equivalent_in_mev =0.00000054d0

  MeV.
- real(real64), parameter neutron_mass_in_u =1.00866491595d0

  u
- real(real64), parameter u_neutron_mass_in_u =0.00000000049d0

  u
- real(real64), parameter neutron_molar_mass =1.00866491560d-3

  kg mol^-1
- real(real64), parameter u_neutron_molar_mass =0.00000000057d-3

  kg mol^-1
- real(real64), parameter neutron_muon_mass_ratio =8.89248406d0
- real(real64), parameter u_neutron_muon_mass_ratio =0.00000020d0
- real(real64), parameter neutron_proton_mag__mom__ratio =-0.68497934d0
- real(real64), parameter u_neutron_proton_mag__mom__ratio =0.00000016d0
- real(real64), parameter neutron_proton_mass_difference =2.30557435d-30

  kg
- real(real64), parameter u_neutron_proton_mass_difference =0.00000082d-30

  kg
- real(real64), parameter neutron_proton_mass_difference_energy_equivalent =2.07214689d-13

  J.
- real(real64), parameter u_neutron_proton_mass_difference_energy_equivalent =0.00000074d-13

  J.
- real(real64), parameter neutron_proton_mass_difference_energy_equivalent_in_mev =1.29333236d0

  MeV.
- real(real64), parameter u_neutron_proton_mass_difference_energy_equivalent_in_mev =0.00000046d0

  MeV.
- real(real64), parameter neutron_proton_mass_difference_in_u =1.38844933d-3

  u
- real(real64), parameter u_neutron_proton_mass_difference_in_u =0.00000049d-3

  u
- real(real64), parameter neutron_proton_mass_ratio =1.00137841931d0
- real(real64), parameter u_neutron_proton_mass_ratio =0.00000000049d0
- real(real64), parameter neutron_relative_atomic_mass =1.00866491595d0
- real(real64), parameter u_neutron_relative_atomic_mass =0.00000000049d0
- real(real64), parameter neutron_tau_mass_ratio =0.528779d0
- real(real64), parameter u_neutron_tau_mass_ratio =0.000036d0
- real(real64), parameter neutron_to_shielded_proton_mag__mom__ratio =-0.68499694d0
- real(real64), parameter u_neutron_to_shielded_proton_mag__mom__ratio =0.00000016d0
- real(real64), parameter newtonian_constant_of_gravitation =6.67430d-11

  m^3 kg^-1 s^-2
- real(real64), parameter u_newtonian_constant_of_gravitation =0.00015d-11

  m^3 kg^-1 s^-2
- real(real64), parameter newtonian_constant_of_gravitation_over_h_bar_c =6.70883d-39

  (GeV/c^2)^-2
- real(real64), parameter u_newtonian_constant_of_gravitation_over_h_bar_c =0.00015d-39

  (GeV/c^2)^-2
- real(real64), parameter nuclear_magneton =5.0507837461d-27

  J T^-1.
- real(real64), parameter u_nuclear_magneton =0.0000000015d-27

  J T^-1.
- real(real64), parameter nuclear_magneton_in_ev_t =3.15245125844d-8

eV T^-1

- real(real64), parameter u_nuclear_magneton_in_ev_t =0.00000000096d-8

  eV T^-1
- real(real64), parameter nuclear_magneton_in_inverse_meter_per_tesla =2.54262341353d-2

  m^-1 T^-1
- real(real64), parameter u_nuclear_magneton_in_inverse_meter_per_tesla =0.00000000078d-2

  m^-1 T^-1
- real(real64), parameter nuclear_magneton_in_k_t =3.6582677756d-4

  K T^-1.
- real(real64), parameter u_nuclear_magneton_in_k_t =0.0000000011d-4

  K T^-1.
- real(real64), parameter nuclear_magneton_in_mhz_t =7.6225932291d0

  MHz T^-1.
- real(real64), parameter u_nuclear_magneton_in_mhz_t =0.0000000023d0

  MHz T^-1.
- real(real64), parameter planck_constant =6.62607015d-34

  J Hz^-1.
- real(real64), parameter u_planck_constant =0.0d0

  J Hz^-1.
- real(real64), parameter planck_constant_in_ev_hz =4.135667696d-15

  eV Hz^-1
- real(real64), parameter u_planck_constant_in_ev_hz =0.0d0

  eV Hz^-1
- real(real64), parameter planck_length =1.616255d-35

  m
- real(real64), parameter u_planck_length =0.000018d-35

  m
- real(real64), parameter planck_mass =2.176434d-8

  kg
- real(real64), parameter u_planck_mass =0.000024d-8

  kg
- real(real64), parameter planck_mass_energy_equivalent_in_gev =1.220890d19

  GeV.
- real(real64), parameter u_planck_mass_energy_equivalent_in_gev =0.000014d19

  GeV.
- real(real64), parameter planck_temperature =1.416784d32

  K.
- real(real64), parameter u_planck_temperature =0.000016d32

  K.
- real(real64), parameter planck_time =5.391247d-44

  s
- real(real64), parameter u_planck_time =0.000060d-44

  s
- real(real64), parameter proton_charge_to_mass_quotient =9.5788331560d7

  C kg^-1.
- real(real64), parameter u_proton_charge_to_mass_quotient =0.0000000029d7

  C kg^-1.
- real(real64), parameter proton_compton_wavelength =1.32140985539d-15

  m
- real(real64), parameter u_proton_compton_wavelength =0.00000000040d-15

  m

- real(real64), parameter proton_electron_mass_ratio =1836.15267343d0
- real(real64), parameter u_proton_electron_mass_ratio =0.00000011d0
- real(real64), parameter proton_g_factor =5.5856946893d0
- real(real64), parameter u_proton_g_factor =0.0000000016d0
- real(real64), parameter proton_gyromag__ratio =2.6752218744d8

  s^-1 T^-1
- real(real64), parameter u_proton_gyromag__ratio =0.0000000011d8

  s^-1 T^-1
- real(real64), parameter proton_gyromag__ratio_in_mhz_t =42.577478518d0

  MHz T^-1.
- real(real64), parameter u_proton_gyromag__ratio_in_mhz_t =0.000000018d0

  MHz T^-1.
- real(real64), parameter proton_mag__mom =1.41060679736d-26

  J T^-1.
- real(real64), parameter u_proton_mag__mom =0.00000000060d-26

  J T^-1.
- real(real64), parameter proton_mag__mom__to_bohr_magneton_ratio =1.52103220230d-3
- real(real64), parameter u_proton_mag__mom__to_bohr_magneton_ratio =0.00000000046d-3
- real(real64), parameter proton_mag__mom__to_nuclear_magneton_ratio =2.79284734463d0
- real(real64), parameter u_proton_mag__mom__to_nuclear_magneton_ratio =0.00000000082d0
- real(real64), parameter proton_mag__shielding_correction =2.5689d-5
- real(real64), parameter u_proton_mag__shielding_correction =0.0011d-5
- real(real64), parameter proton_mass =1.67262192369d-27

  kg
- real(real64), parameter u_proton_mass =0.00000000051d-27

  kg
- real(real64), parameter proton_mass_energy_equivalent =1.50327761598d-10

  J.
- real(real64), parameter u_proton_mass_energy_equivalent =0.00000000046d-10

  J.
- real(real64), parameter proton_mass_energy_equivalent_in_mev =938.27208816d0

  MeV.
- real(real64), parameter u_proton_mass_energy_equivalent_in_mev =0.00000029d0

  MeV.
- real(real64), parameter proton_mass_in_u =1.007276466621d0

  u
- real(real64), parameter u_proton_mass_in_u =0.000000000053d0

  u
- real(real64), parameter proton_molar_mass =1.00727646627d-3

  kg mol^-1
- real(real64), parameter u_proton_molar_mass =0.00000000031d-3

  kg mol^-1
- real(real64), parameter proton_muon_mass_ratio =8.88024337d0
- real(real64), parameter u_proton_muon_mass_ratio =0.00000020d0
- real(real64), parameter proton_neutron_mag__mom__ratio =-1.45989805d0
- real(real64), parameter u_proton_neutron_mag__mom__ratio =0.00000034d0
- real(real64), parameter proton_neutron_mass_ratio =0.99862347812d0
- real(real64), parameter u_proton_neutron_mass_ratio =0.00000000049d0
- real(real64), parameter proton_relative_atomic_mass =1.007276466621d0
- real(real64), parameter u_proton_relative_atomic_mass =0.000000000053d0
- real(real64), parameter proton_rms_charge_radius =8.414d-16

  m

- real(real64), parameter u_proton_rms_charge_radius =0.019d-16
  m
- real(real64), parameter proton_tau_mass_ratio =0.528051d0
- real(real64), parameter u_proton_tau_mass_ratio =0.000036d0
- real(real64), parameter quantum_of_circulation =3.6369475516d-4
  m^2 s^-1
- real(real64), parameter u_quantum_of_circulation =0.0000000011d-4
  m^2 s^-1
- real(real64), parameter quantum_of_circulation_times_2 =7.2738951032d-4
  m^2 s^-1
- real(real64), parameter u_quantum_of_circulation_times_2 =0.0000000022d-4
  m^2 s^-1
- real(real64), parameter reduced_compton_wavelength =3.8615926796d-13
  m
- real(real64), parameter u_reduced_compton_wavelength =0.0000000012d-13
  m
- real(real64), parameter reduced_muon_compton_wavelength =1.867594306d-15
  m
- real(real64), parameter u_reduced_muon_compton_wavelength =0.000000042d-15
  m
- real(real64), parameter reduced_neutron_compton_wavelength =2.1001941552d-16
  m
- real(real64), parameter u_reduced_neutron_compton_wavelength =0.0000000012d-16
  m
- real(real64), parameter reduced_planck_constant =1.054571817d-34
  J s.
- real(real64), parameter u_reduced_planck_constant =0.0d0
  J s.
- real(real64), parameter reduced_planck_constant_in_ev_s =6.582119569d-16
  eV s
- real(real64), parameter u_reduced_planck_constant_in_ev_s =0.0d0
  eV s
- real(real64), parameter reduced_planck_constant_times_c_in_mev_fm =197.3269804d0
  MeV fm.
- real(real64), parameter u_reduced_planck_constant_times_c_in_mev_fm =0.0d0
  MeV fm.
- real(real64), parameter reduced_proton_compton_wavelength =2.10308910336d-16
  m
- real(real64), parameter u_reduced_proton_compton_wavelength =0.00000000064d-16
  m
- real(real64), parameter reduced_tau_compton_wavelength =1.110538d-16
  m
- real(real64), parameter u_reduced_tau_compton_wavelength =0.000075d-16
  m
- real(real64), parameter rydberg_constant =10973731.568160d0
  m^-1
- real(real64), parameter u_rydberg_constant =0.000021d0
  m^-1
- real(real64), parameter rydberg_constant_times_c_in_hz =3.2898419602508d15
  Hz.
- real(real64), parameter u_rydberg_constant_times_c_in_hz =0.0000000000064d15

Hz.

- real(real64), parameter rydberg_constant_times_hc_in_ev =13.605693122994d0

  eV
- real(real64), parameter u_rydberg_constant_times_hc_in_ev =0.000000000026d0

  eV
- real(real64), parameter rydberg_constant_times_hc_in_j =2.1798723611035d-18

  J.
- real(real64), parameter u_rydberg_constant_times_hc_in_j =0.0000000000042d-18

  J.
- real(real64), parameter sackur_tetrode_constant__1_k__100_kpa =-1.15170753706d0
- real(real64), parameter u_sackur_tetrode_constant__1_k__100_kpa =0.00000000045d0
- real(real64), parameter sackur_tetrode_constant__1_k__101_325_kpa =-1.16487052358d0
- real(real64), parameter u_sackur_tetrode_constant__1_k__101_325_kpa =0.00000000045d0
- real(real64), parameter second_radiation_constant =1.438776877d-2

  m K
- real(real64), parameter u_second_radiation_constant =0.0d0

  m K
- real(real64), parameter shielded_helion_gyromag__ratio =2.037894569d8

  s^-1 T^-1
- real(real64), parameter u_shielded_helion_gyromag__ratio =0.000000024d8

  s^-1 T^-1
- real(real64), parameter shielded_helion_gyromag__ratio_in_mhz_t =32.43409942d0

  MHz T^-1.
- real(real64), parameter u_shielded_helion_gyromag__ratio_in_mhz_t =0.00000038d0

  MHz T^-1.
- real(real64), parameter shielded_helion_mag__mom =-1.074553090d-26

  J T^-1.
- real(real64), parameter u_shielded_helion_mag__mom =0.000000013d-26

  J T^-1.
- real(real64), parameter shielded_helion_mag__mom__to_bohr_magneton_ratio =-1.158671471d-3
- real(real64), parameter u_shielded_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
- real(real64), parameter shielded_helion_mag__mom__to_nuclear_magneton_ratio =-2.127497719d0
- real(real64), parameter u_shielded_helion_mag__mom__to_nuclear_magneton_ratio =0.000000025d0
- real(real64), parameter shielded_helion_to_proton_mag__mom__ratio =-0.7617665618d0
- real(real64), parameter u_shielded_helion_to_proton_mag__mom__ratio =0.0000000089d0
- real(real64), parameter shielded_helion_to_shielded_proton_mag__mom__ratio =-0.7617861313d0
- real(real64), parameter u_shielded_helion_to_shielded_proton_mag__mom__ratio =0.0000000033d0
- real(real64), parameter shielded_proton_gyromag__ratio =2.675153151d8

  s^-1 T^-1
- real(real64), parameter u_shielded_proton_gyromag__ratio =0.000000029d8

  s^-1 T^-1
- real(real64), parameter shielded_proton_gyromag__ratio_in_mhz_t =42.57638474d0

  MHz T^-1.
- real(real64), parameter u_shielded_proton_gyromag__ratio_in_mhz_t =0.00000046d0

  MHz T^-1.
- real(real64), parameter shielded_proton_mag__mom =1.410570560d-26

  J T^-1.
- real(real64), parameter u_shielded_proton_mag__mom =0.000000015d-26

  J T^-1.
- real(real64), parameter shielded_proton_mag__mom__to_bohr_magneton_ratio =1.520993128d-3
- real(real64), parameter u_shielded_proton_mag__mom__to_bohr_magneton_ratio =0.000000017d-3
- real(real64), parameter shielded_proton_mag__mom__to_nuclear_magneton_ratio =2.792775599d0

- real(real64), parameter u_shielded_proton_mag__mom__to_nuclear_magneton_ratio =0.000000030d0
- real(real64), parameter shielding_difference_of_d_and_p_in_hd =2.0200d-8
- real(real64), parameter u_shielding_difference_of_d_and_p_in_hd =0.0020d-8
- real(real64), parameter shielding_difference_of_t_and_p_in_ht =2.4140d-8
- real(real64), parameter u_shielding_difference_of_t_and_p_in_ht =0.0020d-8
- real(real64), parameter speed_of_light_in_vacuum =299792458.0d0

  m s^-1
- real(real64), parameter u_speed_of_light_in_vacuum =0.0d0

  m s^-1
- real(real64), parameter standard_acceleration_of_gravity =9.80665d0

  m s^-2
- real(real64), parameter u_standard_acceleration_of_gravity =0.0d0

  m s^-2
- real(real64), parameter standard_atmosphere =101325.0d0

  Pa.
- real(real64), parameter u_standard_atmosphere =0.0d0

  Pa.
- real(real64), parameter standard_state_pressure =100000.0d0

  Pa.
- real(real64), parameter u_standard_state_pressure =0.0d0

  Pa.
- real(real64), parameter stefan_boltzmann_constant =5.670374419d-8

  W m^-2 K^-4.
- real(real64), parameter u_stefan_boltzmann_constant =0.0d0

  W m^-2 K^-4.
- real(real64), parameter tau_compton_wavelength =6.97771d-16

  m
- real(real64), parameter u_tau_compton_wavelength =0.00047d-16

  m
- real(real64), parameter tau_electron_mass_ratio =3477.23d0
- real(real64), parameter u_tau_electron_mass_ratio =0.23d0
- real(real64), parameter tau_energy_equivalent =1776.86d0

  MeV.
- real(real64), parameter u_tau_energy_equivalent =0.12d0

  MeV.
- real(real64), parameter tau_mass =3.16754d-27

  kg
- real(real64), parameter u_tau_mass =0.00021d-27

  kg
- real(real64), parameter tau_mass_energy_equivalent =2.84684d-10

  J.
- real(real64), parameter u_tau_mass_energy_equivalent =0.00019d-10

  J.
- real(real64), parameter tau_mass_in_u =1.90754d0

  u
- real(real64), parameter u_tau_mass_in_u =0.00013d0

  u
- real(real64), parameter tau_molar_mass =1.90754d-3

  kg mol^-1
- real(real64), parameter u_tau_molar_mass =0.00013d-3

  kg mol^-1

- real(real64), parameter tau_muon_mass_ratio =16.8170d0
- real(real64), parameter u_tau_muon_mass_ratio =0.0011d0
- real(real64), parameter tau_neutron_mass_ratio =1.89115d0
- real(real64), parameter u_tau_neutron_mass_ratio =0.00013d0
- real(real64), parameter tau_proton_mass_ratio =1.89376d0
- real(real64), parameter u_tau_proton_mass_ratio =0.00013d0
- real(real64), parameter thomson_cross_section =6.6524587321d-29

  m^ 2
- real(real64), parameter u_thomson_cross_section =0.0000000060d-29

  m^ 2
- real(real64), parameter triton_electron_mass_ratio =5496.92153573d0
- real(real64), parameter u_triton_electron_mass_ratio =0.00000027d0
- real(real64), parameter triton_g_factor =5.957924931d0
- real(real64), parameter u_triton_g_factor =0.000000012d0
- real(real64), parameter triton_mag__mom =1.5046095202d-26

  J T^ -1.
- real(real64), parameter u_triton_mag__mom =0.0000000030d-26

  J T^ -1.
- real(real64), parameter triton_mag__mom__to_bohr_magneton_ratio =1.6223936651d-3
- real(real64), parameter u_triton_mag__mom__to_bohr_magneton_ratio =0.0000000032d-3
- real(real64), parameter triton_mag__mom__to_nuclear_magneton_ratio =2.9789624656d0
- real(real64), parameter u_triton_mag__mom__to_nuclear_magneton_ratio =0.0000000059d0
- real(real64), parameter triton_mass =5.0073567446d-27

  kg
- real(real64), parameter u_triton_mass =0.0000000015d-27

  kg
- real(real64), parameter triton_mass_energy_equivalent =4.5003878060d-10

  J.
- real(real64), parameter u_triton_mass_energy_equivalent =0.0000000014d-10

  J.
- real(real64), parameter triton_mass_energy_equivalent_in_mev =2808.92113298d0

  MeV.
- real(real64), parameter u_triton_mass_energy_equivalent_in_mev =0.00000085d0

  MeV.
- real(real64), parameter triton_mass_in_u =3.01550071621d0

  u
- real(real64), parameter u_triton_mass_in_u =0.00000000012d0

  u
- real(real64), parameter triton_molar_mass =3.01550071517d-3

  kg mol^ -1
- real(real64), parameter u_triton_molar_mass =0.00000000092d-3

  kg mol^ -1
- real(real64), parameter triton_proton_mass_ratio =2.99371703414d0
- real(real64), parameter u_triton_proton_mass_ratio =0.00000000015d0
- real(real64), parameter triton_relative_atomic_mass =3.01550071621d0
- real(real64), parameter u_triton_relative_atomic_mass =0.00000000012d0
- real(real64), parameter triton_to_proton_mag__mom__ratio =1.0666399191d0
- real(real64), parameter u_triton_to_proton_mag__mom__ratio =0.0000000021d0
- real(real64), parameter unified_atomic_mass_unit =1.66053906660d-27

  kg
- real(real64), parameter u_unified_atomic_mass_unit =0.00000000050d-27

  kg

- real(real64), parameter vacuum_electric_permittivity =8.8541878128d-12
  F m^-1.
- real(real64), parameter u_vacuum_electric_permittivity =0.0000000013d-12
  F m^-1.
- real(real64), parameter vacuum_mag__permeability =1.25663706212d-6
  N A^-2.
- real(real64), parameter u_vacuum_mag__permeability =0.00000000019d-6
  N A^-2.
- real(real64), parameter von_klitzing_constant =25812.80745d0
  ohm
- real(real64), parameter u_von_klitzing_constant =0.0d0
  ohm
- real(real64), parameter weak_mixing_angle =0.22290d0
- real(real64), parameter u_weak_mixing_angle =0.00030d0
- real(real64), parameter wien_frequency_displacement_law_constant =5.878925757d10
  Hz K^-1.
- real(real64), parameter u_wien_frequency_displacement_law_constant =0.0d0
  Hz K^-1.
- real(real64), parameter wien_wavelength_displacement_law_constant =2.897771955d-3
  m K
- real(real64), parameter u_wien_wavelength_displacement_law_constant =0.0d0
  m K
- real(real64), parameter w_to_z_mass_ratio =0.88153d0
- real(real64), parameter u_w_to_z_mass_ratio =0.00017d0

14.1.1 Detailed Description

Codata constants - autogenerated.

14.1.2 Variable Documentation

14.1.2.1 alpha_particle_electron_mass_ratio

```
real(real64), parameter codata::alpha_particle_electron_mass_ratio =7294.29954142d0
```

Definition at line 10 of file fcodata.f90.

14.1.2.2 alpha_particle_mass

```
real(real64), parameter codata::alpha_particle_mass =6.6446573357d-27
```

kg

Definition at line 15 of file fcodata.f90.

14.1.2.3 alpha_particle_mass_energy_equivalent

```
real(real64), parameter codata::alpha_particle_mass_energy_equivalent =5.9719201914d-10
```

J.

Definition at line 20 of file fcodata.f90.

14.1.2.4 alpha_particle_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::alpha_particle_mass_energy_equivalent_in_mev =3727.3794066d0
```

MeV.

Definition at line 25 of file fcodata.f90.

14.1.2.5 alpha_particle_mass_in_u

```
real(real64), parameter codata::alpha_particle_mass_in_u =4.001506179127d0
```

u

Definition at line 30 of file fcodata.f90.

14.1.2.6 alpha_particle_molar_mass

```
real(real64), parameter codata::alpha_particle_molar_mass =4.0015061777d-3
```

kg mol^-1

Definition at line 35 of file fcodata.f90.

14.1.2.7 alpha_particle_proton_mass_ratio

```
real(real64), parameter codata::alpha_particle_proton_mass_ratio =3.97259969009d0
```

Definition at line 40 of file fcodata.f90.

14.1.2.8 alpha_particle_relative_atomic_mass

```
real(real64), parameter codata::alpha_particle_relative_atomic_mass =4.001506179127d0
```

Definition at line 45 of file fcodata.f90.

14.1.2.9 angstrom_star

```
real(real64), parameter codata::angstrom_star =1.00001495d-10
```

m

Definition at line 50 of file fcodata.f90.

14.1.2.10 atomic_mass_constant

```
real(real64), parameter codata::atomic_mass_constant =1.66053906660d-27
```

kg

Definition at line 55 of file fcodata.f90.

14.1.2.11 atomic_mass_constant_energy_equivalent

```
real(real64), parameter codata::atomic_mass_constant_energy_equivalent =1.49241808560d-10
```

J.

Definition at line 60 of file fcodata.f90.

14.1.2.12 atomic_mass_constant_energy_equivalent_in_mev

```
real(real64), parameter codata::atomic_mass_constant_energy_equivalent_in_mev =931.49410242d0
```

MeV.

Definition at line 65 of file fcodata.f90.

14.1.2.13 atomic_mass_unit_electron_volt_relationship

```
real(real64), parameter codata::atomic_mass_unit_electron_volt_relationship =9.3149410242d8
```

eV

Definition at line 70 of file fcodata.f90.

14.1.2.14 atomic_mass_unit_hartree_relationship

```
real(real64), parameter codata::atomic_mass_unit_hartree_relationship =3.4231776874d7
```

E_h.

Definition at line 75 of file fcodata.f90.

14.1.2.15 atomic_mass_unit_hertz_relationship

```
real(real64), parameter codata::atomic_mass_unit_hertz_relationship =2.25234271871d23
```

Hz.

Definition at line 80 of file fcodata.f90.

14.1.2.16 atomic_mass_unit_inverse_meter_relationship

```
real(real64), parameter codata::atomic_mass_unit_inverse_meter_relationship =7.5130066104d14
```

m^-1

Definition at line 85 of file fcodata.f90.

14.1.2.17 atomic_mass_unit_joule_relationship

```
real(real64), parameter codata::atomic_mass_unit_joule_relationship =1.49241808560d-10
```

J.

Definition at line 90 of file fcodata.f90.

14.1.2.18 atomic_mass_unit_kelvin_relationship

```
real(real64), parameter codata::atomic_mass_unit_kelvin_relationship =1.08095401916d13
```

K.

Definition at line 95 of file fcodata.f90.

14.1.2.19 atomic_mass_unit_kilogram_relationship

```
real(real64), parameter codata::atomic_mass_unit_kilogram_relationship =1.66053906660d-27
```

kg

Definition at line 100 of file fcodata.f90.

14.1.2.20 atomic_unit_of_1st_hyperpolarizability

```
real(real64), parameter codata::atomic_unit_of_1st_hyperpolarizability =3.2063613061d-53
```

C^3 m^3 J^-2.

Definition at line 105 of file fcodata.f90.

14.1.2.21 atomic_unit_of_2nd_hyperpolarizability

```
real(real64), parameter codata::atomic_unit_of_2nd_hyperpolarizability =6.2353799905d-65
```

C^4 m^4 J^-3.

Definition at line 110 of file fcodata.f90.

14.1.2.22 atomic_unit_of_action

```
real(real64), parameter codata::atomic_unit_of_action =1.054571817d-34
```

J s.

Definition at line 115 of file fcodata.f90.

14.1.2.23 atomic_unit_of_charge

```
real(real64), parameter codata::atomic_unit_of_charge =1.602176634d-19
```

C.

Definition at line 120 of file fcodata.f90.

14.1.2.24 atomic_unit_of_charge_density

```
real(real64), parameter codata::atomic_unit_of_charge_density =1.08120238457d12
```

C m^-3.

Definition at line 125 of file fcodata.f90.

14.1.2.25 atomic_unit_of_current

```
real(real64), parameter codata::atomic_unit_of_current =6.623618237510d-3
```

A.

Definition at line 130 of file fcodata.f90.

14.1.2.26 atomic_unit_of_electric_dipole_mom

```
real(real64), parameter codata::atomic_unit_of_electric_dipole_mom =8.4783536255d-30
```

C m.

Definition at line 135 of file fcodata.f90.

14.1.2.27 atomic_unit_of_electric_field

```
real(real64), parameter codata::atomic_unit_of_electric_field =5.14220674763d11
```

V m^-1.

Definition at line 140 of file fcodata.f90.

14.1.2.28 atomic_unit_of_electric_field_gradient

```
real(real64), parameter codata::atomic_unit_of_electric_field_gradient =9.7173624292d21
```

V m^-2.

Definition at line 145 of file fcodata.f90.

14.1.2.29 atomic_unit_of_electric_polarizability

```
real(real64), parameter codata::atomic_unit_of_electric_polarizability =1.64877727436d-41
```

C^2 m^2 J^-1.

Definition at line 150 of file fcodata.f90.

14.1.2.30 atomic_unit_of_electric_potential

```
real(real64), parameter codata::atomic_unit_of_electric_potential =27.211386245988d0
```

V.

Definition at line 155 of file fcodata.f90.

14.1.2.31 atomic_unit_of_electric_quadrupole_mom

```
real(real64), parameter codata::atomic_unit_of_electric_quadrupole_mom =4.4865515246d-40
```

C m^2.

Definition at line 160 of file fcodata.f90.

14.1.2.32 atomic_unit_of_energy

```
real(real64), parameter codata::atomic_unit_of_energy =4.3597447222071d-18
```

J.

Definition at line 165 of file fcodata.f90.

14.1.2.33 atomic_unit_of_force

```
real(real64), parameter codata::atomic_unit_of_force =8.2387234983d-8
```

N.

Definition at line 170 of file fcodata.f90.

14.1.2.34 atomic_unit_of_length

```
real(real64), parameter codata::atomic_unit_of_length =5.29177210903d-11
```

m

Definition at line 175 of file fcodata.f90.

14.1.2.35 atomic_unit_of_mag__dipole_mom

```
real(real64), parameter codata::atomic_unit_of_mag__dipole_mom =1.85480201566d-23
```

J T^-1.

Definition at line 180 of file fcodata.f90.

14.1.2.36 atomic_unit_of_mag__flux_density

```
real(real64), parameter codata::atomic_unit_of_mag__flux_density =2.35051756758d5
```

T.

Definition at line 185 of file fcodata.f90.

14.1.2.37 atomic_unit_of_magnetizability

```
real(real64), parameter codata::atomic_unit_of_magnetizability =7.8910366008d-29
```

J T^-2.

Definition at line 190 of file fcodata.f90.

14.1.2.38 atomic_unit_of_mass

```
real(real64), parameter codata::atomic_unit_of_mass =9.1093837015d-31
```

kg

Definition at line 195 of file fcodata.f90.

14.1.2.39 atomic_unit_of_momentum

```
real(real64), parameter codata::atomic_unit_of_momentum =1.99285191410d-24
```

kg m s^-1

Definition at line 200 of file fcodata.f90.

14.1.2.40 atomic_unit_of_permittivity

```
real(real64), parameter codata::atomic_unit_of_permittivity =1.11265005545d-10
```

F m^-1.

Definition at line 205 of file fcodata.f90.

14.1.2.41 atomic_unit_of_time

```
real(real64), parameter codata::atomic_unit_of_time =2.4188843265857d-17
```

s

Definition at line 210 of file fcodata.f90.

14.1.2.42 atomic_unit_of_velocity

```
real(real64), parameter codata::atomic_unit_of_velocity =2.18769126364d6
```

m s^-1

Definition at line 215 of file fcodata.f90.

14.1.2.43 avogadro_constant

```
real(real64), parameter codata::avogadro_constant =6.02214076d23
```

mol^-1

Definition at line 220 of file fcodata.f90.

14.1.2.44 bohr_magneton

```
real(real64), parameter codata::bohr_magneton =9.2740100783d-24
```

J T^-1.

Definition at line 225 of file fcodata.f90.

14.1.2.45 bohr_magneton_in_ev_t

```
real(real64), parameter codata::bohr_magneton_in_ev_t =5.7883818060d-5
```

eV T^-1

Definition at line 230 of file fcodata.f90.

14.1.2.46 bohr_magneton_in_hz_t

```
real(real64), parameter codata::bohr_magneton_in_hz_t =1.39962449361d10
```

Hz T^-1.

Definition at line 235 of file fcodata.f90.

14.1.2.47 bohr_magneton_in_inverse_meter_per_tesla

```
real(real64), parameter codata::bohr_magneton_in_inverse_meter_per_tesla =46.686447783d0
```

m^-1 T^-1

Definition at line 240 of file fcodata.f90.

14.1.2.48 bohr_magneton_in_k_t

```
real(real64), parameter codata::bohr_magneton_in_k_t =0.67171381563d0
```

K T^-1.

Definition at line 245 of file fcodata.f90.

14.1.2.49 bohr_radius

```
real(real64), parameter codata::bohr_radius =5.29177210903d-11
```

m

Definition at line 250 of file fcodata.f90.

14.1.2.50 boltzmann_constant

```
real(real64), parameter codata::boltzmann_constant =1.380649d-23
```

J K^-1.

Definition at line 255 of file fcodata.f90.

14.1.2.51 boltzmann_constant_in_ev_k

```
real(real64), parameter codata::boltzmann_constant_in_ev_k =8.617333262d-5
```

eV K^-1

Definition at line 260 of file fcodata.f90.

14.1.2.52 boltzmann_constant_in_hz_k

```
real(real64), parameter codata::boltzmann_constant_in_hz_k =2.083661912d10
```

Hz K^-1.

Definition at line 265 of file fcodata.f90.

14.1.2.53 boltzmann_constant_in_inverse_meter_per_kelvin

```
real(real64), parameter codata::boltzmann_constant_in_inverse_meter_per_kelvin =69.50348004d0
```

m^-1 K^-1

Definition at line 270 of file fcodata.f90.

14.1.2.54 characteristic_impedance_of_vacuum

```
real(real64), parameter codata::characteristic_impedance_of_vacuum =376.730313668d0
```

ohm

Definition at line 275 of file fcodata.f90.

14.1.2.55 classical_electron_radius

```
real(real64), parameter codata::classical_electron_radius =2.8179403262d-15
```

m

Definition at line 280 of file fcodata.f90.

14.1.2.56 compton_wavelength

```
real(real64), parameter codata::compton_wavelength =2.42631023867d-12
```

m

Definition at line 285 of file fcodata.f90.

14.1.2.57 conductance_quantum

```
real(real64), parameter codata::conductance_quantum =7.748091729d-5
```

S.

Definition at line 290 of file fcodata.f90.

14.1.2.58 conventional_value_of_ampere_90

```
real(real64), parameter codata::conventional_value_of_ampere_90 =1.00000008887d0
```

A.

Definition at line 295 of file fcodata.f90.

14.1.2.59 conventional_value_of_coulomb_90

```
real(real64), parameter codata::conventional_value_of_coulomb_90 =1.00000008887d0
```

C.

Definition at line 300 of file fcodata.f90.

14.1.2.60 conventional_value_of_farad_90

```
real(real64), parameter codata::conventional_value_of_farad_90 =0.99999998220d0
```

F.

Definition at line 305 of file fcodata.f90.

14.1.2.61 conventional_value_of_henry_90

```
real(real64), parameter codata::conventional_value_of_henry_90 =1.00000001779d0
```

H.

Definition at line 310 of file fcodata.f90.

14.1.2.62 conventional_value_of_josephson_constant

```
real(real64), parameter codata::conventional_value_of_josephson_constant =483597.9d9
```

Hz V^-1.

Definition at line 315 of file fcodata.f90.

14.1.2.63 conventional_value_of_ohm_90

```
real(real64), parameter codata::conventional_value_of_ohm_90 =1.00000001779d0
```

ohm

Definition at line 320 of file fcodata.f90.

14.1.2.64 conventional_value_of_volt_90

```
real(real64), parameter codata::conventional_value_of_volt_90 =1.00000010666d0
```

V.

Definition at line 325 of file fcodata.f90.

14.1.2.65 conventional_value_of_von_klitzing_constant

```
real(real64), parameter codata::conventional_value_of_von_klitzing_constant =25812.807d0
```

ohm

Definition at line 330 of file fcodata.f90.

14.1.2.66 conventional_value_of_watt_90

```
real(real64), parameter codata::conventional_value_of_watt_90 =1.00000019553d0
```

W.

Definition at line 335 of file fcodata.f90.

14.1.2.67 copper_x_unit

```
real(real64), parameter codata::copper_x_unit =1.00207697d-13
```

m

Definition at line 340 of file fcodata.f90.

14.1.2.68 deuteron_electron_mag__mom__ratio

```
real(real64), parameter codata::deuteron_electron_mag__mom__ratio =-4.664345551d-4
```

Definition at line 345 of file fcodata.f90.

14.1.2.69 deuteron_electron_mass_ratio

```
real(real64), parameter codata::deuteron_electron_mass_ratio =3670.48296788d0
```

Definition at line 350 of file fcodata.f90.

14.1.2.70 deuteron_g_factor

```
real(real64), parameter codata::deuteron_g_factor =0.8574382338d0
```

Definition at line 355 of file fcodata.f90.

14.1.2.71 deuteron_mag__mom

```
real(real64), parameter codata::deuteron_mag__mom =4.330735094d-27
```

J T^-1.

Definition at line 360 of file fcodata.f90.

14.1.2.72 deuteron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::deuteron_mag__mom__to_bohr_magneton_ratio =4.669754570d-4
```

Definition at line 365 of file fcodata.f90.

14.1.2.73 deuteron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::deuteron_mag__mom__to_nuclear_magneton_ratio =0.8574382338d0
```

Definition at line 370 of file fcodata.f90.

14.1.2.74 deuteron_mass

```
real(real64), parameter codata::deuteron_mass =3.3435837724d-27
```

kg

Definition at line 375 of file fcodata.f90.

14.1.2.75 deuteron_mass_energy_equivalent

```
real(real64), parameter codata::deuteron_mass_energy_equivalent =3.00506323102d-10
```

J.

Definition at line 380 of file fcodata.f90.

14.1.2.76 deuteron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::deuteron_mass_energy_equivalent_in_mev =1875.61294257d0
```

MeV.

Definition at line 385 of file fcodata.f90.

14.1.2.77 deuteron_mass_in_u

```
real(real64), parameter codata::deuteron_mass_in_u =2.013553212745d0
```

u

Definition at line 390 of file fcodata.f90.

14.1.2.78 deuteron_molar_mass

```
real(real64), parameter codata::deuteron_molar_mass =2.01355321205d-3
```

kg mol^-1

Definition at line 395 of file fcodata.f90.

14.1.2.79 deuteron_neutron_mag__mom__ratio

```
real(real64), parameter codata::deuteron_neutron_mag__mom__ratio =-0.44820653d0
```

Definition at line 400 of file fcodata.f90.

14.1.2.80 deuteron_proton_mag__mom__ratio

```
real(real64), parameter codata::deuteron_proton_mag__mom__ratio =0.30701220939d0
```

Definition at line 405 of file fcodata.f90.

14.1.2.81 deuteron_proton_mass_ratio

```
real(real64), parameter codata::deuteron_proton_mass_ratio =1.99900750139d0
```

Definition at line 410 of file fcodata.f90.

14.1.2.82 deuteron_relative_atomic_mass

```
real(real64), parameter codata::deuteron_relative_atomic_mass =2.013553212745d0
```

Definition at line 415 of file fcodata.f90.

14.1.2.83 deuteron_rms_charge_radius

```
real(real64), parameter codata::deuteron_rms_charge_radius =2.12799d-15
```

m

Definition at line 420 of file fcodata.f90.

14.1.2.84 electron_charge_to_mass_quotient

```
real(real64), parameter codata::electron_charge_to_mass_quotient =-1.75882001076d11
```

C kg^-1.

Definition at line 425 of file fcodata.f90.

14.1.2.85 electron_deuteron_mag__mom__ratio

```
real(real64), parameter codata::electron_deuteron_mag__mom__ratio =-2143.9234915d0
```

Definition at line 430 of file fcodata.f90.

14.1.2.86 electron_deuteron_mass_ratio

```
real(real64), parameter codata::electron_deuteron_mass_ratio =2.724437107462d-4
```

Definition at line 435 of file fcodata.f90.

14.1.2.87 electron_g_factor

```
real(real64), parameter codata::electron_g_factor =-2.00231930436256d0
```

Definition at line 440 of file fcodata.f90.

14.1.2.88 electron_gyromag__ratio

```
real(real64), parameter codata::electron_gyromag__ratio =1.76085963023d11
```

s^-1 T^-1

Definition at line 445 of file fcodata.f90.

14.1.2.89 electron_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::electron_gyromag__ratio_in_mhz_t =28024.9514242d0
```

MHz T^-1.

Definition at line 450 of file fcodata.f90.

14.1.2.90 electron_helion_mass_ratio

```
real(real64), parameter codata::electron_helion_mass_ratio =1.819543074573d-4
```

Definition at line 455 of file fcodata.f90.

14.1.2.91 electron_mag__mom

```
real(real64), parameter codata::electron_mag__mom =-9.2847647043d-24
```

J T^-1.

Definition at line 460 of file fcodata.f90.

14.1.2.92 electron_mag__mom__anomaly

```
real(real64), parameter codata::electron_mag__mom__anomaly =1.15965218128d-3
```

Definition at line 465 of file fcodata.f90.

14.1.2.93 electron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::electron_mag__mom__to_bohr_magneton_ratio =-1.00115965218128d0
```

Definition at line 470 of file fcodata.f90.

14.1.2.94 electron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::electron_mag__mom__to_nuclear_magneton_ratio =-1838.28197188d0
```

Definition at line 475 of file fcodata.f90.

14.1.2.95 electron_mass

```
real(real64), parameter codata::electron_mass =9.1093837015d-31
```

kg

Definition at line 480 of file fcodata.f90.

14.1.2.96 electron_mass_energy_equivalent

```
real(real64), parameter codata::electron_mass_energy_equivalent =8.1871057769d-14
```

J.

Definition at line 485 of file fcodata.f90.

14.1.2.97 electron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::electron_mass_energy_equivalent_in_mev =0.51099895000d0
```

MeV.

Definition at line 490 of file fcodata.f90.

14.1.2.98 electron_mass_in_u

```
real(real64), parameter codata::electron_mass_in_u =5.48579909065d-4
```

u

Definition at line 495 of file fcodata.f90.

14.1.2.99 electron_molar_mass

```
real(real64), parameter codata::electron_molar_mass =5.4857990888d-7
```

kg mol^-1

Definition at line 500 of file fcodata.f90.

14.1.2.100 electron_muon_mag__mom__ratio

```
real(real64), parameter codata::electron_muon_mag__mom__ratio =206.7669883d0
```

Definition at line 505 of file fcodata.f90.

14.1.2.101 electron_muon_mass_ratio

```
real(real64), parameter codata::electron_muon_mass_ratio =4.83633169d-3
```

Definition at line 510 of file fcodata.f90.

14.1.2.102 electron_neutron_mag__mom__ratio

```
real(real64), parameter codata::electron_neutron_mag__mom__ratio =960.92050d0
```

Definition at line 515 of file fcodata.f90.

14.1.2.103 electron_neutron_mass_ratio

```
real(real64), parameter codata::electron_neutron_mass_ratio =5.4386734424d-4
```

Definition at line 520 of file fcodata.f90.

14.1.2.104 electron_proton_mag__mom__ratio

```
real(real64), parameter codata::electron_proton_mag__mom__ratio =-658.21068789d0
```

Definition at line 525 of file fcodata.f90.

14.1.2.105 electron_proton_mass_ratio

```
real(real64), parameter codata::electron_proton_mass_ratio =5.44617021487d-4
```

Definition at line 530 of file fcodata.f90.

14.1.2.106 electron_relative_atomic_mass

```
real(real64), parameter codata::electron_relative_atomic_mass =5.48579909065d-4
```

Definition at line 535 of file fcodata.f90.

14.1.2.107 electron_tau_mass_ratio

```
real(real64), parameter codata::electron_tau_mass_ratio =2.87585d-4
```

Definition at line 540 of file fcodata.f90.

14.1.2.108 electron_to_alpha_particle_mass_ratio

```
real(real64), parameter codata::electron_to_alpha_particle_mass_ratio =1.370933554787d-4
```

Definition at line 545 of file fcodata.f90.

14.1.2.109 electron_to_shielded_helion_mag__mom__ratio

```
real(real64), parameter codata::electron_to_shielded_helion_mag__mom__ratio =864.058257d0
```

Definition at line 550 of file fcodata.f90.

14.1.2.110 electron_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::electron_to_shielded_proton_mag__mom__ratio =-658.2275971d0
```

Definition at line 555 of file fcodata.f90.

14.1.2.111 electron_triton_mass_ratio

```
real(real64), parameter codata::electron_triton_mass_ratio =1.819200062251d-4
```

Definition at line 560 of file fcodata.f90.

14.1.2.112 electron_volt

```
real(real64), parameter codata::electron_volt =1.602176634d-19
```

J.

Definition at line 565 of file fcodata.f90.

14.1.2.113 electron_volt_atomic_mass_unit_relationship

```
real(real64), parameter codata::electron_volt_atomic_mass_unit_relationship =1.07354410233d-9
```

u

Definition at line 570 of file fcodata.f90.

14.1.2.114 electron_volt_hartree_relationship

```
real(real64), parameter codata::electron_volt_hartree_relationship =3.6749322175655d-2
```

E_h.

Definition at line 575 of file fcodata.f90.

14.1.2.115 electron_volt_hertz_relationship

```
real(real64), parameter codata::electron_volt_hertz_relationship =2.417989242d14
```

Hz.

Definition at line 580 of file fcodata.f90.

14.1.2.116 electron_volt_inverse_meter_relationship

```
real(real64), parameter codata::electron_volt_inverse_meter_relationship =8.065543937d5
```

m^-1

Definition at line 585 of file fcodata.f90.

14.1.2.117 electron_volt_joule_relationship

```
real(real64), parameter codata::electron_volt_joule_relationship =1.602176634d-19
```

J.

Definition at line 590 of file fcodata.f90.

14.1.2.118 electron_volt_kelvin_relationship

```
real(real64), parameter codata::electron_volt_kelvin_relationship =1.160451812d4
```

K.

Definition at line 595 of file fcodata.f90.

14.1.2.119 electron_volt_kilogram_relationship

```
real(real64), parameter codata::electron_volt_kilogram_relationship =1.782661921d-36
```

kg

Definition at line 600 of file fcodata.f90.

14.1.2.120 elementary_charge

```
real(real64), parameter codata::elementary_charge =1.602176634d-19
```

C.

Definition at line 605 of file fcodata.f90.

14.1.2.121 elementary_charge_over_h_bar

```
real(real64), parameter codata::elementary_charge_over_h_bar =1.519267447d15
```

A J^-1.

Definition at line 610 of file fcodata.f90.

14.1.2.122 faraday_constant

```
real(real64), parameter codata::faraday_constant =96485.33212d0
```

C mol^-1.

Definition at line 615 of file fcodata.f90.

14.1.2.123 fermi_coupling_constant

```
real(real64), parameter codata::fermi_coupling_constant =1.1663787d-5
```

GeV^-2.

Definition at line 620 of file fcodata.f90.

14.1.2.124 fine_structure_constant

```
real(real64), parameter codata::fine_structure_constant =7.2973525693d-3
```

Definition at line 625 of file fcodata.f90.

14.1.2.125 first_radiation_constant

```
real(real64), parameter codata::first_radiation_constant =3.741771852d-16
```

W m^2.

Definition at line 630 of file fcodata.f90.

14.1.2.126 first_radiation_constant_for_spectral_radiance

```
real(real64), parameter codata::first_radiation_constant_for_spectral_radiance =1.191042972d-16
```

W m^2 sr^-1.

Definition at line 635 of file fcodata.f90.

14.1.2.127 hartree_atomic_mass_unit_relationship

```
real(real64), parameter codata::hartree_atomic_mass_unit_relationship =2.92126232205d-8
```

u

Definition at line 640 of file fcodata.f90.

14.1.2.128 hartree_electron_volt_relationship

```
real(real64), parameter codata::hartree_electron_volt_relationship =27.211386245988d0
```

eV

Definition at line 645 of file fcodata.f90.

14.1.2.129 hartree_energy

```
real(real64), parameter codata::hartree_energy =4.3597447222071d-18
```

J.

Definition at line 650 of file fcodata.f90.

14.1.2.130 hartree_energy_in_ev

```
real(real64), parameter codata::hartree_energy_in_ev =27.211386245988d0
```

eV

Definition at line 655 of file fcodata.f90.

14.1.2.131 hartree_hertz_relationship

```
real(real64), parameter codata::hartree_hertz_relationship =6.579683920502d15
```

Hz.

Definition at line 660 of file fcodata.f90.

14.1.2.132 hartree_inverse_meter_relationship

```
real(real64), parameter codata::hartree_inverse_meter_relationship =2.1947463136320d7
```

m^-1

Definition at line 665 of file fcodata.f90.

14.1.2.133 hartree_joule_relationship

```
real(real64), parameter codata::hartree_joule_relationship =4.3597447222071d-18
```

J.

Definition at line 670 of file fcodata.f90.

14.1.2.134 hartree_kelvin_relationship

```
real(real64), parameter codata::hartree_kelvin_relationship =3.1577502480407d5
```

K.

Definition at line 675 of file fcodata.f90.

14.1.2.135 hartree_kilogram_relationship

```
real(real64), parameter codata::hartree_kilogram_relationship =4.8508702095432d-35
```

kg

Definition at line 680 of file fcodata.f90.

14.1.2.136 helion_electron_mass_ratio

```
real(real64), parameter codata::helion_electron_mass_ratio =5495.88528007d0
```

Definition at line 685 of file fcodata.f90.

14.1.2.137 helion_g_factor

```
real(real64), parameter codata::helion_g_factor =-4.255250615d0
```

Definition at line 690 of file fcodata.f90.

14.1.2.138 helion_mag__mom

```
real(real64), parameter codata::helion_mag__mom =-1.074617532d-26
```

J T^-1.

Definition at line 695 of file fcodata.f90.

14.1.2.139 helion_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::helion_mag__mom__to_bohr_magneton_ratio =-1.158740958d-3
```

Definition at line 700 of file fcodata.f90.

14.1.2.140 helion_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::helion_mag__mom__to_nuclear_magneton_ratio =-2.127625307d0
```

Definition at line 705 of file fcodata.f90.

14.1.2.141 helion_mass

```
real(real64), parameter codata::helion_mass =5.0064127796d-27
```

kg

Definition at line 710 of file fcodata.f90.

14.1.2.142 helion_mass_energy_equivalent

```
real(real64), parameter codata::helion_mass_energy_equivalent =4.4995394125d-10
```

J.

Definition at line 715 of file fcodata.f90.

14.1.2.143 helion_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::helion_mass_energy_equivalent_in_mev =2808.39160743d0
```

MeV.

Definition at line 720 of file fcodata.f90.

14.1.2.144 helion_mass_in_u

```
real(real64), parameter codata::helion_mass_in_u =3.014932247175d0
```

u

Definition at line 725 of file fcodata.f90.

14.1.2.145 helion_molar_mass

```
real(real64), parameter codata::helion_molar_mass =3.01493224613d-3
```

kg mol^-1

Definition at line 730 of file fcodata.f90.

14.1.2.146 helion_proton_mass_ratio

```
real(real64), parameter codata::helion_proton_mass_ratio =2.99315267167d0
```

Definition at line 735 of file fcodata.f90.

14.1.2.147 helion_relative_atomic_mass

```
real(real64), parameter codata::helion_relative_atomic_mass =3.014932247175d0
```

Definition at line 740 of file fcodata.f90.

14.1.2.148 helion_shielding_shift

```
real(real64), parameter codata::helion_shielding_shift =5.996743d-5
```

Definition at line 745 of file fcodata.f90.

14.1.2.149 hertz_atomic_mass_unit_relationship

```
real(real64), parameter codata::hertz_atomic_mass_unit_relationship =4.4398216652d-24
```

u

Definition at line 750 of file fcodata.f90.

14.1.2.150 hertz_electron_volt_relationship

```
real(real64), parameter codata::hertz_electron_volt_relationship =4.135667696d-15
```

eV

Definition at line 755 of file fcodata.f90.

14.1.2.151 hertz_hartree_relationship

```
real(real64), parameter codata::hertz_hartree_relationship =1.5198298460570d-16
```

E_h.

Definition at line 760 of file fcodata.f90.

14.1.2.152 hertz_inverse_meter_relationship

```
real(real64), parameter codata::hertz_inverse_meter_relationship =3.335640951d-9
```

m^-1

Definition at line 765 of file fcodata.f90.

14.1.2.153 hertz_joule_relationship

```
real(real64), parameter codata::hertz_joule_relationship =6.62607015d-34
```

J.

Definition at line 770 of file fcodata.f90.

14.1.2.154 hertz_kelvin_relationship

```
real(real64), parameter codata::hertz_kelvin_relationship =4.799243073d-11
```

K.

Definition at line 775 of file fcodata.f90.

14.1.2.155 hertz_kilogram_relationship

```
real(real64), parameter codata::hertz_kilogram_relationship =7.372497323d-51
```

kg

Definition at line 780 of file fcodata.f90.

14.1.2.156 hyperfine_transition_frequency_of_cs_133

```
real(real64), parameter codata::hyperfine_transition_frequency_of_cs_133 =9192631770.0d0
```

Hz.

Definition at line 785 of file fcodata.f90.

14.1.2.157 inverse_fine_structure_constant

```
real(real64), parameter codata::inverse_fine_structure_constant =137.035999084d0
```

Definition at line 790 of file fcodata.f90.

14.1.2.158 inverse_meter_atomic_mass_unit_relationship

```
real(real64), parameter codata::inverse_meter_atomic_mass_unit_relationship =1.33102505010d-15
```

u

Definition at line 795 of file fcodata.f90.

14.1.2.159 inverse_meter_electron_volt_relationship

```
real(real64), parameter codata::inverse_meter_electron_volt_relationship =1.239841984d-6
```

eV

Definition at line 800 of file fcodata.f90.

14.1.2.160 inverse_meter_hartree_relationship

```
real(real64), parameter codata::inverse_meter_hartree_relationship =4.5563352529120d-8
```

E_h.

Definition at line 805 of file fcodata.f90.

14.1.2.161 inverse_meter_hertz_relationship

```
real(real64), parameter codata::inverse_meter_hertz_relationship =299792458.0d0
```

Hz.

Definition at line 810 of file fcodata.f90.

14.1.2.162 inverse_meter_joule_relationship

```
real(real64), parameter codata::inverse_meter_joule_relationship =1.986445857d-25
```

J.

Definition at line 815 of file fcodata.f90.

14.1.2.163 inverse_meter_kelvin_relationship

```
real(real64), parameter codata::inverse_meter_kelvin_relationship =1.438776877d-2
```

K.

Definition at line 820 of file fcodata.f90.

14.1.2.164 inverse_meter_kilogram_relationship

```
real(real64), parameter codata::inverse_meter_kilogram_relationship =2.210219094d-42
```

kg

Definition at line 825 of file fcodata.f90.

14.1.2.165 inverse_of_conductance_quantum

```
real(real64), parameter codata::inverse_of_conductance_quantum =12906.40372d0
```

ohm

Definition at line 830 of file fcodata.f90.

14.1.2.166 josephson_constant

```
real(real64), parameter codata::josephson_constant =483597.8484d9
```

Hz V^-1.

Definition at line 835 of file fcodata.f90.

14.1.2.167 joule_atomic_mass_unit_relationship

```
real(real64), parameter codata::joule_atomic_mass_unit_relationship =6.7005352565d9
```

u

Definition at line 840 of file fcodata.f90.

14.1.2.168 joule_electron_volt_relationship

```
real(real64), parameter codata::joule_electron_volt_relationship =6.241509074d18
```

eV

Definition at line 845 of file fcodata.f90.

14.1.2.169 joule_hartree_relationship

```
real(real64), parameter codata::joule_hartree_relationship =2.2937122783963d17
```

E_h.

Definition at line 850 of file fcodata.f90.

14.1.2.170 joule_hertz_relationship

```
real(real64), parameter codata::joule_hertz_relationship =1.509190179d33
```

Hz.

Definition at line 855 of file fcodata.f90.

14.1.2.171 joule_inverse_meter_relationship

```
real(real64), parameter codata::joule_inverse_meter_relationship =5.034116567d24
```

m^-1

Definition at line 860 of file fcodata.f90.

14.1.2.172 joule_kelvin_relationship

```
real(real64), parameter codata::joule_kelvin_relationship =7.242970516d22
```

K.

Definition at line 865 of file fcodata.f90.

14.1.2.173 joule_kilogram_relationship

```
real(real64), parameter codata::joule_kilogram_relationship =1.112650056d-17
```

kg

Definition at line 870 of file fcodata.f90.

14.1.2.174 kelvin_atomic_mass_unit_relationship

```
real(real64), parameter codata::kelvin_atomic_mass_unit_relationship =9.2510873014d-14
```

u

Definition at line 875 of file fcodata.f90.

14.1.2.175 kelvin_electron_volt_relationship

```
real(real64), parameter codata::kelvin_electron_volt_relationship =8.617333262d-5
```

eV

Definition at line 880 of file fcodata.f90.

14.1.2.176 kelvin_hartree_relationship

```
real(real64), parameter codata::kelvin_hartree_relationship =3.1668115634556d-6
```

E_h.

Definition at line 885 of file fcodata.f90.

14.1.2.177 kelvin_hertz_relationship

```
real(real64), parameter codata::kelvin_hertz_relationship =2.083661912d10
```

Hz.

Definition at line 890 of file fcodata.f90.

14.1.2.178 kelvin_inverse_meter_relationship

```
real(real64), parameter codata::kelvin_inverse_meter_relationship =69.50348004d0
```

m^-1

Definition at line 895 of file fcodata.f90.

14.1.2.179 kelvin_joule_relationship

```
real(real64), parameter codata::kelvin_joule_relationship =1.380649d-23
```

J.

Definition at line 900 of file fcodata.f90.

14.1.2.180 kelvin_kilogram_relationship

```
real(real64), parameter codata::kelvin_kilogram_relationship =1.536179187d-40
```

kg

Definition at line 905 of file fcodata.f90.

14.1.2.181 kilogram_atomic_mass_unit_relationship

```
real(real64), parameter codata::kilogram_atomic_mass_unit_relationship =6.0221407621d26
```

u

Definition at line 910 of file fcodata.f90.

14.1.2.182 kilogram_electron_volt_relationship

```
real(real64), parameter codata::kilogram_electron_volt_relationship =5.609588603d35
```

eV

Definition at line 915 of file fcodata.f90.

14.1.2.183 kilogram_hartree_relationship

```
real(real64), parameter codata::kilogram_hartree_relationship =2.0614857887409d34
```

E_h.

Definition at line 920 of file fcodata.f90.

14.1.2.184 kilogram_hertz_relationship

```
real(real64), parameter codata::kilogram_hertz_relationship =1.356392489d50
```

Hz.

Definition at line 925 of file fcodata.f90.

14.1.2.185 kilogram_inverse_meter_relationship

```
real(real64), parameter codata::kilogram_inverse_meter_relationship =4.524438335d41
```

m^-1

Definition at line 930 of file fcodata.f90.

14.1.2.186 kilogram_joule_relationship

```
real(real64), parameter codata::kilogram_joule_relationship =8.987551787d16
```

J.

Definition at line 935 of file fcodata.f90.

14.1.2.187 kilogram_kelvin_relationship

```
real(real64), parameter codata::kilogram_kelvin_relationship =6.509657260d39
```

K.

Definition at line 940 of file fcodata.f90.

14.1.2.188 lattice_parameter_of_silicon

```
real(real64), parameter codata::lattice_parameter_of_silicon =5.431020511d-10
```

m

Definition at line 945 of file fcodata.f90.

14.1.2.189 lattice_spacing_of_ideal_si__220

```
real(real64), parameter codata::lattice_spacing_of_ideal_si__220 =1.920155716d-10
```

m

Definition at line 950 of file fcodata.f90.

14.1.2.190 loschmidt_constant__273_15_k__100_kpa

```
real(real64), parameter codata::loschmidt_constant__273_15_k__100_kpa =2.651645804d25
```

m^-3

Definition at line 955 of file fcodata.f90.

14.1.2.191 loschmidt_constant__273_15_k__101_325_kpa

```
real(real64), parameter codata::loschmidt_constant__273_15_k__101_325_kpa =2.686780111d25
```

m^-3

Definition at line 960 of file fcodata.f90.

14.1.2.192 luminous_efficacy

```
real(real64), parameter codata::luminous_efficacy =683.0d0
```

lm W^-1

Definition at line 965 of file fcodata.f90.

14.1.2.193 mag__flux_quantum

```
real(real64), parameter codata::mag__flux_quantum =2.067833848d-15
```

Wb.

Definition at line 970 of file fcodata.f90.

14.1.2.194 molar_gas_constant

```
real(real64), parameter codata::molar_gas_constant =8.314462618d0
```

J mol^-1 K^-1.

Definition at line 975 of file fcodata.f90.

14.1.2.195 molar_mass_constant

```
real(real64), parameter codata::molar_mass_constant =0.99999999965d-3
```

kg mol^-1

Definition at line 980 of file fcodata.f90.

14.1.2.196 molar_mass_of_carbon_12

```
real(real64), parameter codata::molar_mass_of_carbon_12 =11.9999999958d-3
```

kg mol^-1

Definition at line 985 of file fcodata.f90.

14.1.2.197 molar_planck_constant

```
real(real64), parameter codata::molar_planck_constant =3.990312712d-10
```

J Hz^-1 mol^-1.

Definition at line 990 of file fcodata.f90.

14.1.2.198 molar_volume_of_ideal_gas__273_15_k__100_kpa

```
real(real64), parameter codata::molar_volume_of_ideal_gas__273_15_k__100_kpa =22.71095464d-3
```

m^3 mol^-1

Definition at line 995 of file fcodata.f90.

14.1.2.199 molar_volume_of_ideal_gas__273_15_k__101_325_kpa

```
real(real64), parameter codata::molar_volume_of_ideal_gas__273_15_k__101_325_kpa =22.41396954d-3
```

m^3 mol^-1

Definition at line 1000 of file fcodata.f90.

14.1.2.200 molar_volume_of_silicon

```
real(real64), parameter codata::molar_volume_of_silicon =1.205883199d-5
```

m^3 mol^-1

Definition at line 1005 of file fcodata.f90.

14.1.2.201 molybdenum_x_unit

```
real(real64), parameter codata::molybdenum_x_unit =1.00209952d-13
```

m

Definition at line 1010 of file fcodata.f90.

14.1.2.202 muon_compton_wavelength

```
real(real64), parameter codata::muon_compton_wavelength =1.173444110d-14
```

m

Definition at line 1015 of file fcodata.f90.

14.1.2.203 muon_electron_mass_ratio

```
real(real64), parameter codata::muon_electron_mass_ratio =206.7682830d0
```

Definition at line 1020 of file fcodata.f90.

14.1.2.204 muon_g_factor

```
real(real64), parameter codata::muon_g_factor =-2.0023318418d0
```

Definition at line 1025 of file fcodata.f90.

14.1.2.205 muon_mag__mom

```
real(real64), parameter codata::muon_mag__mom =-4.49044830d-26
```

J T^-1.

Definition at line 1030 of file fcodata.f90.

14.1.2.206 muon_mag__mom__anomaly

```
real(real64), parameter codata::muon_mag__mom__anomaly =1.16592089d-3
```

Definition at line 1035 of file fcodata.f90.

14.1.2.207 muon_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::muon_mag__mom__to_bohr_magneton_ratio =-4.84197047d-3
```

Definition at line 1040 of file fcodata.f90.

14.1.2.208 muon_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::muon_mag__mom__to_nuclear_magneton_ratio =-8.89059703d0
```

Definition at line 1045 of file fcodata.f90.

14.1.2.209 muon_mass

```
real(real64), parameter codata::muon_mass =1.883531627d-28
```

kg

Definition at line 1050 of file fcodata.f90.

14.1.2.210 muon_mass_energy_equivalent

```
real(real64), parameter codata::muon_mass_energy_equivalent =1.692833804d-11
```

J.

Definition at line 1055 of file fcodata.f90.

14.1.2.211 muon_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::muon_mass_energy_equivalent_in_mev =105.6583755d0
```

MeV.

Definition at line 1060 of file fcodata.f90.

14.1.2.212 muon_mass_in_u

```
real(real64), parameter codata::muon_mass_in_u =0.1134289259d0
```

u

Definition at line 1065 of file fcodata.f90.

14.1.2.213 muon_molar_mass

```
real(real64), parameter codata::muon_molar_mass =1.134289259d-4
```

kg mol^-1

Definition at line 1070 of file fcodata.f90.

14.1.2.214 muon_neutron_mass_ratio

```
real(real64), parameter codata::muon_neutron_mass_ratio =0.1124545170d0
```

Definition at line 1075 of file fcodata.f90.

14.1.2.215 muon_proton_mag__mom__ratio

```
real(real64), parameter codata::muon_proton_mag__mom__ratio =-3.183345142d0
```

Definition at line 1080 of file fcodata.f90.

14.1.2.216 muon_proton_mass_ratio

```
real(real64), parameter codata::muon_proton_mass_ratio =0.1126095264d0
```

Definition at line 1085 of file fcodata.f90.

14.1.2.217 muon_tau_mass_ratio

```
real(real64), parameter codata::muon_tau_mass_ratio =5.94635d-2
```

Definition at line 1090 of file fcodata.f90.

14.1.2.218 natural_unit_of_action

```
real(real64), parameter codata::natural_unit_of_action =1.054571817d-34
```

J s.

Definition at line 1095 of file fcodata.f90.

14.1.2.219 natural_unit_of_action_in_ev_s

```
real(real64), parameter codata::natural_unit_of_action_in_ev_s =6.582119569d-16
```

eV s

Definition at line 1100 of file fcodata.f90.

14.1.2.220 natural_unit_of_energy

```
real(real64), parameter codata::natural_unit_of_energy =8.1871057769d-14
```

J.

Definition at line 1105 of file fcodata.f90.

14.1.2.221 natural_unit_of_energy_in_mev

```
real(real64), parameter codata::natural_unit_of_energy_in_mev =0.51099895000d0
```

MeV.

Definition at line 1110 of file fcodata.f90.

14.1.2.222 natural_unit_of_length

```
real(real64), parameter codata::natural_unit_of_length =3.8615926796d-13
```

m

Definition at line 1115 of file fcodata.f90.

14.1.2.223 natural_unit_of_mass

```
real(real64), parameter codata::natural_unit_of_mass =9.1093837015d-31
```

kg

Definition at line 1120 of file fcodata.f90.

14.1.2.224 natural_unit_of_momentum

```
real(real64), parameter codata::natural_unit_of_momentum =2.73092453075d-22
```

kg m s^-1

Definition at line 1125 of file fcodata.f90.

14.1.2.225 natural_unit_of_momentum_in_mev_c

```
real(real64), parameter codata::natural_unit_of_momentum_in_mev_c =0.51099895000d0
```

MeV/c.

Definition at line 1130 of file fcodata.f90.

14.1.2.226 natural_unit_of_time

```
real(real64), parameter codata::natural_unit_of_time =1.28808866819d-21
```

s

Definition at line 1135 of file fcodata.f90.

14.1.2.227 natural_unit_of_velocity

```
real(real64), parameter codata::natural_unit_of_velocity =299792458.0d0
```

m s^-1

Definition at line 1140 of file fcodata.f90.

14.1.2.228 neutron_compton_wavelength

```
real(real64), parameter codata::neutron_compton_wavelength =1.31959090581d-15
```

m

Definition at line 1145 of file fcodata.f90.

14.1.2.229 neutron_electron_mag__mom__ratio

```
real(real64), parameter codata::neutron_electron_mag__mom__ratio =1.04066882d-3
```

Definition at line 1150 of file fcodata.f90.

14.1.2.230 neutron_electron_mass_ratio

```
real(real64), parameter codata::neutron_electron_mass_ratio =1838.68366173d0
```

Definition at line 1155 of file fcodata.f90.

14.1.2.231 neutron_g_factor

```
real(real64), parameter codata::neutron_g_factor =-3.82608545d0
```

Definition at line 1160 of file fcodata.f90.

14.1.2.232 neutron_gyromag__ratio

```
real(real64), parameter codata::neutron_gyromag__ratio =1.83247171d8
```

s^-1 T^-1

Definition at line 1165 of file fcodata.f90.

14.1.2.233 neutron_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::neutron_gyromag__ratio_in_mhz_t =29.1646931d0
```

MHz T^-1.

Definition at line 1170 of file fcodata.f90.

14.1.2.234 neutron_mag__mom

```
real(real64), parameter codata::neutron_mag__mom =-9.6623651d-27
```

J T^-1.

Definition at line 1175 of file fcodata.f90.

14.1.2.235 neutron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::neutron_mag__mom__to_bohr_magneton_ratio =-1.04187563d-3
```

Definition at line 1180 of file fcodata.f90.

14.1.2.236 neutron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::neutron_mag__mom__to_nuclear_magneton_ratio =-1.91304273d0
```

Definition at line 1185 of file fcodata.f90.

14.1.2.237 neutron_mass

```
real(real64), parameter codata::neutron_mass =1.67492749804d-27
```

kg

Definition at line 1190 of file fcodata.f90.

14.1.2.238 neutron_mass_energy_equivalent

```
real(real64), parameter codata::neutron_mass_energy_equivalent =1.50534976287d-10
```

J.

Definition at line 1195 of file fcodata.f90.

14.1.2.239 neutron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::neutron_mass_energy_equivalent_in_mev =939.56542052d0
```

MeV.

Definition at line 1200 of file fcodata.f90.

14.1.2.240 neutron_mass_in_u

```
real(real64), parameter codata::neutron_mass_in_u =1.00866491595d0
```

u

Definition at line 1205 of file fcodata.f90.

14.1.2.241 neutron_molar_mass

```
real(real64), parameter codata::neutron_molar_mass =1.00866491560d-3
```

kg mol^-1

Definition at line 1210 of file fcodata.f90.

14.1.2.242 neutron_muon_mass_ratio

```
real(real64), parameter codata::neutron_muon_mass_ratio =8.89248406d0
```

Definition at line 1215 of file fcodata.f90.

14.1.2.243 neutron_proton_mag__mom__ratio

```
real(real64), parameter codata::neutron_proton_mag__mom__ratio =-0.68497934d0
```

Definition at line 1220 of file fcodata.f90.

14.1.2.244 neutron_proton_mass_difference

```
real(real64), parameter codata::neutron_proton_mass_difference =2.30557435d-30
```

kg

Definition at line 1225 of file fcodata.f90.

14.1.2.245 neutron_proton_mass_difference_energy_equivalent

```
real(real64), parameter codata::neutron_proton_mass_difference_energy_equivalent =2.07214689d-13
```

J.

Definition at line 1230 of file fcodata.f90.

14.1.2.246 neutron_proton_mass_difference_energy_equivalent_in_mev

```
real(real64), parameter codata::neutron_proton_mass_difference_energy_equivalent_in_mev =1.↩
29333236d0
```

MeV.

Definition at line 1235 of file fcodata.f90.

14.1.2.247 neutron_proton_mass_difference_in_u

```
real(real64), parameter codata::neutron_proton_mass_difference_in_u =1.38844933d-3
```

u

Definition at line 1240 of file fcodata.f90.

14.1.2.248 neutron_proton_mass_ratio

```
real(real64), parameter codata::neutron_proton_mass_ratio =1.00137841931d0
```

Definition at line 1245 of file fcodata.f90.

14.1.2.249 neutron_relative_atomic_mass

```
real(real64), parameter codata::neutron_relative_atomic_mass =1.00866491595d0
```

Definition at line 1250 of file fcodata.f90.

14.1.2.250 neutron_tau_mass_ratio

```
real(real64), parameter codata::neutron_tau_mass_ratio =0.528779d0
```

Definition at line 1255 of file fcodata.f90.

14.1.2.251 neutron_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::neutron_to_shielded_proton_mag__mom__ratio =-0.68499694d0
```

Definition at line 1260 of file fcodata.f90.

14.1.2.252 newtonian_constant_of_gravitation

```
real(real64), parameter codata::newtonian_constant_of_gravitation =6.67430d-11
```

m^3 kg^-1 s^-2

Definition at line 1265 of file fcodata.f90.

14.1.2.253 newtonian_constant_of_gravitation_over_h_bar_c

```
real(real64), parameter codata::newtonian_constant_of_gravitation_over_h_bar_c =6.70883d-39
```

(GeV/c^2)^-2

Definition at line 1270 of file fcodata.f90.

14.1.2.254 nuclear_magneton

```
real(real64), parameter codata::nuclear_magneton =5.0507837461d-27
```

J T^-1.

Definition at line 1275 of file fcodata.f90.

14.1.2.255 nuclear_magneton_in_ev_t

```
real(real64), parameter codata::nuclear_magneton_in_ev_t =3.15245125844d-8
```

eV T^-1

Definition at line 1280 of file fcodata.f90.

14.1.2.256 nuclear_magneton_in_inverse_meter_per_tesla

```
real(real64), parameter codata::nuclear_magneton_in_inverse_meter_per_tesla =2.54262341353d-2
```

m^-1 T^-1

Definition at line 1285 of file fcodata.f90.

14.1.2.257 nuclear_magneton_in_k_t

```
real(real64), parameter codata::nuclear_magneton_in_k_t =3.6582677756d-4
```

K T^-1.

Definition at line 1290 of file fcodata.f90.

14.1.2.258 nuclear_magneton_in_mhz_t

```
real(real64), parameter codata::nuclear_magneton_in_mhz_t =7.6225932291d0
```

MHz T^-1.

Definition at line 1295 of file fcodata.f90.

14.1.2.259 planck_constant

```
real(real64), parameter codata::planck_constant =6.62607015d-34
```

J Hz^-1.

Definition at line 1300 of file fcodata.f90.

14.1.2.260 planck_constant_in_ev_hz

```
real(real64), parameter codata::planck_constant_in_ev_hz =4.135667696d-15
```

eV Hz^-1

Definition at line 1305 of file fcodata.f90.

14.1.2.261 planck_length

```
real(real64), parameter codata::planck_length =1.616255d-35
```

m

Definition at line 1310 of file fcodata.f90.

14.1.2.262 planck_mass

```
real(real64), parameter codata::planck_mass =2.176434d-8
```

kg

Definition at line 1315 of file fcodata.f90.

14.1.2.263 planck_mass_energy_equivalent_in_gev

```
real(real64), parameter codata::planck_mass_energy_equivalent_in_gev =1.220890d19
```

GeV.

Definition at line 1320 of file fcodata.f90.

14.1.2.264 planck_temperature

```
real(real64), parameter codata::planck_temperature =1.416784d32
```

K.

Definition at line 1325 of file fcodata.f90.

14.1.2.265 planck_time

```
real(real64), parameter codata::planck_time =5.391247d-44
```

s

Definition at line 1330 of file fcodata.f90.

14.1.2.266 proton_charge_to_mass_quotient

```
real(real64), parameter codata::proton_charge_to_mass_quotient =9.5788331560d7
```

C kg^-1.

Definition at line 1335 of file fcodata.f90.

14.1.2.267 proton_compton_wavelength

```
real(real64), parameter codata::proton_compton_wavelength =1.32140985539d-15
```

m

Definition at line 1340 of file fcodata.f90.

14.1.2.268 proton_electron_mass_ratio

```
real(real64), parameter codata::proton_electron_mass_ratio =1836.15267343d0
```

Definition at line 1345 of file fcodata.f90.

14.1.2.269 proton_g_factor

```
real(real64), parameter codata::proton_g_factor =5.5856946893d0
```

Definition at line 1350 of file fcodata.f90.

14.1.2.270 proton_gyromag__ratio

```
real(real64), parameter codata::proton_gyromag__ratio =2.6752218744d8
```

s^-1 T^-1

Definition at line 1355 of file fcodata.f90.

14.1.2.271 proton_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::proton_gyromag__ratio_in_mhz_t =42.577478518d0
```

MHz T^-1.

Definition at line 1360 of file fcodata.f90.

14.1.2.272 proton_mag__mom

```
real(real64), parameter codata::proton_mag__mom =1.41060679736d-26
```

J T^-1.

Definition at line 1365 of file fcodata.f90.

14.1.2.273 proton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::proton_mag__mom__to_bohr_magneton_ratio =1.52103220230d-3
```

Definition at line 1370 of file fcodata.f90.

14.1.2.274 proton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::proton_mag__mom__to_nuclear_magneton_ratio =2.79284734463d0
```

Definition at line 1375 of file fcodata.f90.

14.1.2.275 proton_mag__shielding_correction

```
real(real64), parameter codata::proton_mag__shielding_correction =2.5689d-5
```

Definition at line 1380 of file fcodata.f90.

14.1.2.276 proton_mass

```
real(real64), parameter codata::proton_mass =1.67262192369d-27
```

kg

Definition at line 1385 of file fcodata.f90.

14.1.2.277 proton_mass_energy_equivalent

```
real(real64), parameter codata::proton_mass_energy_equivalent =1.50327761598d-10
```

J.

Definition at line 1390 of file fcodata.f90.

14.1.2.278 proton_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::proton_mass_energy_equivalent_in_mev =938.27208816d0
```

MeV.

Definition at line 1395 of file fcodata.f90.

14.1.2.279 proton_mass_in_u

```
real(real64), parameter codata::proton_mass_in_u =1.007276466621d0
```

u

Definition at line 1400 of file fcodata.f90.

14.1.2.280 proton_molar_mass

```
real(real64), parameter codata::proton_molar_mass =1.00727646627d-3
```

kg mol^-1

Definition at line 1405 of file fcodata.f90.

14.1.2.281 proton_muon_mass_ratio

```
real(real64), parameter codata::proton_muon_mass_ratio =8.88024337d0
```

Definition at line 1410 of file fcodata.f90.

14.1.2.282 proton_neutron_mag__mom__ratio

```
real(real64), parameter codata::proton_neutron_mag__mom__ratio =-1.45989805d0
```

Definition at line 1415 of file fcodata.f90.

14.1.2.283 proton_neutron_mass_ratio

```
real(real64), parameter codata::proton_neutron_mass_ratio =0.99862347812d0
```

Definition at line 1420 of file fcodata.f90.

14.1.2.284 proton_relative_atomic_mass

```
real(real64), parameter codata::proton_relative_atomic_mass =1.007276466621d0
```

Definition at line 1425 of file fcodata.f90.

14.1.2.285 proton_rms_charge_radius

```
real(real64), parameter codata::proton_rms_charge_radius =8.414d-16
```

m

Definition at line 1430 of file fcodata.f90.

14.1.2.286 proton_tau_mass_ratio

```
real(real64), parameter codata::proton_tau_mass_ratio =0.528051d0
```

Definition at line 1435 of file fcodata.f90.

14.1.2.287 quantum_of_circulation

```
real(real64), parameter codata::quantum_of_circulation =3.6369475516d-4
```

m^2 s^-1

Definition at line 1440 of file fcodata.f90.

14.1.2.288 quantum_of_circulation_times_2

```
real(real64), parameter codata::quantum_of_circulation_times_2 =7.2738951032d-4
```

m^2 s^-1

Definition at line 1445 of file fcodata.f90.

14.1.2.289 reduced_compton_wavelength

```
real(real64), parameter codata::reduced_compton_wavelength =3.8615926796d-13
```

m

Definition at line 1450 of file fcodata.f90.

14.1.2.290 reduced_muon_compton_wavelength

```
real(real64), parameter codata::reduced_muon_compton_wavelength =1.867594306d-15
```

m

Definition at line 1455 of file fcodata.f90.

14.1.2.291 reduced_neutron_compton_wavelength

```
real(real64), parameter codata::reduced_neutron_compton_wavelength =2.1001941552d-16
```

m

Definition at line 1460 of file fcodata.f90.

14.1.2.292 reduced_planck_constant

```
real(real64), parameter codata::reduced_planck_constant =1.054571817d-34
```

J s.

Definition at line 1465 of file fcodata.f90.

14.1.2.293 reduced_planck_constant_in_ev_s

```
real(real64), parameter codata::reduced_planck_constant_in_ev_s =6.582119569d-16
```

eV s

Definition at line 1470 of file fcodata.f90.

14.1.2.294 reduced_planck_constant_times_c_in_mev_fm

```
real(real64), parameter codata::reduced_planck_constant_times_c_in_mev_fm =197.3269804d0
```

MeV fm.

Definition at line 1475 of file fcodata.f90.

14.1.2.295 reduced_proton_compton_wavelength

```
real(real64), parameter codata::reduced_proton_compton_wavelength =2.10308910336d-16
```

m

Definition at line 1480 of file fcodata.f90.

14.1.2.296 reduced_tau_compton_wavelength

```
real(real64), parameter codata::reduced_tau_compton_wavelength =1.110538d-16
```

m

Definition at line 1485 of file fcodata.f90.

14.1.2.297 rydberg_constant

```
real(real64), parameter codata::rydberg_constant =10973731.568160d0
```

m^-1

Definition at line 1490 of file fcodata.f90.

14.1.2.298 rydberg_constant_times_c_in_hz

```
real(real64), parameter codata::rydberg_constant_times_c_in_hz =3.2898419602508d15
```

Hz.

Definition at line 1495 of file fcodata.f90.

14.1.2.299 rydberg_constant_times_hc_in_ev

```
real(real64), parameter codata::rydberg_constant_times_hc_in_ev =13.605693122994d0
```

eV

Definition at line 1500 of file fcodata.f90.

14.1.2.300 rydberg_constant_times_hc_in_j

```
real(real64), parameter codata::rydberg_constant_times_hc_in_j =2.1798723611035d-18
```

J.

Definition at line 1505 of file fcodata.f90.

14.1.2.301 sackur_tetrode_constant__1_k__100_kpa

```
real(real64), parameter codata::sackur_tetrode_constant__1_k__100_kpa =-1.15170753706d0
```

Definition at line 1510 of file fcodata.f90.

14.1.2.302 sackur_tetrode_constant__1_k__101_325_kpa

```
real(real64), parameter codata::sackur_tetrode_constant__1_k__101_325_kpa =-1.16487052358d0
```

Definition at line 1515 of file fcodata.f90.

14.1.2.303 second_radiation_constant

```
real(real64), parameter codata::second_radiation_constant =1.438776877d-2
```

m K

Definition at line 1520 of file fcodata.f90.

14.1.2.304 shielded_helion_gyromag__ratio

```
real(real64), parameter codata::shielded_helion_gyromag__ratio =2.037894569d8
```

s^-1 T^-1

Definition at line 1525 of file fcodata.f90.

14.1.2.305 shielded_helion_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::shielded_helion_gyromag__ratio_in_mhz_t =32.43409942d0
```

MHz T^-1.

Definition at line 1530 of file fcodata.f90.

14.1.2.306 shielded_helion_mag__mom

```
real(real64), parameter codata::shielded_helion_mag__mom =-1.074553090d-26
```

J T^-1.

Definition at line 1535 of file fcodata.f90.

14.1.2.307 shielded_helion_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::shielded_helion_mag__mom__to_bohr_magneton_ratio =-1.158671471d-3
```

Definition at line 1540 of file fcodata.f90.

14.1.2.308 shielded_helion_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::shielded_helion_mag__mom__to_nuclear_magneton_ratio =-2.↩
127497719d0
```

Definition at line 1545 of file fcodata.f90.

14.1.2.309 shielded_helion_to_proton_mag__mom__ratio

```
real(real64), parameter codata::shielded_helion_to_proton_mag__mom__ratio =-0.7617665618d0
```

Definition at line 1550 of file fcodata.f90.

14.1.2.310 shielded_helion_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::shielded_helion_to_shielded_proton_mag__mom__ratio =-0.↩
7617861313d0
```

Definition at line 1555 of file fcodata.f90.

14.1.2.311 shielded_proton_gyromag__ratio

```
real(real64), parameter codata::shielded_proton_gyromag__ratio =2.675153151d8
```

s^-1 T^-1

Definition at line 1560 of file fcodata.f90.

14.1.2.312 shielded_proton_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::shielded_proton_gyromag__ratio_in_mhz_t =42.57638474d0
```

MHz T^-1.

Definition at line 1565 of file fcodata.f90.

14.1.2.313 shielded_proton_mag__mom

```
real(real64), parameter codata::shielded_proton_mag__mom =1.410570560d-26
```

J T^-1.

Definition at line 1570 of file fcodata.f90.

14.1.2.314 shielded_proton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::shielded_proton_mag__mom__to_bohr_magneton_ratio =1.520993128d-3
```

Definition at line 1575 of file fcodata.f90.

14.1.2.315 shielded_proton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::shielded_proton_mag__mom__to_nuclear_magneton_ratio =2.↩
792775599d0
```

Definition at line 1580 of file fcodata.f90.

14.1.2.316 shielding_difference_of_d_and_p_in_hd

```
real(real64), parameter codata::shielding_difference_of_d_and_p_in_hd =2.0200d-8
```

Definition at line 1585 of file fcodata.f90.

14.1.2.317 shielding_difference_of_t_and_p_in_ht

```
real(real64), parameter codata::shielding_difference_of_t_and_p_in_ht =2.4140d-8
```

Definition at line 1590 of file fcodata.f90.

14.1.2.318 speed_of_light_in_vacuum

```
real(real64), parameter codata::speed_of_light_in_vacuum =299792458.0d0
```

m s^-1

Definition at line 1595 of file fcodata.f90.

14.1.2.319 standard_acceleration_of_gravity

```
real(real64), parameter codata::standard_acceleration_of_gravity =9.80665d0
```

m s^-2

Definition at line 1600 of file fcodata.f90.

14.1.2.320 standard_atmosphere

```
real(real64), parameter codata::standard_atmosphere =101325.0d0
```

Pa.

Definition at line 1605 of file fcodata.f90.

14.1.2.321 standard_state_pressure

```
real(real64), parameter codata::standard_state_pressure =100000.0d0
```

Pa.

Definition at line 1610 of file fcodata.f90.

14.1.2.322 stefan_boltzmann_constant

```
real(real64), parameter codata::stefan_boltzmann_constant =5.670374419d-8
```

W m^-2 K^-4.

Definition at line 1615 of file fcodata.f90.

14.1.2.323 tau_compton_wavelength

```
real(real64), parameter codata::tau_compton_wavelength =6.97771d-16
```

m

Definition at line 1620 of file fcodata.f90.

14.1.2.324 tau_electron_mass_ratio

```
real(real64), parameter codata::tau_electron_mass_ratio =3477.23d0
```

Definition at line 1625 of file fcodata.f90.

14.1.2.325 tau_energy_equivalent

```
real(real64), parameter codata::tau_energy_equivalent =1776.86d0
```

MeV.

Definition at line 1630 of file fcodata.f90.

14.1.2.326 tau_mass

```
real(real64), parameter codata::tau_mass =3.16754d-27
```

kg

Definition at line 1635 of file fcodata.f90.

14.1.2.327 tau_mass_energy_equivalent

```
real(real64), parameter codata::tau_mass_energy_equivalent =2.84684d-10
```

J.

Definition at line 1640 of file fcodata.f90.

14.1.2.328 tau_mass_in_u

```
real(real64), parameter codata::tau_mass_in_u =1.90754d0
```

u

Definition at line 1645 of file fcodata.f90.

14.1.2.329 tau_molar_mass

```
real(real64), parameter codata::tau_molar_mass =1.90754d-3
```

kg mol^-1

Definition at line 1650 of file fcodata.f90.

14.1.2.330 tau_muon_mass_ratio

```
real(real64), parameter codata::tau_muon_mass_ratio =16.8170d0
```

Definition at line 1655 of file fcodata.f90.

14.1.2.331 tau_neutron_mass_ratio

```
real(real64), parameter codata::tau_neutron_mass_ratio =1.89115d0
```

Definition at line 1660 of file fcodata.f90.

14.1.2.332 tau_proton_mass_ratio

```
real(real64), parameter codata::tau_proton_mass_ratio =1.89376d0
```

Definition at line 1665 of file fcodata.f90.

14.1.2.333 thomson_cross_section

```
real(real64), parameter codata::thomson_cross_section =6.6524587321d-29
```

m^2

Definition at line 1670 of file fcodata.f90.

14.1.2.334 triton_electron_mass_ratio

```
real(real64), parameter codata::triton_electron_mass_ratio =5496.92153573d0
```

Definition at line 1675 of file fcodata.f90.

14.1.2.335 triton_g_factor

```
real(real64), parameter codata::triton_g_factor =5.957924931d0
```

Definition at line 1680 of file fcodata.f90.

14.1.2.336 triton_mag__mom

```
real(real64), parameter codata::triton_mag__mom =1.5046095202d-26
```

J T^-1.

Definition at line 1685 of file fcodata.f90.

14.1.2.337 triton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::triton_mag__mom__to_bohr_magneton_ratio =1.6223936651d-3
```

Definition at line 1690 of file fcodata.f90.

14.1.2.338 triton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::triton_mag__mom__to_nuclear_magneton_ratio =2.9789624656d0
```

Definition at line 1695 of file fcodata.f90.

14.1.2.339 triton_mass

```
real(real64), parameter codata::triton_mass =5.0073567446d-27
```

kg

Definition at line 1700 of file fcodata.f90.

14.1.2.340 triton_mass_energy_equivalent

```
real(real64), parameter codata::triton_mass_energy_equivalent =4.5003878060d-10
```

J.

Definition at line 1705 of file fcodata.f90.

14.1.2.341 triton_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::triton_mass_energy_equivalent_in_mev =2808.92113298d0
```

MeV.

Definition at line 1710 of file fcodata.f90.

14.1.2.342 triton_mass_in_u

```
real(real64), parameter codata::triton_mass_in_u =3.01550071621d0
```

u

Definition at line 1715 of file fcodata.f90.

14.1.2.343 triton_molar_mass

```
real(real64), parameter codata::triton_molar_mass =3.01550071517d-3
```

kg mol^-1

Definition at line 1720 of file fcodata.f90.

14.1.2.344 triton_proton_mass_ratio

```
real(real64), parameter codata::triton_proton_mass_ratio =2.99371703414d0
```

Definition at line 1725 of file fcodata.f90.

14.1.2.345 triton_relative_atomic_mass

```
real(real64), parameter codata::triton_relative_atomic_mass =3.01550071621d0
```

Definition at line 1730 of file fcodata.f90.

14.1.2.346 triton_to_proton_mag__mom__ratio

```
real(real64), parameter codata::triton_to_proton_mag__mom__ratio =1.0666399191d0
```

Definition at line 1735 of file fcodata.f90.

14.1.2.347 u_alpha_particle_electron_mass_ratio

```
real(real64), parameter codata::u_alpha_particle_electron_mass_ratio =0.00000024d0
```

Definition at line 12 of file fcodata.f90.

14.1.2.348 u_alpha_particle_mass

```
real(real64), parameter codata::u_alpha_particle_mass =0.0000000020d-27
```

kg

Definition at line 17 of file fcodata.f90.

14.1.2.349 u_alpha_particle_mass_energy_equivalent

```
real(real64), parameter codata::u_alpha_particle_mass_energy_equivalent =0.0000000018d-10
```

J.

Definition at line 22 of file fcodata.f90.

14.1.2.350 u_alpha_particle_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_alpha_particle_mass_energy_equivalent_in_mev =0.0000011d0
```

MeV.

Definition at line 27 of file fcodata.f90.

14.1.2.351 u_alpha_particle_mass_in_u

```
real(real64), parameter codata::u_alpha_particle_mass_in_u =0.000000000063d0
```

u

Definition at line 32 of file fcodata.f90.

14.1.2.352 u_alpha_particle_molar_mass

```
real(real64), parameter codata::u_alpha_particle_molar_mass =0.0000000012d-3
```

kg mol^-1

Definition at line 37 of file fcodata.f90.

14.1.2.353 u_alpha_particle_proton_mass_ratio

```
real(real64), parameter codata::u_alpha_particle_proton_mass_ratio =0.00000000022d0
```

Definition at line 42 of file fcodata.f90.

14.1.2.354 u_alpha_particle_relative_atomic_mass

```
real(real64), parameter codata::u_alpha_particle_relative_atomic_mass =0.000000000063d0
```

Definition at line 47 of file fcodata.f90.

14.1.2.355 u_angstrom_star

```
real(real64), parameter codata::u_angstrom_star =0.00000090d-10
```

m

Definition at line 52 of file fcodata.f90.

14.1.2.356 u_atomic_mass_constant

```
real(real64), parameter codata::u_atomic_mass_constant =0.00000000050d-27
```

kg

Definition at line 57 of file fcodata.f90.

14.1.2.357 u_atomic_mass_constant_energy_equivalent

```
real(real64), parameter codata::u_atomic_mass_constant_energy_equivalent =0.00000000045d-10
```

J.

Definition at line 62 of file fcodata.f90.

14.1.2.358 u_atomic_mass_constant_energy_equivalent_in_mev

```
real(real64), parameter codata::u_atomic_mass_constant_energy_equivalent_in_mev =0.00000028d0
```

MeV.

Definition at line 67 of file fcodata.f90.

14.1.2.359 u_atomic_mass_unit_electron_volt_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_electron_volt_relationship =0.0000000028d8
```

eV

Definition at line 72 of file fcodata.f90.

14.1.2.360 u_atomic_mass_unit_hartree_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_hartree_relationship =0.0000000010d7
```

E_h.

Definition at line 77 of file fcodata.f90.

14.1.2.361 u_atomic_mass_unit_hertz_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_hertz_relationship =0.00000000068d23
```

Hz.

Definition at line 82 of file fcodata.f90.

14.1.2.362 u_atomic_mass_unit_inverse_meter_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_inverse_meter_relationship =0.0000000023d14
```

m^-1

Definition at line 87 of file fcodata.f90.

14.1.2.363 u_atomic_mass_unit_joule_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_joule_relationship =0.00000000045d-10
```

J.

Definition at line 92 of file fcodata.f90.

14.1.2.364 u_atomic_mass_unit_kelvin_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_kelvin_relationship =0.00000000033d13
```

K.

Definition at line 97 of file fcodata.f90.

14.1.2.365 u_atomic_mass_unit_kilogram_relationship

```
real(real64), parameter codata::u_atomic_mass_unit_kilogram_relationship =0.00000000050d-27
```

kg

Definition at line 102 of file fcodata.f90.

14.1.2.366 u_atomic_unit_of_1st_hyperpolarizability

```
real(real64), parameter codata::u_atomic_unit_of_1st_hyperpolarizability =0.0000000015d-53
```

C^3 m^3 J^-2.

Definition at line 107 of file fcodata.f90.

14.1.2.367 u_atomic_unit_of_2nd_hyperpolarizability

```
real(real64), parameter codata::u_atomic_unit_of_2nd_hyperpolarizability =0.0000000038d-65
```

C^4 m^4 J^-3.

Definition at line 112 of file fcodata.f90.

14.1.2.368 u_atomic_unit_of_action

```
real(real64), parameter codata::u_atomic_unit_of_action =0.0d0
```

J s.

Definition at line 117 of file fcodata.f90.

14.1.2.369 u_atomic_unit_of_charge

```
real(real64), parameter codata::u_atomic_unit_of_charge =0.0d0
```

C.

Definition at line 122 of file fcodata.f90.

14.1.2.370 u_atomic_unit_of_charge_density

```
real(real64), parameter codata::u_atomic_unit_of_charge_density =0.00000000049d12
```

C m^-3.

Definition at line 127 of file fcodata.f90.

14.1.2.371 u_atomic_unit_of_current

```
real(real64), parameter codata::u_atomic_unit_of_current =0.000000000013d-3
```

A.

Definition at line 132 of file fcodata.f90.

14.1.2.372 u_atomic_unit_of_electric_dipole_mom

```
real(real64), parameter codata::u_atomic_unit_of_electric_dipole_mom =0.0000000013d-30
```

C m.

Definition at line 137 of file fcodata.f90.

14.1.2.373 u_atomic_unit_of_electric_field

```
real(real64), parameter codata::u_atomic_unit_of_electric_field =0.00000000078d11
```

V m^-1.

Definition at line 142 of file fcodata.f90.

14.1.2.374 u_atomic_unit_of_electric_field_gradient

```
real(real64), parameter codata::u_atomic_unit_of_electric_field_gradient =0.0000000029d21
```

V m^-2.

Definition at line 147 of file fcodata.f90.

14.1.2.375 u_atomic_unit_of_electric_polarizability

```
real(real64), parameter codata::u_atomic_unit_of_electric_polarizability =0.00000000050d-41
```

C^2 m^2 J^-1.

Definition at line 152 of file fcodata.f90.

14.1.2.376 u_atomic_unit_of_electric_potential

```
real(real64), parameter codata::u_atomic_unit_of_electric_potential =0.000000000053d0
```

V.

Definition at line 157 of file fcodata.f90.

14.1.2.377 u_atomic_unit_of_electric_quadrupole_mom

```
real(real64), parameter codata::u_atomic_unit_of_electric_quadrupole_mom =0.0000000014d-40
```

C m^2.

Definition at line 162 of file fcodata.f90.

14.1.2.378 u_atomic_unit_of_energy

```
real(real64), parameter codata::u_atomic_unit_of_energy =0.0000000000085d-18
```

J.

Definition at line 167 of file fcodata.f90.

14.1.2.379 u_atomic_unit_of_force

```
real(real64), parameter codata::u_atomic_unit_of_force =0.0000000012d-8
```

N.

Definition at line 172 of file fcodata.f90.

14.1.2.380 u_atomic_unit_of_length

```
real(real64), parameter codata::u_atomic_unit_of_length =0.00000000080d-11
```

m

Definition at line 177 of file fcodata.f90.

14.1.2.381 u_atomic_unit_of_mag__dipole_mom

```
real(real64), parameter codata::u_atomic_unit_of_mag__dipole_mom =0.00000000056d-23
```

J T^-1.

Definition at line 182 of file fcodata.f90.

14.1.2.382 u_atomic_unit_of_mag__flux_density

```
real(real64), parameter codata::u_atomic_unit_of_mag__flux_density =0.00000000071d5
```

T.

Definition at line 187 of file fcodata.f90.

14.1.2.383 u_atomic_unit_of_magnetizability

```
real(real64), parameter codata::u_atomic_unit_of_magnetizability =0.0000000048d-29
```

J T^-2.

Definition at line 192 of file fcodata.f90.

14.1.2.384 u_atomic_unit_of_mass

```
real(real64), parameter codata::u_atomic_unit_of_mass =0.0000000028d-31
```

kg

Definition at line 197 of file fcodata.f90.

14.1.2.385 u_atomic_unit_of_momentum

```
real(real64), parameter codata::u_atomic_unit_of_momentum =0.00000000030d-24
```

kg m s^-1

Definition at line 202 of file fcodata.f90.

14.1.2.386 u_atomic_unit_of_permittivity

```
real(real64), parameter codata::u_atomic_unit_of_permittivity =0.00000000017d-10
```

F m^-1.

Definition at line 207 of file fcodata.f90.

14.1.2.387 u_atomic_unit_of_time

```
real(real64), parameter codata::u_atomic_unit_of_time =0.0000000000047d-17
```

s

Definition at line 212 of file fcodata.f90.

14.1.2.388 u_atomic_unit_of_velocity

```
real(real64), parameter codata::u_atomic_unit_of_velocity =0.00000000033d6
```

m s^-1

Definition at line 217 of file fcodata.f90.

14.1.2.389 u_avogadro_constant

```
real(real64), parameter codata::u_avogadro_constant =0.0d0
```

mol^-1

Definition at line 222 of file fcodata.f90.

14.1.2.390 u_bohr_magneton

```
real(real64), parameter codata::u_bohr_magneton =0.0000000028d-24
```

J T^-1.

Definition at line 227 of file fcodata.f90.

14.1.2.391 u_bohr_magneton_in_ev_t

```
real(real64), parameter codata::u_bohr_magneton_in_ev_t =0.0000000017d-5
```

eV T^-1

Definition at line 232 of file fcodata.f90.

14.1.2.392 u_bohr_magneton_in_hz_t

```
real(real64), parameter codata::u_bohr_magneton_in_hz_t =0.00000000042d10
```

Hz T^-1.

Definition at line 237 of file fcodata.f90.

14.1.2.393 u_bohr_magneton_in_inverse_meter_per_tesla

```
real(real64), parameter codata::u_bohr_magneton_in_inverse_meter_per_tesla =0.000000014d0
```

m^-1 T^-1

Definition at line 242 of file fcodata.f90.

14.1.2.394 u_bohr_magneton_in_k_t

```
real(real64), parameter codata::u_bohr_magneton_in_k_t =0.00000000020d0
```

K T^-1.

Definition at line 247 of file fcodata.f90.

14.1.2.395 u_bohr_radius

```
real(real64), parameter codata::u_bohr_radius =0.00000000080d-11
```

m

Definition at line 252 of file fcodata.f90.

14.1.2.396 u_boltzmann_constant

```
real(real64), parameter codata::u_boltzmann_constant =0.0d0
```

J K^-1.

Definition at line 257 of file fcodata.f90.

14.1.2.397 u_boltzmann_constant_in_ev_k

```
real(real64), parameter codata::u_boltzmann_constant_in_ev_k =0.0d0
```

eV K^-1

Definition at line 262 of file fcodata.f90.

14.1.2.398 u_boltzmann_constant_in_hz_k

```
real(real64), parameter codata::u_boltzmann_constant_in_hz_k =0.0d0
```

Hz K^-1.

Definition at line 267 of file fcodata.f90.

14.1.2.399 u_boltzmann_constant_in_inverse_meter_per_kelvin

```
real(real64), parameter codata::u_boltzmann_constant_in_inverse_meter_per_kelvin =0.0d0
```

m^-1 K^-1

Definition at line 272 of file fcodata.f90.

14.1.2.400 u_characteristic_impedance_of_vacuum

```
real(real64), parameter codata::u_characteristic_impedance_of_vacuum =0.000000057d0
```

ohm

Definition at line 277 of file fcodata.f90.

14.1.2.401 u_classical_electron_radius

```
real(real64), parameter codata::u_classical_electron_radius =0.0000000013d-15
```

m

Definition at line 282 of file fcodata.f90.

14.1.2.402 u_compton_wavelength

```
real(real64), parameter codata::u_compton_wavelength =0.00000000073d-12
```

m

Definition at line 287 of file fcodata.f90.

14.1.2.403 u_conductance_quantum

```
real(real64), parameter codata::u_conductance_quantum =0.0d0
```

S.

Definition at line 292 of file fcodata.f90.

14.1.2.404 u_conventional_value_of_ampere_90

```
real(real64), parameter codata::u_conventional_value_of_ampere_90 =0.0d0
```

A.

Definition at line 297 of file fcodata.f90.

14.1.2.405 u_conventional_value_of_coulomb_90

```
real(real64), parameter codata::u_conventional_value_of_coulomb_90 =0.0d0
```

C.

Definition at line 302 of file fcodata.f90.

14.1.2.406 u_conventional_value_of_farad_90

```
real(real64), parameter codata::u_conventional_value_of_farad_90 =0.0d0
```

F.

Definition at line 307 of file fcodata.f90.

14.1.2.407 u_conventional_value_of_henry_90

```
real(real64), parameter codata::u_conventional_value_of_henry_90 =0.0d0
```

H.

Definition at line 312 of file fcodata.f90.

14.1.2.408 u_conventional_value_of_josephson_constant

```
real(real64), parameter codata::u_conventional_value_of_josephson_constant =0.0d0
```

Hz V^-1.

Definition at line 317 of file fcodata.f90.

14.1.2.409 u_conventional_value_of_ohm_90

```
real(real64), parameter codata::u_conventional_value_of_ohm_90 =0.0d0
```

ohm

Definition at line 322 of file fcodata.f90.

14.1.2.410 u_conventional_value_of_volt_90

```
real(real64), parameter codata::u_conventional_value_of_volt_90 =0.0d0
```

V.

Definition at line 327 of file fcodata.f90.

14.1.2.411 u_conventional_value_of_von_klitzing_constant

```
real(real64), parameter codata::u_conventional_value_of_von_klitzing_constant =0.0d0
```

ohm

Definition at line 332 of file fcodata.f90.

14.1.2.412 u_conventional_value_of_watt_90

```
real(real64), parameter codata::u_conventional_value_of_watt_90 =0.0d0
```

W.

Definition at line 337 of file fcodata.f90.

14.1.2.413 u_copper_x_unit

```
real(real64), parameter codata::u_copper_x_unit =0.00000028d-13
```

m

Definition at line 342 of file fcodata.f90.

14.1.2.414 u_deuteron_electron_mag__mom__ratio

```
real(real64), parameter codata::u_deuteron_electron_mag__mom__ratio =0.000000012d-4
```

Definition at line 347 of file fcodata.f90.

14.1.2.415 u_deuteron_electron_mass_ratio

```
real(real64), parameter codata::u_deuteron_electron_mass_ratio =0.00000013d0
```

Definition at line 352 of file fcodata.f90.

14.1.2.416 u_deuteron_g_factor

```
real(real64), parameter codata::u_deuteron_g_factor =0.0000000022d0
```

Definition at line 357 of file fcodata.f90.

14.1.2.417 u_deuteron_mag__mom

```
real(real64), parameter codata::u_deuteron_mag__mom =0.000000011d-27
```

J T^-1.

Definition at line 362 of file fcodata.f90.

14.1.2.418 u_deuteron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_deuteron_mag__mom__to_bohr_magneton_ratio =0.000000012d-4
```

Definition at line 367 of file fcodata.f90.

14.1.2.419 u_deuteron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_deuteron_mag__mom__to_nuclear_magneton_ratio =0.0000000022d0
```

Definition at line 372 of file fcodata.f90.

14.1.2.420 u_deuteron_mass

```
real(real64), parameter codata::u_deuteron_mass =0.0000000010d-27
```

kg

Definition at line 377 of file fcodata.f90.

14.1.2.421 u_deuteron_mass_energy_equivalent

```
real(real64), parameter codata::u_deuteron_mass_energy_equivalent =0.00000000091d-10
```

J.

Definition at line 382 of file fcodata.f90.

14.1.2.422 u_deuteron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_deuteron_mass_energy_equivalent_in_mev =0.00000057d0
```

MeV.

Definition at line 387 of file fcodata.f90.

14.1.2.423 u_deuteron_mass_in_u

```
real(real64), parameter codata::u_deuteron_mass_in_u =0.000000000040d0
```

u

Definition at line 392 of file fcodata.f90.

14.1.2.424 u_deuteron_molar_mass

```
real(real64), parameter codata::u_deuteron_molar_mass =0.00000000061d-3
```

kg mol^-1

Definition at line 397 of file fcodata.f90.

14.1.2.425 u_deuteron_neutron_mag__mom__ratio

```
real(real64), parameter codata::u_deuteron_neutron_mag__mom__ratio =0.00000011d0
```

Definition at line 402 of file fcodata.f90.

14.1.2.426 u_deuteron_proton_mag__mom__ratio

```
real(real64), parameter codata::u_deuteron_proton_mag__mom__ratio =0.00000000079d0
```

Definition at line 407 of file fcodata.f90.

14.1.2.427 u_deuteron_proton_mass_ratio

```
real(real64), parameter codata::u_deuteron_proton_mass_ratio =0.00000000011d0
```

Definition at line 412 of file fcodata.f90.

14.1.2.428 u_deuteron_relative_atomic_mass

```
real(real64), parameter codata::u_deuteron_relative_atomic_mass =0.000000000040d0
```

Definition at line 417 of file fcodata.f90.

14.1.2.429 u_deuteron_rms_charge_radius

```
real(real64), parameter codata::u_deuteron_rms_charge_radius =0.00074d-15
```

m

Definition at line 422 of file fcodata.f90.

14.1.2.430 u_electron_charge_to_mass_quotient

```
real(real64), parameter codata::u_electron_charge_to_mass_quotient =0.00000000053d11
```

C kg^-1.

Definition at line 427 of file fcodata.f90.

14.1.2.431 u_electron_deuteron_mag__mom__ratio

```
real(real64), parameter codata::u_electron_deuteron_mag__mom__ratio =0.0000056d0
```

Definition at line 432 of file fcodata.f90.

14.1.2.432 u_electron_deuteron_mass_ratio

```
real(real64), parameter codata::u_electron_deuteron_mass_ratio =0.000000000096d-4
```

Definition at line 437 of file fcodata.f90.

14.1.2.433 u_electron_g_factor

```
real(real64), parameter codata::u_electron_g_factor =0.00000000000035d0
```

Definition at line 442 of file fcodata.f90.

14.1.2.434 u_electron_gyromag__ratio

```
real(real64), parameter codata::u_electron_gyromag__ratio =0.00000000053d11
```

s^-1 T^-1

Definition at line 447 of file fcodata.f90.

14.1.2.435 u_electron_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::u_electron_gyromag__ratio_in_mhz_t =0.0000085d0
```

MHz T^-1.

Definition at line 452 of file fcodata.f90.

14.1.2.436 u_electron_helion_mass_ratio

```
real(real64), parameter codata::u_electron_helion_mass_ratio =0.000000000079d-4
```

Definition at line 457 of file fcodata.f90.

14.1.2.437 u_electron_mag__mom

```
real(real64), parameter codata::u_electron_mag__mom =0.0000000028d-24
```

J T^-1.

Definition at line 462 of file fcodata.f90.

14.1.2.438 u_electron_mag__mom__anomaly

```
real(real64), parameter codata::u_electron_mag__mom__anomaly =0.00000000018d-3
```

Definition at line 467 of file fcodata.f90.

14.1.2.439 u_electron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_electron_mag__mom__to_bohr_magneton_ratio =0.00000000000018d0
```

Definition at line 472 of file fcodata.f90.

14.1.2.440 u_electron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_electron_mag__mom__to_nuclear_magneton_ratio =0.00000011d0
```

Definition at line 477 of file fcodata.f90.

14.1.2.441 u_electron_mass

```
real(real64), parameter codata::u_electron_mass =0.0000000028d-31
```

kg

Definition at line 482 of file fcodata.f90.

14.1.2.442 u_electron_mass_energy_equivalent

```
real(real64), parameter codata::u_electron_mass_energy_equivalent =0.0000000025d-14
```

J.

Definition at line 487 of file fcodata.f90.

14.1.2.443 u_electron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_electron_mass_energy_equivalent_in_mev =0.00000000015d0
```

MeV.

Definition at line 492 of file fcodata.f90.

14.1.2.444 u_electron_mass_in_u

```
real(real64), parameter codata::u_electron_mass_in_u =0.00000000016d-4
```

u

Definition at line 497 of file fcodata.f90.

14.1.2.445 u_electron_molar_mass

```
real(real64), parameter codata::u_electron_molar_mass =0.0000000017d-7
```

kg mol^-1

Definition at line 502 of file fcodata.f90.

14.1.2.446 u_electron_muon_mag__mom__ratio

```
real(real64), parameter codata::u_electron_muon_mag__mom__ratio =0.0000046d0
```

Definition at line 507 of file fcodata.f90.

14.1.2.447 u_electron_muon_mass_ratio

```
real(real64), parameter codata::u_electron_muon_mass_ratio =0.00000011d-3
```

Definition at line 512 of file fcodata.f90.

14.1.2.448 u_electron_neutron_mag__mom__ratio

```
real(real64), parameter codata::u_electron_neutron_mag__mom__ratio =0.00023d0
```

Definition at line 517 of file fcodata.f90.

14.1.2.449 u_electron_neutron_mass_ratio

```
real(real64), parameter codata::u_electron_neutron_mass_ratio =0.0000000026d-4
```

Definition at line 522 of file fcodata.f90.

14.1.2.450 u_electron_proton_mag__mom__ratio

```
real(real64), parameter codata::u_electron_proton_mag__mom__ratio =0.00000020d0
```

Definition at line 527 of file fcodata.f90.

14.1.2.451 u_electron_proton_mass_ratio

```
real(real64), parameter codata::u_electron_proton_mass_ratio =0.00000000033d-4
```

Definition at line 532 of file fcodata.f90.

14.1.2.452 u_electron_relative_atomic_mass

```
real(real64), parameter codata::u_electron_relative_atomic_mass =0.00000000016d-4
```

Definition at line 537 of file fcodata.f90.

14.1.2.453 u_electron_tau_mass_ratio

```
real(real64), parameter codata::u_electron_tau_mass_ratio =0.00019d-4
```

Definition at line 542 of file fcodata.f90.

14.1.2.454 u_electron_to_alpha_particle_mass_ratio

```
real(real64), parameter codata::u_electron_to_alpha_particle_mass_ratio =0.000000000045d-4
```

Definition at line 547 of file fcodata.f90.

14.1.2.455 u_electron_to_shielded_helion_mag__mom__ratio

```
real(real64), parameter codata::u_electron_to_shielded_helion_mag__mom__ratio =0.000010d0
```

Definition at line 552 of file fcodata.f90.

14.1.2.456 u_electron_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::u_electron_to_shielded_proton_mag__mom__ratio =0.0000072d0
```

Definition at line 557 of file fcodata.f90.

14.1.2.457 u_electron_triton_mass_ratio

```
real(real64), parameter codata::u_electron_triton_mass_ratio =0.000000000090d-4
```

Definition at line 562 of file fcodata.f90.

14.1.2.458 u_electron_volt

```
real(real64), parameter codata::u_electron_volt =0.0d0
```

J.

Definition at line 567 of file fcodata.f90.

14.1.2.459 u_electron_volt_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_electron_volt_atomic_mass_unit_relationship =0.00000000032d-9
```

u

Definition at line 572 of file fcodata.f90.

14.1.2.460 u_electron_volt_hartree_relationship

```
real(real64), parameter codata::u_electron_volt_hartree_relationship =0.0000000000071d-2
```

E_h.

Definition at line 577 of file fcodata.f90.

14.1.2.461 u_electron_volt_hertz_relationship

```
real(real64), parameter codata::u_electron_volt_hertz_relationship =0.0d0
```

Hz.

Definition at line 582 of file fcodata.f90.

14.1.2.462 u_electron_volt_inverse_meter_relationship

```
real(real64), parameter codata::u_electron_volt_inverse_meter_relationship =0.0d0
```

m^-1

Definition at line 587 of file fcodata.f90.

14.1.2.463 u_electron_volt_joule_relationship

```
real(real64), parameter codata::u_electron_volt_joule_relationship =0.0d0
```

J.

Definition at line 592 of file fcodata.f90.

14.1.2.464 u_electron_volt_kelvin_relationship

```
real(real64), parameter codata::u_electron_volt_kelvin_relationship =0.0d0
```

K.

Definition at line 597 of file fcodata.f90.

14.1.2.465 u_electron_volt_kilogram_relationship

```
real(real64), parameter codata::u_electron_volt_kilogram_relationship =0.0d0
```

kg

Definition at line 602 of file fcodata.f90.

14.1.2.466 u_elementary_charge

```
real(real64), parameter codata::u_elementary_charge =0.0d0
```

C.

Definition at line 607 of file fcodata.f90.

14.1.2.467 u_elementary_charge_over_h_bar

```
real(real64), parameter codata::u_elementary_charge_over_h_bar =0.0d0
```

A J^-1.

Definition at line 612 of file fcodata.f90.

14.1.2.468 u_faraday_constant

```
real(real64), parameter codata::u_faraday_constant =0.0d0
```

C mol^-1.

Definition at line 617 of file fcodata.f90.

14.1.2.469 u_fermi_coupling_constant

```
real(real64), parameter codata::u_fermi_coupling_constant =0.0000006d-5
```

GeV^-2.

Definition at line 622 of file fcodata.f90.

14.1.2.470 u_fine_structure_constant

```
real(real64), parameter codata::u_fine_structure_constant =0.0000000011d-3
```

Definition at line 627 of file fcodata.f90.

14.1.2.471 u_first_radiation_constant

```
real(real64), parameter codata::u_first_radiation_constant =0.0d0
```

W m^2.

Definition at line 632 of file fcodata.f90.

14.1.2.472 u_first_radiation_constant_for_spectral_radiance

```
real(real64), parameter codata::u_first_radiation_constant_for_spectral_radiance =0.0d0
```

W m^2 sr^-1.

Definition at line 637 of file fcodata.f90.

14.1.2.473 u_hartree_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_hartree_atomic_mass_unit_relationship =0.00000000088d-8
```

u

Definition at line 642 of file fcodata.f90.

14.1.2.474 u_hartree_electron_volt_relationship

```
real(real64), parameter codata::u_hartree_electron_volt_relationship =0.000000000053d0
```

eV

Definition at line 647 of file fcodata.f90.

14.1.2.475 u_hartree_energy

```
real(real64), parameter codata::u_hartree_energy =0.0000000000085d-18
```

J.

Definition at line 652 of file fcodata.f90.

14.1.2.476 u_hartree_energy_in_ev

```
real(real64), parameter codata::u_hartree_energy_in_ev =0.000000000053d0
```

eV

Definition at line 657 of file fcodata.f90.

14.1.2.477 u_hartree_hertz_relationship

```
real(real64), parameter codata::u_hartree_hertz_relationship =0.000000000013d15
```

Hz.

Definition at line 662 of file fcodata.f90.

14.1.2.478 u_hartree_inverse_meter_relationship

```
real(real64), parameter codata::u_hartree_inverse_meter_relationship =0.0000000000043d7
```

m^-1

Definition at line 667 of file fcodata.f90.

14.1.2.479 u_hartree_joule_relationship

```
real(real64), parameter codata::u_hartree_joule_relationship =0.0000000000085d-18
```

J.

Definition at line 672 of file fcodata.f90.

14.1.2.480 u_hartree_kelvin_relationship

```
real(real64), parameter codata::u_hartree_kelvin_relationship =0.0000000000061d5
```

K.

Definition at line 677 of file fcodata.f90.

14.1.2.481 u_hartree_kilogram_relationship

```
real(real64), parameter codata::u_hartree_kilogram_relationship =0.0000000000094d-35
```

kg

Definition at line 682 of file fcodata.f90.

14.1.2.482 u_helion_electron_mass_ratio

```
real(real64), parameter codata::u_helion_electron_mass_ratio =0.00000024d0
```

Definition at line 687 of file fcodata.f90.

14.1.2.483 u_helion_g_factor

```
real(real64), parameter codata::u_helion_g_factor =0.000000050d0
```

Definition at line 692 of file fcodata.f90.

14.1.2.484 u_helion_mag__mom

```
real(real64), parameter codata::u_helion_mag__mom =0.000000013d-26
```

J T^-1.

Definition at line 697 of file fcodata.f90.

14.1.2.485 u_helion_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
```

Definition at line 702 of file fcodata.f90.

14.1.2.486 u_helion_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_helion_mag__mom__to_nuclear_magneton_ratio =0.000000025d0
```

Definition at line 707 of file fcodata.f90.

14.1.2.487 u_helion_mass

```
real(real64), parameter codata::u_helion_mass =0.0000000015d-27
```

kg

Definition at line 712 of file fcodata.f90.

14.1.2.488 u_helion_mass_energy_equivalent

```
real(real64), parameter codata::u_helion_mass_energy_equivalent =0.0000000014d-10
```

J.

Definition at line 717 of file fcodata.f90.

14.1.2.489 u_helion_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_helion_mass_energy_equivalent_in_mev =0.00000085d0
```

MeV.

Definition at line 722 of file fcodata.f90.

14.1.2.490 u_helion_mass_in_u

```
real(real64), parameter codata::u_helion_mass_in_u =0.000000000097d0
```

u

Definition at line 727 of file fcodata.f90.

14.1.2.491 u_helion_molar_mass

```
real(real64), parameter codata::u_helion_molar_mass =0.00000000091d-3
```

kg mol^-1

Definition at line 732 of file fcodata.f90.

14.1.2.492 u_helion_proton_mass_ratio

```
real(real64), parameter codata::u_helion_proton_mass_ratio =0.00000000013d0
```

Definition at line 737 of file fcodata.f90.

14.1.2.493 u_helion_relative_atomic_mass

```
real(real64), parameter codata::u_helion_relative_atomic_mass =0.000000000097d0
```

Definition at line 742 of file fcodata.f90.

14.1.2.494 u_helion_shielding_shift

```
real(real64), parameter codata::u_helion_shielding_shift =0.000010d-5
```

Definition at line 747 of file fcodata.f90.

14.1.2.495 u_hertz_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_hertz_atomic_mass_unit_relationship =0.0000000013d-24
```

u

Definition at line 752 of file fcodata.f90.

14.1.2.496 u_hertz_electron_volt_relationship

```
real(real64), parameter codata::u_hertz_electron_volt_relationship =0.0d0
```

eV

Definition at line 757 of file fcodata.f90.

14.1.2.497 u_hertz_hartree_relationship

```
real(real64), parameter codata::u_hertz_hartree_relationship =0.0000000000029d-16
```

E_h.

Definition at line 762 of file fcodata.f90.

14.1.2.498 u_hertz_inverse_meter_relationship

```
real(real64), parameter codata::u_hertz_inverse_meter_relationship =0.0d0
```

m^-1

Definition at line 767 of file fcodata.f90.

14.1.2.499 u_hertz_joule_relationship

```
real(real64), parameter codata::u_hertz_joule_relationship =0.0d0
```

J.

Definition at line 772 of file fcodata.f90.

14.1.2.500 u_hertz_kelvin_relationship

```
real(real64), parameter codata::u_hertz_kelvin_relationship =0.0d0
```

K.

Definition at line 777 of file fcodata.f90.

14.1.2.501 u_hertz_kilogram_relationship

```
real(real64), parameter codata::u_hertz_kilogram_relationship =0.0d0
```

kg

Definition at line 782 of file fcodata.f90.

14.1.2.502 u_hyperfine_transition_frequency_of_cs_133

```
real(real64), parameter codata::u_hyperfine_transition_frequency_of_cs_133 =0.0d0
```

Hz.

Definition at line 787 of file fcodata.f90.

14.1.2.503 u_inverse_fine_structure_constant

```
real(real64), parameter codata::u_inverse_fine_structure_constant =0.000000021d0
```

Definition at line 792 of file fcodata.f90.

14.1.2.504 u_inverse_meter_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_inverse_meter_atomic_mass_unit_relationship =0.00000000040d-15
```

u

Definition at line 797 of file fcodata.f90.

14.1.2.505 u_inverse_meter_electron_volt_relationship

```
real(real64), parameter codata::u_inverse_meter_electron_volt_relationship =0.0d0
```

eV

Definition at line 802 of file fcodata.f90.

14.1.2.506 u_inverse_meter_hartree_relationship

```
real(real64), parameter codata::u_inverse_meter_hartree_relationship =0.0000000000088d-8
```

E_h.

Definition at line 807 of file fcodata.f90.

14.1.2.507 u_inverse_meter_hertz_relationship

```
real(real64), parameter codata::u_inverse_meter_hertz_relationship =0.0d0
```

Hz.

Definition at line 812 of file fcodata.f90.

14.1.2.508 u_inverse_meter_joule_relationship

```
real(real64), parameter codata::u_inverse_meter_joule_relationship =0.0d0
```

J.

Definition at line 817 of file fcodata.f90.

14.1.2.509 u_inverse_meter_kelvin_relationship

```
real(real64), parameter codata::u_inverse_meter_kelvin_relationship =0.0d0
```

K.

Definition at line 822 of file fcodata.f90.

14.1.2.510 u_inverse_meter_kilogram_relationship

```
real(real64), parameter codata::u_inverse_meter_kilogram_relationship =0.0d0
```

kg

Definition at line 827 of file fcodata.f90.

14.1.2.511 u_inverse_of_conductance_quantum

```
real(real64), parameter codata::u_inverse_of_conductance_quantum =0.0d0
```

ohm

Definition at line 832 of file fcodata.f90.

14.1.2.512 u_josephson_constant

```
real(real64), parameter codata::u_josephson_constant =0.0d0
```

Hz V^-1.

Definition at line 837 of file fcodata.f90.

14.1.2.513 u_joule_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_joule_atomic_mass_unit_relationship =0.0000000020d9
```

u

Definition at line 842 of file fcodata.f90.

14.1.2.514 u_joule_electron_volt_relationship

```
real(real64), parameter codata::u_joule_electron_volt_relationship =0.0d0
```

eV

Definition at line 847 of file fcodata.f90.

14.1.2.515 u_joule_hartree_relationship

```
real(real64), parameter codata::u_joule_hartree_relationship =0.0000000000045d17
```

E_h.

Definition at line 852 of file fcodata.f90.

14.1.2.516 u_joule_hertz_relationship

```
real(real64), parameter codata::u_joule_hertz_relationship =0.0d0
```

Hz.

Definition at line 857 of file fcodata.f90.

14.1.2.517 u_joule_inverse_meter_relationship

```
real(real64), parameter codata::u_joule_inverse_meter_relationship =0.0d0
```

m^-1

Definition at line 862 of file fcodata.f90.

14.1.2.518 u_joule_kelvin_relationship

```
real(real64), parameter codata::u_joule_kelvin_relationship =0.0d0
```

K.

Definition at line 867 of file fcodata.f90.

14.1.2.519 u_joule_kilogram_relationship

```
real(real64), parameter codata::u_joule_kilogram_relationship =0.0d0
```

kg

Definition at line 872 of file fcodata.f90.

14.1.2.520 u_kelvin_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_kelvin_atomic_mass_unit_relationship =0.0000000028d-14
```

u

Definition at line 877 of file fcodata.f90.

14.1.2.521 u_kelvin_electron_volt_relationship

```
real(real64), parameter codata::u_kelvin_electron_volt_relationship =0.0d0
```

eV

Definition at line 882 of file fcodata.f90.

14.1.2.522 u_kelvin_hartree_relationship

```
real(real64), parameter codata::u_kelvin_hartree_relationship =0.0000000000061d-6
```

E_h.

Definition at line 887 of file fcodata.f90.

14.1.2.523 u_kelvin_hertz_relationship

```
real(real64), parameter codata::u_kelvin_hertz_relationship =0.0d0
```

Hz.

Definition at line 892 of file fcodata.f90.

14.1.2.524 u_kelvin_inverse_meter_relationship

```
real(real64), parameter codata::u_kelvin_inverse_meter_relationship =0.0d0
```

m^-1

Definition at line 897 of file fcodata.f90.

14.1.2.525 u_kelvin_joule_relationship

```
real(real64), parameter codata::u_kelvin_joule_relationship =0.0d0
```

J.

Definition at line 902 of file fcodata.f90.

14.1.2.526 u_kelvin_kilogram_relationship

```
real(real64), parameter codata::u_kelvin_kilogram_relationship =0.0d0
```

kg

Definition at line 907 of file fcodata.f90.

14.1.2.527 u_kilogram_atomic_mass_unit_relationship

```
real(real64), parameter codata::u_kilogram_atomic_mass_unit_relationship =0.0000000018d26
```

u

Definition at line 912 of file fcodata.f90.

14.1.2.528 u_kilogram_electron_volt_relationship

```
real(real64), parameter codata::u_kilogram_electron_volt_relationship =0.0d0
```

eV

Definition at line 917 of file fcodata.f90.

14.1.2.529 u_kilogram_hartree_relationship

```
real(real64), parameter codata::u_kilogram_hartree_relationship =0.0000000000040d34
```

E_h.

Definition at line 922 of file fcodata.f90.

14.1.2.530 u_kilogram_hertz_relationship

```
real(real64), parameter codata::u_kilogram_hertz_relationship =0.0d0
```

Hz.

Definition at line 927 of file fcodata.f90.

14.1.2.531 u_kilogram_inverse_meter_relationship

```
real(real64), parameter codata::u_kilogram_inverse_meter_relationship =0.0d0
```

m^-1

Definition at line 932 of file fcodata.f90.

14.1.2.532 u_kilogram_joule_relationship

```
real(real64), parameter codata::u_kilogram_joule_relationship =0.0d0
```

J.

Definition at line 937 of file fcodata.f90.

14.1.2.533 u_kilogram_kelvin_relationship

```
real(real64), parameter codata::u_kilogram_kelvin_relationship =0.0d0
```

K.

Definition at line 942 of file fcodata.f90.

14.1.2.534 u_lattice_parameter_of_silicon

```
real(real64), parameter codata::u_lattice_parameter_of_silicon =0.000000089d-10
```

m

Definition at line 947 of file fcodata.f90.

14.1.2.535 u_lattice_spacing_of_ideal_si__220

```
real(real64), parameter codata::u_lattice_spacing_of_ideal_si__220 =0.000000032d-10
```

m

Definition at line 952 of file fcodata.f90.

14.1.2.536 u_loschmidt_constant__273_15_k__100_kpa

```
real(real64), parameter codata::u_loschmidt_constant__273_15_k__100_kpa =0.0d0
```

m^-3

Definition at line 957 of file fcodata.f90.

14.1.2.537 u_loschmidt_constant__273_15_k__101_325_kpa

```
real(real64), parameter codata::u_loschmidt_constant__273_15_k__101_325_kpa =0.0d0
```

m^-3

Definition at line 962 of file fcodata.f90.

14.1.2.538 u_luminous_efficacy

```
real(real64), parameter codata::u_luminous_efficacy =0.0d0
```

lm W^-1

Definition at line 967 of file fcodata.f90.

14.1.2.539 u_mag__flux_quantum

```
real(real64), parameter codata::u_mag__flux_quantum =0.0d0
```

Wb.

Definition at line 972 of file fcodata.f90.

14.1.2.540 u_molar_gas_constant

```
real(real64), parameter codata::u_molar_gas_constant =0.0d0
```

J mol^-1 K^-1.

Definition at line 977 of file fcodata.f90.

14.1.2.541 u_molar_mass_constant

```
real(real64), parameter codata::u_molar_mass_constant =0.00000000030d-3
```

kg mol^-1

Definition at line 982 of file fcodata.f90.

14.1.2.542 u_molar_mass_of_carbon_12

```
real(real64), parameter codata::u_molar_mass_of_carbon_12 =0.0000000036d-3
```

kg mol^-1

Definition at line 987 of file fcodata.f90.

14.1.2.543 u_molar_planck_constant

```
real(real64), parameter codata::u_molar_planck_constant =0.0d0
```

J Hz^-1 mol^-1.

Definition at line 992 of file fcodata.f90.

14.1.2.544 u_molar_volume_of_ideal_gas__273_15_k__100_kpa

```
real(real64), parameter codata::u_molar_volume_of_ideal_gas__273_15_k__100_kpa =0.0d0
```

m^3 mol^-1

Definition at line 997 of file fcodata.f90.

14.1.2.545 u_molar_volume_of_ideal_gas__273_15_k__101_325_kpa

```
real(real64), parameter codata::u_molar_volume_of_ideal_gas__273_15_k__101_325_kpa =0.0d0
```

m^3 mol^-1

Definition at line 1002 of file fcodata.f90.

14.1.2.546 u_molar_volume_of_silicon

```
real(real64), parameter codata::u_molar_volume_of_silicon =0.000000060d-5
```

m^3 mol^-1

Definition at line 1007 of file fcodata.f90.

14.1.2.547 u_molybdenum_x_unit

```
real(real64), parameter codata::u_molybdenum_x_unit =0.00000053d-13
```

m

Definition at line 1012 of file fcodata.f90.

14.1.2.548 u_muon_compton_wavelength

```
real(real64), parameter codata::u_muon_compton_wavelength =0.000000026d-14
```

m

Definition at line 1017 of file fcodata.f90.

14.1.2.549 u_muon_electron_mass_ratio

```
real(real64), parameter codata::u_muon_electron_mass_ratio =0.0000046d0
```

Definition at line 1022 of file fcodata.f90.

14.1.2.550 u_muon_g_factor

```
real(real64), parameter codata::u_muon_g_factor =0.0000000013d0
```

Definition at line 1027 of file fcodata.f90.

14.1.2.551 u_muon_mag__mom

```
real(real64), parameter codata::u_muon_mag__mom =0.00000010d-26
```

J T^-1.

Definition at line 1032 of file fcodata.f90.

14.1.2.552 u_muon_mag__mom__anomaly

```
real(real64), parameter codata::u_muon_mag__mom__anomaly =0.00000063d-3
```

Definition at line 1037 of file fcodata.f90.

14.1.2.553 u_muon_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_muon_mag__mom__to_bohr_magneton_ratio =0.00000011d-3
```

Definition at line 1042 of file fcodata.f90.

14.1.2.554 u_muon_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_muon_mag__mom__to_nuclear_magneton_ratio =0.00000020d0
```

Definition at line 1047 of file fcodata.f90.

14.1.2.555 u_muon_mass

```
real(real64), parameter codata::u_muon_mass =0.000000042d-28
```

kg

Definition at line 1052 of file fcodata.f90.

14.1.2.556 u_muon_mass_energy_equivalent

```
real(real64), parameter codata::u_muon_mass_energy_equivalent =0.000000038d-11
```

J.

Definition at line 1057 of file fcodata.f90.

14.1.2.557 u_muon_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_muon_mass_energy_equivalent_in_mev =0.0000023d0
```

MeV.

Definition at line 1062 of file fcodata.f90.

14.1.2.558 u_muon_mass_in_u

```
real(real64), parameter codata::u_muon_mass_in_u =0.0000000025d0
```

u

Definition at line 1067 of file fcodata.f90.

14.1.2.559 u_muon_molar_mass

```
real(real64), parameter codata::u_muon_molar_mass =0.000000025d-4
```

kg mol^-1

Definition at line 1072 of file fcodata.f90.

14.1.2.560 u_muon_neutron_mass_ratio

```
real(real64), parameter codata::u_muon_neutron_mass_ratio =0.0000000025d0
```

Definition at line 1077 of file fcodata.f90.

14.1.2.561 u_muon_proton_mag__mom__ratio

```
real(real64), parameter codata::u_muon_proton_mag__mom__ratio =0.000000071d0
```

Definition at line 1082 of file fcodata.f90.

14.1.2.562 u_muon_proton_mass_ratio

```
real(real64), parameter codata::u_muon_proton_mass_ratio =0.0000000025d0
```

Definition at line 1087 of file fcodata.f90.

14.1.2.563 u_muon_tau_mass_ratio

```
real(real64), parameter codata::u_muon_tau_mass_ratio =0.00040d-2
```

Definition at line 1092 of file fcodata.f90.

14.1.2.564 u_natural_unit_of_action

```
real(real64), parameter codata::u_natural_unit_of_action =0.0d0
```

J s.

Definition at line 1097 of file fcodata.f90.

14.1.2.565 u_natural_unit_of_action_in_ev_s

```
real(real64), parameter codata::u_natural_unit_of_action_in_ev_s =0.0d0
```

eV s

Definition at line 1102 of file fcodata.f90.

14.1.2.566 u_natural_unit_of_energy

```
real(real64), parameter codata::u_natural_unit_of_energy =0.0000000025d-14
```

J.

Definition at line 1107 of file fcodata.f90.

14.1.2.567 u_natural_unit_of_energy_in_mev

```
real(real64), parameter codata::u_natural_unit_of_energy_in_mev =0.00000000015d0
```

MeV.

Definition at line 1112 of file fcodata.f90.

14.1.2.568 u_natural_unit_of_length

```
real(real64), parameter codata::u_natural_unit_of_length =0.0000000012d-13
```

m

Definition at line 1117 of file fcodata.f90.

14.1.2.569 u_natural_unit_of_mass

```
real(real64), parameter codata::u_natural_unit_of_mass =0.0000000028d-31
```

kg

Definition at line 1122 of file fcodata.f90.

14.1.2.570 u_natural_unit_of_momentum

```
real(real64), parameter codata::u_natural_unit_of_momentum =0.00000000082d-22
```

kg m s^-1

Definition at line 1127 of file fcodata.f90.

14.1.2.571 u_natural_unit_of_momentum_in_mev_c

```
real(real64), parameter codata::u_natural_unit_of_momentum_in_mev_c =0.00000000015d0
```

MeV/c.

Definition at line 1132 of file fcodata.f90.

14.1.2.572 u_natural_unit_of_time

```
real(real64), parameter codata::u_natural_unit_of_time =0.00000000039d-21
```

s

Definition at line 1137 of file fcodata.f90.

14.1.2.573 u_natural_unit_of_velocity

```
real(real64), parameter codata::u_natural_unit_of_velocity =0.0d0
```

m s^-1

Definition at line 1142 of file fcodata.f90.

14.1.2.574 u_neutron_compton_wavelength

```
real(real64), parameter codata::u_neutron_compton_wavelength =0.00000000075d-15
```

m

Definition at line 1147 of file fcodata.f90.

14.1.2.575 u_neutron_electron_mag__mom__ratio

```
real(real64), parameter codata::u_neutron_electron_mag__mom__ratio =0.00000025d-3
```

Definition at line 1152 of file fcodata.f90.

14.1.2.576 u_neutron_electron_mass_ratio

```
real(real64), parameter codata::u_neutron_electron_mass_ratio =0.00000089d0
```

Definition at line 1157 of file fcodata.f90.

14.1.2.577 u_neutron_g_factor

```
real(real64), parameter codata::u_neutron_g_factor =0.00000090d0
```

Definition at line 1162 of file fcodata.f90.

14.1.2.578 u_neutron_gyromag__ratio

```
real(real64), parameter codata::u_neutron_gyromag__ratio =0.00000043d8
```

s^-1 T^-1

Definition at line 1167 of file fcodata.f90.

14.1.2.579 u_neutron_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::u_neutron_gyromag__ratio_in_mhz_t =0.0000069d0
```

MHz T^-1.

Definition at line 1172 of file fcodata.f90.

14.1.2.580 u_neutron_mag__mom

```
real(real64), parameter codata::u_neutron_mag__mom =0.0000023d-27
```

J T^-1.

Definition at line 1177 of file fcodata.f90.

14.1.2.581 u_neutron_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_neutron_mag__mom__to_bohr_magneton_ratio =0.00000025d-3
```

Definition at line 1182 of file fcodata.f90.

14.1.2.582 u_neutron_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_neutron_mag__mom__to_nuclear_magneton_ratio =0.00000045d0
```

Definition at line 1187 of file fcodata.f90.

14.1.2.583 u_neutron_mass

```
real(real64), parameter codata::u_neutron_mass =0.00000000095d-27
```

kg

Definition at line 1192 of file fcodata.f90.

14.1.2.584 u_neutron_mass_energy_equivalent

```
real(real64), parameter codata::u_neutron_mass_energy_equivalent =0.00000000086d-10
```

J.

Definition at line 1197 of file fcodata.f90.

14.1.2.585 u_neutron_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_neutron_mass_energy_equivalent_in_mev =0.00000054d0
```

MeV.

Definition at line 1202 of file fcodata.f90.

14.1.2.586 u_neutron_mass_in_u

```
real(real64), parameter codata::u_neutron_mass_in_u =0.00000000049d0
```

u

Definition at line 1207 of file fcodata.f90.

14.1.2.587 u_neutron_molar_mass

```
real(real64), parameter codata::u_neutron_molar_mass =0.00000000057d-3
```

kg mol^-1

Definition at line 1212 of file fcodata.f90.

14.1.2.588 u_neutron_muon_mass_ratio

```
real(real64), parameter codata::u_neutron_muon_mass_ratio =0.00000020d0
```

Definition at line 1217 of file fcodata.f90.

14.1.2.589 u_neutron_proton_mag__mom__ratio

```
real(real64), parameter codata::u_neutron_proton_mag__mom__ratio =0.00000016d0
```

Definition at line 1222 of file fcodata.f90.

14.1.2.590 u_neutron_proton_mass_difference

```
real(real64), parameter codata::u_neutron_proton_mass_difference =0.00000082d-30
```

kg

Definition at line 1227 of file fcodata.f90.

14.1.2.591 u_neutron_proton_mass_difference_energy_equivalent

```
real(real64), parameter codata::u_neutron_proton_mass_difference_energy_equivalent =0.00000074d-13
```

J.

Definition at line 1232 of file fcodata.f90.

14.1.2.592 u_neutron_proton_mass_difference_energy_equivalent_in_mev

```
real(real64), parameter codata::u_neutron_proton_mass_difference_energy_equivalent_in_mev
=0.00000046d0
```

MeV.

Definition at line 1237 of file fcodata.f90.

14.1.2.593 u_neutron_proton_mass_difference_in_u

```
real(real64), parameter codata::u_neutron_proton_mass_difference_in_u =0.00000049d-3
```

u

Definition at line 1242 of file fcodata.f90.

14.1.2.594 u_neutron_proton_mass_ratio

```
real(real64), parameter codata::u_neutron_proton_mass_ratio =0.00000000049d0
```

Definition at line 1247 of file fcodata.f90.

14.1.2.595 u_neutron_relative_atomic_mass

```
real(real64), parameter codata::u_neutron_relative_atomic_mass =0.00000000049d0
```

Definition at line 1252 of file fcodata.f90.

14.1.2.596 u_neutron_tau_mass_ratio

```
real(real64), parameter codata::u_neutron_tau_mass_ratio =0.000036d0
```

Definition at line 1257 of file fcodata.f90.

14.1.2.597 u_neutron_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::u_neutron_to_shielded_proton_mag__mom__ratio =0.00000016d0
```

Definition at line 1262 of file fcodata.f90.

14.1.2.598 u_newtonian_constant_of_gravitation

```
real(real64), parameter codata::u_newtonian_constant_of_gravitation =0.00015d-11
```

m^3 kg^-1 s^-2

Definition at line 1267 of file fcodata.f90.

14.1.2.599 u_newtonian_constant_of_gravitation_over_h_bar_c

```
real(real64), parameter codata::u_newtonian_constant_of_gravitation_over_h_bar_c =0.00015d-39
```

(GeV/c^2)^-2

Definition at line 1272 of file fcodata.f90.

14.1.2.600 u_nuclear_magneton

```
real(real64), parameter codata::u_nuclear_magneton =0.0000000015d-27
```

J T^-1.

Definition at line 1277 of file fcodata.f90.

14.1.2.601 u_nuclear_magneton_in_ev_t

```
real(real64), parameter codata::u_nuclear_magneton_in_ev_t =0.00000000096d-8
```

eV T^-1

Definition at line 1282 of file fcodata.f90.

14.1.2.602 u_nuclear_magneton_in_inverse_meter_per_tesla

```
real(real64), parameter codata::u_nuclear_magneton_in_inverse_meter_per_tesla =0.00000000078d-2
```

m^-1 T^-1

Definition at line 1287 of file fcodata.f90.

14.1.2.603 u_nuclear_magneton_in_k_t

```
real(real64), parameter codata::u_nuclear_magneton_in_k_t =0.0000000011d-4
```

K T^-1.

Definition at line 1292 of file fcodata.f90.

14.1.2.604 u_nuclear_magneton_in_mhz_t

```
real(real64), parameter codata::u_nuclear_magneton_in_mhz_t =0.0000000023d0
```

MHz T^-1.

Definition at line 1297 of file fcodata.f90.

14.1.2.605 u_planck_constant

```
real(real64), parameter codata::u_planck_constant =0.0d0
```

J Hz^-1.

Definition at line 1302 of file fcodata.f90.

14.1.2.606 u_planck_constant_in_ev_hz

```
real(real64), parameter codata::u_planck_constant_in_ev_hz =0.0d0
```

eV Hz^-1

Definition at line 1307 of file fcodata.f90.

14.1.2.607 u_planck_length

```
real(real64), parameter codata::u_planck_length =0.000018d-35
```

m

Definition at line 1312 of file fcodata.f90.

14.1.2.608 u_planck_mass

```
real(real64), parameter codata::u_planck_mass =0.000024d-8
```

kg

Definition at line 1317 of file fcodata.f90.

14.1.2.609 u_planck_mass_energy_equivalent_in_gev

```
real(real64), parameter codata::u_planck_mass_energy_equivalent_in_gev =0.000014d19
```

GeV.

Definition at line 1322 of file fcodata.f90.

14.1.2.610 u_planck_temperature

```
real(real64), parameter codata::u_planck_temperature =0.000016d32
```

K.

Definition at line 1327 of file fcodata.f90.

14.1.2.611 u_planck_time

```
real(real64), parameter codata::u_planck_time =0.000060d-44
```

s

Definition at line 1332 of file fcodata.f90.

14.1.2.612 u_proton_charge_to_mass_quotient

```
real(real64), parameter codata::u_proton_charge_to_mass_quotient =0.0000000029d7
```

C kg^-1.

Definition at line 1337 of file fcodata.f90.

14.1.2.613 u_proton_compton_wavelength

```
real(real64), parameter codata::u_proton_compton_wavelength =0.00000000040d-15
```

m

Definition at line 1342 of file fcodata.f90.

14.1.2.614 u_proton_electron_mass_ratio

```
real(real64), parameter codata::u_proton_electron_mass_ratio =0.00000011d0
```

Definition at line 1347 of file fcodata.f90.

14.1.2.615 u_proton_g_factor

```
real(real64), parameter codata::u_proton_g_factor =0.0000000016d0
```

Definition at line 1352 of file fcodata.f90.

14.1.2.616 u_proton_gyromag__ratio

```
real(real64), parameter codata::u_proton_gyromag__ratio =0.0000000011d8
```

s^-1 T^-1

Definition at line 1357 of file fcodata.f90.

14.1.2.617 u_proton_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::u_proton_gyromag__ratio_in_mhz_t =0.000000018d0
```

MHz T^-1.

Definition at line 1362 of file fcodata.f90.

14.1.2.618 u_proton_mag__mom

```
real(real64), parameter codata::u_proton_mag__mom =0.00000000060d-26
```

J T^-1.

Definition at line 1367 of file fcodata.f90.

14.1.2.619 u_proton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_proton_mag__mom__to_bohr_magneton_ratio =0.00000000046d-3
```

Definition at line 1372 of file fcodata.f90.

14.1.2.620 u_proton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_proton_mag__mom__to_nuclear_magneton_ratio =0.00000000082d0
```

Definition at line 1377 of file fcodata.f90.

14.1.2.621 u_proton_mag__shielding_correction

```
real(real64), parameter codata::u_proton_mag__shielding_correction =0.0011d-5
```

Definition at line 1382 of file fcodata.f90.

14.1.2.622 u_proton_mass

```
real(real64), parameter codata::u_proton_mass =0.00000000051d-27
```

kg

Definition at line 1387 of file fcodata.f90.

14.1.2.623 u_proton_mass_energy_equivalent

```
real(real64), parameter codata::u_proton_mass_energy_equivalent =0.00000000046d-10
```

J.

Definition at line 1392 of file fcodata.f90.

14.1.2.624 u_proton_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_proton_mass_energy_equivalent_in_mev =0.00000029d0
```

MeV.

Definition at line 1397 of file fcodata.f90.

14.1.2.625 u_proton_mass_in_u

```
real(real64), parameter codata::u_proton_mass_in_u =0.000000000053d0
```

u

Definition at line 1402 of file fcodata.f90.

14.1.2.626 u_proton_molar_mass

```
real(real64), parameter codata::u_proton_molar_mass =0.00000000031d-3
```

kg mol^-1

Definition at line 1407 of file fcodata.f90.

14.1.2.627 u_proton_muon_mass_ratio

```
real(real64), parameter codata::u_proton_muon_mass_ratio =0.00000020d0
```

Definition at line 1412 of file fcodata.f90.

14.1.2.628 u_proton_neutron_mag__mom__ratio

```
real(real64), parameter codata::u_proton_neutron_mag__mom__ratio =0.00000034d0
```

Definition at line 1417 of file fcodata.f90.

14.1.2.629 u_proton_neutron_mass_ratio

```
real(real64), parameter codata::u_proton_neutron_mass_ratio =0.00000000049d0
```

Definition at line 1422 of file fcodata.f90.

14.1.2.630 u_proton_relative_atomic_mass

```
real(real64), parameter codata::u_proton_relative_atomic_mass =0.000000000053d0
```

Definition at line 1427 of file fcodata.f90.

14.1.2.631 u_proton_rms_charge_radius

```
real(real64), parameter codata::u_proton_rms_charge_radius =0.019d-16
```

m

Definition at line 1432 of file fcodata.f90.

14.1.2.632 u_proton_tau_mass_ratio

```
real(real64), parameter codata::u_proton_tau_mass_ratio =0.000036d0
```

Definition at line 1437 of file fcodata.f90.

14.1.2.633 u_quantum_of_circulation

```
real(real64), parameter codata::u_quantum_of_circulation =0.0000000011d-4
```

m^2 s^-1

Definition at line 1442 of file fcodata.f90.

14.1.2.634 u_quantum_of_circulation_times_2

```
real(real64), parameter codata::u_quantum_of_circulation_times_2 =0.0000000022d-4
```

m^2 s^-1

Definition at line 1447 of file fcodata.f90.

14.1.2.635 u_reduced_compton_wavelength

```
real(real64), parameter codata::u_reduced_compton_wavelength =0.0000000012d-13
```

m

Definition at line 1452 of file fcodata.f90.

14.1.2.636 u_reduced_muon_compton_wavelength

```
real(real64), parameter codata::u_reduced_muon_compton_wavelength =0.000000042d-15
```

m

Definition at line 1457 of file fcodata.f90.

14.1.2.637 u_reduced_neutron_compton_wavelength

```
real(real64), parameter codata::u_reduced_neutron_compton_wavelength =0.0000000012d-16
```

m

Definition at line 1462 of file fcodata.f90.

14.1.2.638 u_reduced_planck_constant

```
real(real64), parameter codata::u_reduced_planck_constant =0.0d0
```

J s.

Definition at line 1467 of file fcodata.f90.

14.1.2.639 u_reduced_planck_constant_in_ev_s

```
real(real64), parameter codata::u_reduced_planck_constant_in_ev_s =0.0d0
```

eV s

Definition at line 1472 of file fcodata.f90.

14.1.2.640 u_reduced_planck_constant_times_c_in_mev_fm

```
real(real64), parameter codata::u_reduced_planck_constant_times_c_in_mev_fm =0.0d0
```

MeV fm.

Definition at line 1477 of file fcodata.f90.

14.1.2.641 u_reduced_proton_compton_wavelength

```
real(real64), parameter codata::u_reduced_proton_compton_wavelength =0.00000000064d-16
```

m

Definition at line 1482 of file fcodata.f90.

14.1.2.642 u_reduced_tau_compton_wavelength

```
real(real64), parameter codata::u_reduced_tau_compton_wavelength =0.000075d-16
```

m

Definition at line 1487 of file fcodata.f90.

14.1.2.643 u_rydberg_constant

```
real(real64), parameter codata::u_rydberg_constant =0.000021d0
```

m^-1

Definition at line 1492 of file fcodata.f90.

14.1.2.644 u_rydberg_constant_times_c_in_hz

```
real(real64), parameter codata::u_rydberg_constant_times_c_in_hz =0.0000000000064d15
```

Hz.

Definition at line 1497 of file fcodata.f90.

14.1.2.645 u_rydberg_constant_times_hc_in_ev

```
real(real64), parameter codata::u_rydberg_constant_times_hc_in_ev =0.000000000026d0
```

eV

Definition at line 1502 of file fcodata.f90.

14.1.2.646 u_rydberg_constant_times_hc_in_j

```
real(real64), parameter codata::u_rydberg_constant_times_hc_in_j =0.0000000000042d-18
```

J.

Definition at line 1507 of file fcodata.f90.

14.1.2.647 u_sackur_tetrode_constant__1_k__100_kpa

```
real(real64), parameter codata::u_sackur_tetrode_constant__1_k__100_kpa =0.00000000045d0
```

Definition at line 1512 of file fcodata.f90.

14.1.2.648 u_sackur_tetrode_constant__1_k__101_325_kpa

```
real(real64), parameter codata::u_sackur_tetrode_constant__1_k__101_325_kpa =0.00000000045d0
```

Definition at line 1517 of file fcodata.f90.

14.1.2.649 u_second_radiation_constant

```
real(real64), parameter codata::u_second_radiation_constant =0.0d0
```

m K

Definition at line 1522 of file fcodata.f90.

14.1.2.650 u_shielded_helion_gyromag__ratio

```
real(real64), parameter codata::u_shielded_helion_gyromag__ratio =0.000000024d8
```

s^-1 T^-1

Definition at line 1527 of file fcodata.f90.

14.1.2.651 u_shielded_helion_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::u_shielded_helion_gyromag__ratio_in_mhz_t =0.00000038d0
```

MHz T^-1.

Definition at line 1532 of file fcodata.f90.

14.1.2.652 u_shielded_helion_mag__mom

```
real(real64), parameter codata::u_shielded_helion_mag__mom =0.000000013d-26
```

J T^-1.

Definition at line 1537 of file fcodata.f90.

14.1.2.653 u_shielded_helion_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_shielded_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
```

Definition at line 1542 of file fcodata.f90.

14.1.2.654 u_shielded_helion_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_shielded_helion_mag__mom__to_nuclear_magneton_ratio =0.↩
000000025d0
```

Definition at line 1547 of file fcodata.f90.

14.1.2.655 u_shielded_helion_to_proton_mag__mom__ratio

```
real(real64), parameter codata::u_shielded_helion_to_proton_mag__mom__ratio =0.0000000089d0
```

Definition at line 1552 of file fcodata.f90.

14.1.2.656 u_shielded_helion_to_shielded_proton_mag__mom__ratio

```
real(real64), parameter codata::u_shielded_helion_to_shielded_proton_mag__mom__ratio =0.↩
0000000033d0
```

Definition at line 1557 of file fcodata.f90.

14.1.2.657 u_shielded_proton_gyromag__ratio

```
real(real64), parameter codata::u_shielded_proton_gyromag__ratio =0.000000029d8
```

s^-1 T^-1

Definition at line 1562 of file fcodata.f90.

14.1.2.658 u_shielded_proton_gyromag__ratio_in_mhz_t

```
real(real64), parameter codata::u_shielded_proton_gyromag__ratio_in_mhz_t =0.00000046d0
```

MHz T^-1.

Definition at line 1567 of file fcodata.f90.

14.1.2.659 u_shielded_proton_mag__mom

```
real(real64), parameter codata::u_shielded_proton_mag__mom =0.000000015d-26
```

J T^-1.

Definition at line 1572 of file fcodata.f90.

14.1.2.660 u_shielded_proton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_shielded_proton_mag__mom__to_bohr_magneton_ratio =0.000000017d-3
```

Definition at line 1577 of file fcodata.f90.

14.1.2.661 u_shielded_proton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_shielded_proton_mag__mom__to_nuclear_magneton_ratio =0.↩
000000030d0
```

Definition at line 1582 of file fcodata.f90.

14.1.2.662 u_shielding_difference_of_d_and_p_in_hd

```
real(real64), parameter codata::u_shielding_difference_of_d_and_p_in_hd =0.0020d-8
```

Definition at line 1587 of file fcodata.f90.

14.1.2.663 u_shielding_difference_of_t_and_p_in_ht

```
real(real64), parameter codata::u_shielding_difference_of_t_and_p_in_ht =0.0020d-8
```

Definition at line 1592 of file fcodata.f90.

14.1.2.664 u_speed_of_light_in_vacuum

```
real(real64), parameter codata::u_speed_of_light_in_vacuum =0.0d0
```

m s^-1

Definition at line 1597 of file fcodata.f90.

14.1.2.665 u_standard_acceleration_of_gravity

```
real(real64), parameter codata::u_standard_acceleration_of_gravity =0.0d0
```

m s^-2

Definition at line 1602 of file fcodata.f90.

14.1.2.666 u_standard_atmosphere

```
real(real64), parameter codata::u_standard_atmosphere =0.0d0
```

Pa.

Definition at line 1607 of file fcodata.f90.

14.1.2.667 u_standard_state_pressure

```
real(real64), parameter codata::u_standard_state_pressure =0.0d0
```

Pa.

Definition at line 1612 of file fcodata.f90.

14.1.2.668 u_stefan_boltzmann_constant

```
real(real64), parameter codata::u_stefan_boltzmann_constant =0.0d0
```

W m^-2 K^-4.

Definition at line 1617 of file fcodata.f90.

14.1.2.669 u_tau_compton_wavelength

```
real(real64), parameter codata::u_tau_compton_wavelength =0.00047d-16
```

m

Definition at line 1622 of file fcodata.f90.

14.1.2.670 u_tau_electron_mass_ratio

```
real(real64), parameter codata::u_tau_electron_mass_ratio =0.23d0
```

Definition at line 1627 of file fcodata.f90.

14.1.2.671 u_tau_energy_equivalent

```
real(real64), parameter codata::u_tau_energy_equivalent =0.12d0
```

MeV.

Definition at line 1632 of file fcodata.f90.

14.1.2.672 u_tau_mass

```
real(real64), parameter codata::u_tau_mass =0.00021d-27
```

kg

Definition at line 1637 of file fcodata.f90.

14.1.2.673 u_tau_mass_energy_equivalent

```
real(real64), parameter codata::u_tau_mass_energy_equivalent =0.00019d-10
```

J.

Definition at line 1642 of file fcodata.f90.

14.1.2.674 u_tau_mass_in_u

```
real(real64), parameter codata::u_tau_mass_in_u =0.00013d0
```

u

Definition at line 1647 of file fcodata.f90.

14.1.2.675 u_tau_molar_mass

```
real(real64), parameter codata::u_tau_molar_mass =0.00013d-3
```

kg mol^-1

Definition at line 1652 of file fcodata.f90.

14.1.2.676 u_tau_muon_mass_ratio

```
real(real64), parameter codata::u_tau_muon_mass_ratio =0.0011d0
```

Definition at line 1657 of file fcodata.f90.

14.1.2.677 u_tau_neutron_mass_ratio

```
real(real64), parameter codata::u_tau_neutron_mass_ratio =0.00013d0
```

Definition at line 1662 of file fcodata.f90.

14.1.2.678 u_tau_proton_mass_ratio

```
real(real64), parameter codata::u_tau_proton_mass_ratio =0.00013d0
```

Definition at line 1667 of file fcodata.f90.

14.1.2.679 u_thomson_cross_section

```
real(real64), parameter codata::u_thomson_cross_section =0.0000000060d-29
```

m^2

Definition at line 1672 of file fcodata.f90.

14.1.2.680 u_triton_electron_mass_ratio

```
real(real64), parameter codata::u_triton_electron_mass_ratio =0.00000027d0
```

Definition at line 1677 of file fcodata.f90.

14.1.2.681 u_triton_g_factor

```
real(real64), parameter codata::u_triton_g_factor =0.000000012d0
```

Definition at line 1682 of file fcodata.f90.

14.1.2.682 u_triton_mag__mom

```
real(real64), parameter codata::u_triton_mag__mom =0.0000000030d-26
```

J T^-1.

Definition at line 1687 of file fcodata.f90.

14.1.2.683 u_triton_mag__mom__to_bohr_magneton_ratio

```
real(real64), parameter codata::u_triton_mag__mom__to_bohr_magneton_ratio =0.0000000032d-3
```

Definition at line 1692 of file fcodata.f90.

14.1.2.684 u_triton_mag__mom__to_nuclear_magneton_ratio

```
real(real64), parameter codata::u_triton_mag__mom__to_nuclear_magneton_ratio =0.0000000059d0
```

Definition at line 1697 of file fcodata.f90.

14.1.2.685 u_triton_mass

```
real(real64), parameter codata::u_triton_mass =0.0000000015d-27
```

kg

Definition at line 1702 of file fcodata.f90.

14.1.2.686 u_triton_mass_energy_equivalent

```
real(real64), parameter codata::u_triton_mass_energy_equivalent =0.0000000014d-10
```

J.

Definition at line 1707 of file fcodata.f90.

14.1.2.687 u_triton_mass_energy_equivalent_in_mev

```
real(real64), parameter codata::u_triton_mass_energy_equivalent_in_mev =0.00000085d0
```

MeV.

Definition at line 1712 of file fcodata.f90.

14.1.2.688 u_triton_mass_in_u

```
real(real64), parameter codata::u_triton_mass_in_u =0.00000000012d0
```

u

Definition at line 1717 of file fcodata.f90.

14.1.2.689 u_triton_molar_mass

```
real(real64), parameter codata::u_triton_molar_mass =0.00000000092d-3
```

kg mol^-1

Definition at line 1722 of file fcodata.f90.

14.1.2.690 u_triton_proton_mass_ratio

```
real(real64), parameter codata::u_triton_proton_mass_ratio =0.00000000015d0
```

Definition at line 1727 of file fcodata.f90.

14.1.2.691 u_triton_relative_atomic_mass

```
real(real64), parameter codata::u_triton_relative_atomic_mass =0.00000000012d0
```

Definition at line 1732 of file fcodata.f90.

14.1.2.692 u_triton_to_proton_mag__mom__ratio

```
real(real64), parameter codata::u_triton_to_proton_mag__mom__ratio =0.0000000021d0
```

Definition at line 1737 of file fcodata.f90.

14.1.2.693 u_unified_atomic_mass_unit

```
real(real64), parameter codata::u_unified_atomic_mass_unit =0.00000000050d-27
```

kg

Definition at line 1742 of file fcodata.f90.

14.1.2.694 u_vacuum_electric_permittivity

```
real(real64), parameter codata::u_vacuum_electric_permittivity =0.0000000013d-12
```

F m^-1.

Definition at line 1747 of file fcodata.f90.

14.1.2.695 u_vacuum_mag__permeability

```
real(real64), parameter codata::u_vacuum_mag__permeability =0.00000000019d-6
```

N A^-2.

Definition at line 1752 of file fcodata.f90.

14.1.2.696 u_von_klitzing_constant

```
real(real64), parameter codata::u_von_klitzing_constant =0.0d0
```

ohm

Definition at line 1757 of file fcodata.f90.

14.1.2.697 u_w_to_z_mass_ratio

```
real(real64), parameter codata::u_w_to_z_mass_ratio =0.00017d0
```

Definition at line 1777 of file fcodata.f90.

14.1.2.698 u_weak_mixing_angle

```
real(real64), parameter codata::u_weak_mixing_angle =0.00030d0
```

Definition at line 1762 of file fcodata.f90.

14.1.2.699 u_wien_frequency_displacement_law_constant

```
real(real64), parameter codata::u_wien_frequency_displacement_law_constant =0.0d0
```

Hz K^-1.

Definition at line 1767 of file fcodata.f90.

14.1.2.700 u_wien_wavelength_displacement_law_constant

```
real(real64), parameter codata::u_wien_wavelength_displacement_law_constant =0.0d0
```

m K

Definition at line 1772 of file fcodata.f90.

14.1.2.701 unified_atomic_mass_unit

```
real(real64), parameter codata::unified_atomic_mass_unit =1.66053906660d-27
```

kg

Definition at line 1740 of file fcodata.f90.

14.1.2.702 vacuum_electric_permittivity

```
real(real64), parameter codata::vacuum_electric_permittivity =8.8541878128d-12
```

F m^-1.

Definition at line 1745 of file fcodata.f90.

14.1.2.703 vacuum_mag__permeability

```
real(real64), parameter codata::vacuum_mag__permeability =1.25663706212d-6
```

N A^-2.

Definition at line 1750 of file fcodata.f90.

14.1.2.704 von_klitzing_constant

```
real(real64), parameter codata::von_klitzing_constant =25812.80745d0
```

ohm

Definition at line 1755 of file fcodata.f90.

14.1.2.705 w_to_z_mass_ratio

```
real(real64), parameter codata::w_to_z_mass_ratio =0.88153d0
```

Definition at line 1775 of file fcodata.f90.

14.1.2.706 weak_mixing_angle

```
real(real64), parameter codata::weak_mixing_angle =0.22290d0
```

Definition at line 1760 of file fcodata.f90.

14.1.2.707 wien_frequency_displacement_law_constant

```
real(real64), parameter codata::wien_frequency_displacement_law_constant =5.878925757d10
```

Hz K^-1.

Definition at line 1765 of file fcodata.f90.

14.1.2.708 wien_wavelength_displacement_law_constant

```
real(real64), parameter codata::wien_wavelength_displacement_law_constant =2.897771955d-3
```

m K

Definition at line 1770 of file fcodata.f90.

14.2 pycodata Namespace Reference

Variables

- float ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 7294.29954142e0
- float U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 0.00000024e0
- float ALPHA_PARTICLE_MASS = 6.6446573357e-27
- float U_ALPHA_PARTICLE_MASS = 0.0000000020e-27
- float ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 5.9719201914e-10
- float U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 0.0000000018e-10
- float ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 3727.3794066e0
- float U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000011e0
- float ALPHA_PARTICLE_MASS_IN_U = 4.001506179127e0
- float U_ALPHA_PARTICLE_MASS_IN_U = 0.000000000063e0
- float ALPHA_PARTICLE_MOLAR_MASS = 4.0015061777e-3
- float U_ALPHA_PARTICLE_MOLAR_MASS = 0.0000000012e-3
- float ALPHA_PARTICLE_PROTON_MASS_RATIO = 3.97259969009e0
- float U_ALPHA_PARTICLE_PROTON_MASS_RATIO = 0.00000000022e0
- float ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 4.001506179127e0
- float U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 0.000000000063e0
- float ANGSTROM_STAR = 1.00001495e-10
- float U_ANGSTROM_STAR = 0.00000090e-10
- float ATOMIC_MASS_CONSTANT = 1.66053906660e-27
- float U_ATOMIC_MASS_CONSTANT = 0.00000000050e-27

- float ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 1.49241808560e-10
- float U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 0.00000000045e-10
- float ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 931.49410242e0
- float U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 0.00000028e0
- float ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 9.3149410242e8
- float U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 0.0000000028e8
- float ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 3.4231776874e7
- float U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 0.0000000010e7
- float ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 2.25234271871e23
- float U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 0.00000000068e23
- float ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 7.5130066104e14
- float U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 0.0000000023e14
- float ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 1.49241808560e-10
- float U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 0.00000000045e-10
- float ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 1.08095401916e13
- float U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 0.00000000033e13
- float ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 1.66053906660e-27
- float U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 0.00000000050e-27
- float ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 3.2063613061e-53
- float U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 0.0000000015e-53
- float ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 6.2353799905e-65
- float U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 0.0000000038e-65
- float ATOMIC_UNIT_OF_ACTION = 1.054571817e-34
- float U_ATOMIC_UNIT_OF_ACTION = 0.0e0
- float ATOMIC_UNIT_OF_CHARGE = 1.602176634e-19
- float U_ATOMIC_UNIT_OF_CHARGE = 0.0e0
- float ATOMIC_UNIT_OF_CHARGE_DENSITY = 1.08120238457e12
- float U_ATOMIC_UNIT_OF_CHARGE_DENSITY = 0.00000000049e12
- float ATOMIC_UNIT_OF_CURRENT = 6.623618237510e-3
- float U_ATOMIC_UNIT_OF_CURRENT = 0.000000000013e-3
- float ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 8.4783536255e-30
- float U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 0.0000000013e-30
- float ATOMIC_UNIT_OF_ELECTRIC_FIELD = 5.14220674763e11
- float U_ATOMIC_UNIT_OF_ELECTRIC_FIELD = 0.00000000078e11
- float ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 9.7173624292e21
- float U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 0.0000000029e21
- float ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 1.64877727436e-41
- float U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 0.00000000050e-41
- float ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 27.211386245988e0
- float U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 0.000000000053e0
- float ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 4.4865515246e-40
- float U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 0.0000000014e-40
- float ATOMIC_UNIT_OF_ENERGY = 4.3597447222071e-18
- float U_ATOMIC_UNIT_OF_ENERGY = 0.0000000000085e-18
- float ATOMIC_UNIT_OF_FORCE = 8.2387234983e-8
- float U_ATOMIC_UNIT_OF_FORCE = 0.0000000012e-8
- float ATOMIC_UNIT_OF_LENGTH = 5.29177210903e-11
- float U_ATOMIC_UNIT_OF_LENGTH = 0.00000000080e-11
- float ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 1.85480201566e-23
- float U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 0.00000000056e-23
- float ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 2.35051756758e5
- float U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 0.00000000071e5
- float ATOMIC_UNIT_OF_MAGNETIZABILITY = 7.8910366008e-29
- float U_ATOMIC_UNIT_OF_MAGNETIZABILITY = 0.0000000048e-29
- float ATOMIC_UNIT_OF_MASS = 9.1093837015e-31

- float U_ATOMIC_UNIT_OF_MASS = 0.0000000028e-31
- float ATOMIC_UNIT_OF_MOMENTUM = 1.99285191410e-24
- float U_ATOMIC_UNIT_OF_MOMENTUM = 0.00000000030e-24
- float ATOMIC_UNIT_OF_PERMITTIVITY = 1.11265005545e-10
- float U_ATOMIC_UNIT_OF_PERMITTIVITY = 0.00000000017e-10
- float ATOMIC_UNIT_OF_TIME = 2.4188843265857e-17
- float U_ATOMIC_UNIT_OF_TIME = 0.0000000000047e-17
- float ATOMIC_UNIT_OF_VELOCITY = 2.18769126364e6
- float U_ATOMIC_UNIT_OF_VELOCITY = 0.00000000033e6
- float AVOGADRO_CONSTANT = 6.02214076e23
- float U_AVOGADRO_CONSTANT = 0.0e0
- float BOHR_MAGNETON = 9.2740100783e-24
- float U_BOHR_MAGNETON = 0.0000000028e-24
- float BOHR_MAGNETON_IN_EV_T = 5.7883818060e-5
- float U_BOHR_MAGNETON_IN_EV_T = 0.0000000017e-5
- float BOHR_MAGNETON_IN_HZ_T = 1.39962449361e10
- float U_BOHR_MAGNETON_IN_HZ_T = 0.00000000042e10
- float BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 46.686447783e0
- float U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.000000014e0
- float BOHR_MAGNETON_IN_K_T = 0.67171381563e0
- float U_BOHR_MAGNETON_IN_K_T = 0.00000000020e0
- float BOHR_RADIUS = 5.29177210903e-11
- float U_BOHR_RADIUS = 0.00000000080e-11
- float BOLTZMANN_CONSTANT = 1.380649e-23
- float U_BOLTZMANN_CONSTANT = 0.0e0
- float BOLTZMANN_CONSTANT_IN_EV_K = 8.617333262e-5
- float U_BOLTZMANN_CONSTANT_IN_EV_K = 0.0e0
- float BOLTZMANN_CONSTANT_IN_HZ_K = 2.083661912e10
- float U_BOLTZMANN_CONSTANT_IN_HZ_K = 0.0e0
- float BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 69.50348004e0
- float U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 0.0e0
- float CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 376.730313668e0
- float U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 0.000000057e0
- float CLASSICAL_ELECTRON_RADIUS = 2.8179403262e-15
- float U_CLASSICAL_ELECTRON_RADIUS = 0.0000000013e-15
- float COMPTON_WAVELENGTH = 2.42631023867e-12
- float U_COMPTON_WAVELENGTH = 0.00000000073e-12
- float CONDUCTANCE_QUANTUM = 7.748091729e-5
- float U_CONDUCTANCE_QUANTUM = 0.0e0
- float CONVENTIONAL_VALUE_OF_AMPERE_90 = 1.00000008887e0
- float U_CONVENTIONAL_VALUE_OF_AMPERE_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_COULOMB_90 = 1.00000008887e0
- float U_CONVENTIONAL_VALUE_OF_COULOMB_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_FARAD_90 = 0.99999998220e0
- float U_CONVENTIONAL_VALUE_OF_FARAD_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_HENRY_90 = 1.00000001779e0
- float U_CONVENTIONAL_VALUE_OF_HENRY_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 483597.9e9
- float U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 0.0e0
- float CONVENTIONAL_VALUE_OF_OHM_90 = 1.00000001779e0
- float U_CONVENTIONAL_VALUE_OF_OHM_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_VOLT_90 = 1.00000010666e0
- float U_CONVENTIONAL_VALUE_OF_VOLT_90 = 0.0e0
- float CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 25812.807e0
- float U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 0.0e0

- float CONVENTIONAL_VALUE_OF_WATT_90 = 1.00000019553e0
- float U_CONVENTIONAL_VALUE_OF_WATT_90 = 0.0e0
- float COPPER_X_UNIT = 1.00207697e-13
- float U_COPPER_X_UNIT = 0.00000028e-13
- float DEUTERON_ELECTRON_MAG__MOM__RATIO = -4.664345551e-4
- float U_DEUTERON_ELECTRON_MAG__MOM__RATIO = 0.000000012e-4
- float DEUTERON_ELECTRON_MASS_RATIO = 3670.48296788e0
- float U_DEUTERON_ELECTRON_MASS_RATIO = 0.00000013e0
- float DEUTERON_G_FACTOR = 0.8574382338e0
- float U_DEUTERON_G_FACTOR = 0.0000000022e0
- float DEUTERON_MAG__MOM = 4.330735094e-27
- float U_DEUTERON_MAG__MOM = 0.000000011e-27
- float DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 4.669754570e-4
- float U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000012e-4
- float DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.8574382338e0
- float U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000022e0
- float DEUTERON_MASS = 3.3435837724e-27
- float U_DEUTERON_MASS = 0.0000000010e-27
- float DEUTERON_MASS_ENERGY_EQUIVALENT = 3.00506323102e-10
- float U_DEUTERON_MASS_ENERGY_EQUIVALENT = 0.00000000091e-10
- float DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 1875.61294257e0
- float U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000057e0
- float DEUTERON_MASS_IN_U = 2.013553212745e0
- float U_DEUTERON_MASS_IN_U = 0.000000000040e0
- float DEUTERON_MOLAR_MASS = 2.01355321205e-3
- float U_DEUTERON_MOLAR_MASS = 0.00000000061e-3
- float DEUTERON_NEUTRON_MAG__MOM__RATIO = -0.44820653e0
- float U_DEUTERON_NEUTRON_MAG__MOM__RATIO = 0.00000011e0
- float DEUTERON_PROTON_MAG__MOM__RATIO = 0.30701220939e0
- float U_DEUTERON_PROTON_MAG__MOM__RATIO = 0.00000000079e0
- float DEUTERON_PROTON_MASS_RATIO = 1.99900750139e0
- float U_DEUTERON_PROTON_MASS_RATIO = 0.00000000011e0
- float DEUTERON_RELATIVE_ATOMIC_MASS = 2.013553212745e0
- float U_DEUTERON_RELATIVE_ATOMIC_MASS = 0.000000000040e0
- float DEUTERON_RMS_CHARGE_RADIUS = 2.12799e-15
- float U_DEUTERON_RMS_CHARGE_RADIUS = 0.00074e-15
- float ELECTRON_CHARGE_TO_MASS_QUOTIENT = -1.75882001076e11
- float U_ELECTRON_CHARGE_TO_MASS_QUOTIENT = 0.00000000053e11
- float ELECTRON_DEUTERON_MAG__MOM__RATIO = -2143.9234915e0
- float U_ELECTRON_DEUTERON_MAG__MOM__RATIO = 0.0000056e0
- float ELECTRON_DEUTERON_MASS_RATIO = 2.724437107462e-4
- float U_ELECTRON_DEUTERON_MASS_RATIO = 0.000000000096e-4
- float ELECTRON_G_FACTOR = -2.00231930436256e0
- float U_ELECTRON_G_FACTOR = 0.00000000000035e0
- float ELECTRON_GYROMAG__RATIO = 1.76085963023e11
- float U_ELECTRON_GYROMAG__RATIO = 0.00000000053e11
- float ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 28024.9514242e0
- float U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000085e0
- float ELECTRON_HELION_MASS_RATIO = 1.819543074573e-4
- float U_ELECTRON_HELION_MASS_RATIO = 0.000000000079e-4
- float ELECTRON_MAG__MOM = -9.2847647043e-24
- float U_ELECTRON_MAG__MOM = 0.0000000028e-24
- float ELECTRON_MAG__MOM__ANOMALY = 1.15965218128e-3
- float U_ELECTRON_MAG__MOM__ANOMALY = 0.00000000018e-3
- float ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.00115965218128e0

- float U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000000018e0
- float ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1838.28197188e0
- float U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000011e0
- float ELECTRON_MASS = 9.1093837015e-31
- float U_ELECTRON_MASS = 0.0000000028e-31
- float ELECTRON_MASS_ENERGY_EQUIVALENT = 8.1871057769e-14
- float U_ELECTRON_MASS_ENERGY_EQUIVALENT = 0.0000000025e-14
- float ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.51099895000e0
- float U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000000015e0
- float ELECTRON_MASS_IN_U = 5.48579909065e-4
- float U_ELECTRON_MASS_IN_U = 0.00000000016e-4
- float ELECTRON_MOLAR_MASS = 5.4857990888e-7
- float U_ELECTRON_MOLAR_MASS = 0.0000000017e-7
- float ELECTRON_MUON_MAG__MOM__RATIO = 206.7669883e0
- float U_ELECTRON_MUON_MAG__MOM__RATIO = 0.0000046e0
- float ELECTRON_MUON_MASS_RATIO = 4.83633169e-3
- float U_ELECTRON_MUON_MASS_RATIO = 0.00000011e-3
- float ELECTRON_NEUTRON_MAG__MOM__RATIO = 960.92050e0
- float U_ELECTRON_NEUTRON_MAG__MOM__RATIO = 0.00023e0
- float ELECTRON_NEUTRON_MASS_RATIO = 5.4386734424e-4
- float U_ELECTRON_NEUTRON_MASS_RATIO = 0.0000000026e-4
- float ELECTRON_PROTON_MAG__MOM__RATIO = -658.21068789e0
- float U_ELECTRON_PROTON_MAG__MOM__RATIO = 0.00000020e0
- float ELECTRON_PROTON_MASS_RATIO = 5.44617021487e-4
- float U_ELECTRON_PROTON_MASS_RATIO = 0.00000000033e-4
- float ELECTRON_RELATIVE_ATOMIC_MASS = 5.48579909065e-4
- float U_ELECTRON_RELATIVE_ATOMIC_MASS = 0.00000000016e-4
- float ELECTRON_TAU_MASS_RATIO = 2.87585e-4
- float U_ELECTRON_TAU_MASS_RATIO = 0.00019e-4
- float ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 1.370933554787e-4
- float U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 0.000000000045e-4
- float ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 864.058257e0
- float U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 0.000010e0
- float ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -658.2275971e0
- float U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000072e0
- float ELECTRON_TRITON_MASS_RATIO = 1.819200062251e-4
- float U_ELECTRON_TRITON_MASS_RATIO = 0.000000000090e-4
- float ELECTRON_VOLT = 1.602176634e-19
- float U_ELECTRON_VOLT = 0.0e0
- float ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.07354410233e-9
- float U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000032e-9
- float ELECTRON_VOLT_HARTREE_RELATIONSHIP = 3.6749322175655e-2
- float U_ELECTRON_VOLT_HARTREE_RELATIONSHIP = 0.0000000000071e-2
- float ELECTRON_VOLT_HERTZ_RELATIONSHIP = 2.417989242e14
- float U_ELECTRON_VOLT_HERTZ_RELATIONSHIP = 0.0e0
- float ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 8.065543937e5
- float U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 0.0e0
- float ELECTRON_VOLT_JOULE_RELATIONSHIP = 1.602176634e-19
- float U_ELECTRON_VOLT_JOULE_RELATIONSHIP = 0.0e0
- float ELECTRON_VOLT_KELVIN_RELATIONSHIP = 1.160451812e4
- float U_ELECTRON_VOLT_KELVIN_RELATIONSHIP = 0.0e0
- float ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 1.782661921e-36
- float U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 0.0e0
- float ELEMENTARY_CHARGE = 1.602176634e-19
- float U_ELEMENTARY_CHARGE = 0.0e0

- float ELEMENTARY_CHARGE_OVER_H_BAR = 1.519267447e15
- float U_ELEMENTARY_CHARGE_OVER_H_BAR = 0.0e0
- float FARADAY_CONSTANT = 96485.33212e0
- float U_FARADAY_CONSTANT = 0.0e0
- float FERMI_COUPLING_CONSTANT = 1.1663787e-5
- float U_FERMI_COUPLING_CONSTANT = 0.0000006e-5
- float FINE_STRUCTURE_CONSTANT = 7.2973525693e-3
- float U_FINE_STRUCTURE_CONSTANT = 0.0000000011e-3
- float FIRST_RADIATION_CONSTANT = 3.741771852e-16
- float U_FIRST_RADIATION_CONSTANT = 0.0e0
- float FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 1.191042972e-16
- float U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 0.0e0
- float HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 2.92126232205e-8
- float U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000088e-8
- float HARTREE_ELECTRON_VOLT_RELATIONSHIP = 27.211386245988e0
- float U_HARTREE_ELECTRON_VOLT_RELATIONSHIP = 0.000000000053e0
- float HARTREE_ENERGY = 4.3597447222071e-18
- float U_HARTREE_ENERGY = 0.0000000000085e-18
- float HARTREE_ENERGY_IN_EV = 27.211386245988e0
- float U_HARTREE_ENERGY_IN_EV = 0.000000000053e0
- float HARTREE_HERTZ_RELATIONSHIP = 6.579683920502e15
- float U_HARTREE_HERTZ_RELATIONSHIP = 0.000000000013e15
- float HARTREE_INVERSE_METER_RELATIONSHIP = 2.1947463136320e7
- float U_HARTREE_INVERSE_METER_RELATIONSHIP = 0.0000000000043e7
- float HARTREE_JOULE_RELATIONSHIP = 4.3597447222071e-18
- float U_HARTREE_JOULE_RELATIONSHIP = 0.0000000000085e-18
- float HARTREE_KELVIN_RELATIONSHIP = 3.1577502480407e5
- float U_HARTREE_KELVIN_RELATIONSHIP = 0.0000000000061e5
- float HARTREE_KILOGRAM_RELATIONSHIP = 4.8508702095432e-35
- float U_HARTREE_KILOGRAM_RELATIONSHIP = 0.0000000000094e-35
- float HELION_ELECTRON_MASS_RATIO = 5495.88528007e0
- float U_HELION_ELECTRON_MASS_RATIO = 0.00000024e0
- float HELION_G_FACTOR = -4.255250615e0
- float U_HELION_G_FACTOR = 0.000000050e0
- float HELION_MAG__MOM = -1.074617532e-26
- float U_HELION_MAG__MOM = 0.000000013e-26
- float HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158740958e-3
- float U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
- float HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127625307e0
- float U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000025e0
- float HELION_MASS = 5.0064127796e-27
- float U_HELION_MASS = 0.0000000015e-27
- float HELION_MASS_ENERGY_EQUIVALENT = 4.4995394125e-10
- float U_HELION_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
- float HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.39160743e0
- float U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
- float HELION_MASS_IN_U = 3.014932247175e0
- float U_HELION_MASS_IN_U = 0.000000000097e0
- float HELION_MOLAR_MASS = 3.01493224613e-3
- float U_HELION_MOLAR_MASS = 0.00000000091e-3
- float HELION_PROTON_MASS_RATIO = 2.99315267167e0
- float U_HELION_PROTON_MASS_RATIO = 0.00000000013e0
- float HELION_RELATIVE_ATOMIC_MASS = 3.014932247175e0
- float U_HELION_RELATIVE_ATOMIC_MASS = 0.000000000097e0
- float HELION_SHIELDING_SHIFT = 5.996743e-5

- float U_HELION_SHIELDING_SHIFT = 0.000010e-5
- float HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 4.4398216652e-24
- float U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000013e-24
- float HERTZ_ELECTRON_VOLT_RELATIONSHIP = 4.135667696e-15
- float U_HERTZ_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float HERTZ_HARTREE_RELATIONSHIP = 1.5198298460570e-16
- float U_HERTZ_HARTREE_RELATIONSHIP = 0.0000000000029e-16
- float HERTZ_INVERSE_METER_RELATIONSHIP = 3.335640951e-9
- float U_HERTZ_INVERSE_METER_RELATIONSHIP = 0.0e0
- float HERTZ_JOULE_RELATIONSHIP = 6.62607015e-34
- float U_HERTZ_JOULE_RELATIONSHIP = 0.0e0
- float HERTZ_KELVIN_RELATIONSHIP = 4.799243073e-11
- float U_HERTZ_KELVIN_RELATIONSHIP = 0.0e0
- float HERTZ_KILOGRAM_RELATIONSHIP = 7.372497323e-51
- float U_HERTZ_KILOGRAM_RELATIONSHIP = 0.0e0
- float HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 9192631770.0e0
- float U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 0.0e0
- float INVERSE_FINE_STRUCTURE_CONSTANT = 137.035999084e0
- float U_INVERSE_FINE_STRUCTURE_CONSTANT = 0.000000021e0
- float INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.33102505010e-15
- float U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000040e-15
- float INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 1.239841984e-6
- float U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float INVERSE_METER_HARTREE_RELATIONSHIP = 4.5563352529120e-8
- float U_INVERSE_METER_HARTREE_RELATIONSHIP = 0.0000000000088e-8
- float INVERSE_METER_HERTZ_RELATIONSHIP = 299792458.0e0
- float U_INVERSE_METER_HERTZ_RELATIONSHIP = 0.0e0
- float INVERSE_METER_JOULE_RELATIONSHIP = 1.986445857e-25
- float U_INVERSE_METER_JOULE_RELATIONSHIP = 0.0e0
- float INVERSE_METER_KELVIN_RELATIONSHIP = 1.438776877e-2
- float U_INVERSE_METER_KELVIN_RELATIONSHIP = 0.0e0
- float INVERSE_METER_KILOGRAM_RELATIONSHIP = 2.210219094e-42
- float U_INVERSE_METER_KILOGRAM_RELATIONSHIP = 0.0e0
- float INVERSE_OF_CONDUCTANCE_QUANTUM = 12906.40372e0
- float U_INVERSE_OF_CONDUCTANCE_QUANTUM = 0.0e0
- float JOSEPHSON_CONSTANT = 483597.8484e9
- float U_JOSEPHSON_CONSTANT = 0.0e0
- float JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.7005352565e9
- float U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000020e9
- float JOULE_ELECTRON_VOLT_RELATIONSHIP = 6.241509074e18
- float U_JOULE_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float JOULE_HARTREE_RELATIONSHIP = 2.2937122783963e17
- float U_JOULE_HARTREE_RELATIONSHIP = 0.0000000000045e17
- float JOULE_HERTZ_RELATIONSHIP = 1.509190179e33
- float U_JOULE_HERTZ_RELATIONSHIP = 0.0e0
- float JOULE_INVERSE_METER_RELATIONSHIP = 5.034116567e24
- float U_JOULE_INVERSE_METER_RELATIONSHIP = 0.0e0
- float JOULE_KELVIN_RELATIONSHIP = 7.242970516e22
- float U_JOULE_KELVIN_RELATIONSHIP = 0.0e0
- float JOULE_KILOGRAM_RELATIONSHIP = 1.112650056e-17
- float U_JOULE_KILOGRAM_RELATIONSHIP = 0.0e0
- float KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 9.2510873014e-14
- float U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000028e-14
- float KELVIN_ELECTRON_VOLT_RELATIONSHIP = 8.617333262e-5
- float U_KELVIN_ELECTRON_VOLT_RELATIONSHIP = 0.0e0

- float KELVIN_HARTREE_RELATIONSHIP = 3.1668115634556e-6
- float U_KELVIN_HARTREE_RELATIONSHIP = 0.0000000000061e-6
- float KELVIN_HERTZ_RELATIONSHIP = 2.083661912e10
- float U_KELVIN_HERTZ_RELATIONSHIP = 0.0e0
- float KELVIN_INVERSE_METER_RELATIONSHIP = 69.50348004e0
- float U_KELVIN_INVERSE_METER_RELATIONSHIP = 0.0e0
- float KELVIN_JOULE_RELATIONSHIP = 1.380649e-23
- float U_KELVIN_JOULE_RELATIONSHIP = 0.0e0
- float KELVIN_KILOGRAM_RELATIONSHIP = 1.536179187e-40
- float U_KELVIN_KILOGRAM_RELATIONSHIP = 0.0e0
- float KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.0221407621e26
- float U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000018e26
- float KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 5.609588603e35
- float U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float KILOGRAM_HARTREE_RELATIONSHIP = 2.0614857887409e34
- float U_KILOGRAM_HARTREE_RELATIONSHIP = 0.0000000000040e34
- float KILOGRAM_HERTZ_RELATIONSHIP = 1.356392489e50
- float U_KILOGRAM_HERTZ_RELATIONSHIP = 0.0e0
- float KILOGRAM_INVERSE_METER_RELATIONSHIP = 4.524438335e41
- float U_KILOGRAM_INVERSE_METER_RELATIONSHIP = 0.0e0
- float KILOGRAM_JOULE_RELATIONSHIP = 8.987551787e16
- float U_KILOGRAM_JOULE_RELATIONSHIP = 0.0e0
- float KILOGRAM_KELVIN_RELATIONSHIP = 6.509657260e39
- float U_KILOGRAM_KELVIN_RELATIONSHIP = 0.0e0
- float LATTICE_PARAMETER_OF_SILICON = 5.431020511e-10
- float U_LATTICE_PARAMETER_OF_SILICON = 0.000000089e-10
- float LATTICE_SPACING_OF_IDEAL_SI__220 = 1.920155716e-10
- float U_LATTICE_SPACING_OF_IDEAL_SI__220 = 0.000000032e-10
- float LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 2.651645804e25
- float U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 0.0e0
- float LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 2.686780111e25
- float U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 0.0e0
- float LUMINOUS_EFFICACY = 683.0e0
- float U_LUMINOUS_EFFICACY = 0.0e0
- float MAG__FLUX_QUANTUM = 2.067833848e-15
- float U_MAG__FLUX_QUANTUM = 0.0e0
- float MOLAR_GAS_CONSTANT = 8.314462618e0
- float U_MOLAR_GAS_CONSTANT = 0.0e0
- float MOLAR_MASS_CONSTANT = 0.99999999965e-3
- float U_MOLAR_MASS_CONSTANT = 0.00000000030e-3
- float MOLAR_MASS_OF_CARBON_12 = 11.9999999958e-3
- float U_MOLAR_MASS_OF_CARBON_12 = 0.0000000036e-3
- float MOLAR_PLANCK_CONSTANT = 3.990312712e-10
- float U_MOLAR_PLANCK_CONSTANT = 0.0e0
- float MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 22.71095464e-3
- float U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 0.0e0
- float MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 22.41396954e-3
- float U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 0.0e0
- float MOLAR_VOLUME_OF_SILICON = 1.205883199e-5
- float U_MOLAR_VOLUME_OF_SILICON = 0.000000060e-5
- float MOLYBDENUM_X_UNIT = 1.00209952e-13
- float U_MOLYBDENUM_X_UNIT = 0.00000053e-13
- float MUON_COMPTON_WAVELENGTH = 1.173444110e-14
- float U_MUON_COMPTON_WAVELENGTH = 0.000000026e-14
- float MUON_ELECTRON_MASS_RATIO = 206.7682830e0

- float U_MUON_ELECTRON_MASS_RATIO = 0.0000046e0
- float MUON_G_FACTOR = -2.0023318418e0
- float U_MUON_G_FACTOR = 0.0000000013e0
- float MUON_MAG__MOM = -4.49044830e-26
- float U_MUON_MAG__MOM = 0.00000010e-26
- float MUON_MAG__MOM__ANOMALY = 1.16592089e-3
- float U_MUON_MAG__MOM__ANOMALY = 0.00000063e-3
- float MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -4.84197047e-3
- float U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000011e-3
- float MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -8.89059703e0
- float U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000020e0
- float MUON_MASS = 1.883531627e-28
- float U_MUON_MASS = 0.000000042e-28
- float MUON_MASS_ENERGY_EQUIVALENT = 1.692833804e-11
- float U_MUON_MASS_ENERGY_EQUIVALENT = 0.000000038e-11
- float MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 105.6583755e0
- float U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000023e0
- float MUON_MASS_IN_U = 0.1134289259e0
- float U_MUON_MASS_IN_U = 0.0000000025e0
- float MUON_MOLAR_MASS = 1.134289259e-4
- float U_MUON_MOLAR_MASS = 0.000000025e-4
- float MUON_NEUTRON_MASS_RATIO = 0.1124545170e0
- float U_MUON_NEUTRON_MASS_RATIO = 0.0000000025e0
- float MUON_PROTON_MAG__MOM__RATIO = -3.183345142e0
- float U_MUON_PROTON_MAG__MOM__RATIO = 0.000000071e0
- float MUON_PROTON_MASS_RATIO = 0.1126095264e0
- float U_MUON_PROTON_MASS_RATIO = 0.0000000025e0
- float MUON_TAU_MASS_RATIO = 5.94635e-2
- float U_MUON_TAU_MASS_RATIO = 0.00040e-2
- float NATURAL_UNIT_OF_ACTION = 1.054571817e-34
- float U_NATURAL_UNIT_OF_ACTION = 0.0e0
- float NATURAL_UNIT_OF_ACTION_IN_EV_S = 6.582119569e-16
- float U_NATURAL_UNIT_OF_ACTION_IN_EV_S = 0.0e0
- float NATURAL_UNIT_OF_ENERGY = 8.1871057769e-14
- float U_NATURAL_UNIT_OF_ENERGY = 0.0000000025e-14
- float NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.51099895000e0
- float U_NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.00000000015e0
- float NATURAL_UNIT_OF_LENGTH = 3.8615926796e-13
- float U_NATURAL_UNIT_OF_LENGTH = 0.0000000012e-13
- float NATURAL_UNIT_OF_MASS = 9.1093837015e-31
- float U_NATURAL_UNIT_OF_MASS = 0.0000000028e-31
- float NATURAL_UNIT_OF_MOMENTUM = 2.73092453075e-22
- float U_NATURAL_UNIT_OF_MOMENTUM = 0.00000000082e-22
- float NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.51099895000e0
- float U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.00000000015e0
- float NATURAL_UNIT_OF_TIME = 1.28808866819e-21
- float U_NATURAL_UNIT_OF_TIME = 0.00000000039e-21
- float NATURAL_UNIT_OF_VELOCITY = 299792458.0e0
- float U_NATURAL_UNIT_OF_VELOCITY = 0.0e0
- float NEUTRON_COMPTON_WAVELENGTH = 1.31959090581e-15
- float U_NEUTRON_COMPTON_WAVELENGTH = 0.00000000075e-15
- float NEUTRON_ELECTRON_MAG__MOM__RATIO = 1.04066882e-3
- float U_NEUTRON_ELECTRON_MAG__MOM__RATIO = 0.00000025e-3
- float NEUTRON_ELECTRON_MASS_RATIO = 1838.68366173e0
- float U_NEUTRON_ELECTRON_MASS_RATIO = 0.00000089e0

- float NEUTRON_G_FACTOR = -3.82608545e0
- float U_NEUTRON_G_FACTOR = 0.00000090e0
- float NEUTRON_GYROMAG__RATIO = 1.83247171e8
- float U_NEUTRON_GYROMAG__RATIO = 0.00000043e8
- float NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 29.1646931e0
- float U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000069e0
- float NEUTRON_MAG__MOM = -9.6623651e-27
- float U_NEUTRON_MAG__MOM = 0.0000023e-27
- float NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.04187563e-3
- float U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000025e-3
- float NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1.91304273e0
- float U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000045e0
- float NEUTRON_MASS = 1.67492749804e-27
- float U_NEUTRON_MASS = 0.00000000095e-27
- float NEUTRON_MASS_ENERGY_EQUIVALENT = 1.50534976287e-10
- float U_NEUTRON_MASS_ENERGY_EQUIVALENT = 0.00000000086e-10
- float NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 939.56542052e0
- float U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000054e0
- float NEUTRON_MASS_IN_U = 1.00866491595e0
- float U_NEUTRON_MASS_IN_U = 0.00000000049e0
- float NEUTRON_MOLAR_MASS = 1.00866491560e-3
- float U_NEUTRON_MOLAR_MASS = 0.00000000057e-3
- float NEUTRON_MUON_MASS_RATIO = 8.89248406e0
- float U_NEUTRON_MUON_MASS_RATIO = 0.00000020e0
- float NEUTRON_PROTON_MAG__MOM__RATIO = -0.68497934e0
- float U_NEUTRON_PROTON_MAG__MOM__RATIO = 0.00000016e0
- float NEUTRON_PROTON_MASS_DIFFERENCE = 2.30557435e-30
- float U_NEUTRON_PROTON_MASS_DIFFERENCE = 0.00000082e-30
- float NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 2.07214689e-13
- float U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 0.00000074e-13
- float NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 1.29333236e0
- float U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 0.00000046e0
- float NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 1.38844933e-3
- float U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 0.00000049e-3
- float NEUTRON_PROTON_MASS_RATIO = 1.00137841931e0
- float U_NEUTRON_PROTON_MASS_RATIO = 0.00000000049e0
- float NEUTRON_RELATIVE_ATOMIC_MASS = 1.00866491595e0
- float U_NEUTRON_RELATIVE_ATOMIC_MASS = 0.00000000049e0
- float NEUTRON_TAU_MASS_RATIO = 0.528779e0
- float U_NEUTRON_TAU_MASS_RATIO = 0.000036e0
- float NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.68499694e0
- float U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.00000016e0
- float NEWTONIAN_CONSTANT_OF_GRAVITATION = 6.67430e-11
- float U_NEWTONIAN_CONSTANT_OF_GRAVITATION = 0.00015e-11
- float NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 6.70883e-39
- float U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 0.00015e-39
- float NUCLEAR_MAGNETON = 5.0507837461e-27
- float U_NUCLEAR_MAGNETON = 0.0000000015e-27
- float NUCLEAR_MAGNETON_IN_EV_T = 3.15245125844e-8
- float U_NUCLEAR_MAGNETON_IN_EV_T = 0.00000000096e-8
- float NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 2.54262341353e-2
- float U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.00000000078e-2
- float NUCLEAR_MAGNETON_IN_K_T = 3.6582677756e-4
- float U_NUCLEAR_MAGNETON_IN_K_T = 0.0000000011e-4
- float NUCLEAR_MAGNETON_IN_MHZ_T = 7.6225932291e0

- float U_NUCLEAR_MAGNETON_IN_MHZ_T = 0.0000000023e0
- float PLANCK_CONSTANT = 6.62607015e-34
- float U_PLANCK_CONSTANT = 0.0e0
- float PLANCK_CONSTANT_IN_EV_HZ = 4.135667696e-15
- float U_PLANCK_CONSTANT_IN_EV_HZ = 0.0e0
- float PLANCK_LENGTH = 1.616255e-35
- float U_PLANCK_LENGTH = 0.000018e-35
- float PLANCK_MASS = 2.176434e-8
- float U_PLANCK_MASS = 0.000024e-8
- float PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 1.220890e19
- float U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 0.000014e19
- float PLANCK_TEMPERATURE = 1.416784e32
- float U_PLANCK_TEMPERATURE = 0.000016e32
- float PLANCK_TIME = 5.391247e-44
- float U_PLANCK_TIME = 0.000060e-44
- float PROTON_CHARGE_TO_MASS_QUOTIENT = 9.5788331560e7
- float U_PROTON_CHARGE_TO_MASS_QUOTIENT = 0.0000000029e7
- float PROTON_COMPTON_WAVELENGTH = 1.32140985539e-15
- float U_PROTON_COMPTON_WAVELENGTH = 0.00000000040e-15
- float PROTON_ELECTRON_MASS_RATIO = 1836.15267343e0
- float U_PROTON_ELECTRON_MASS_RATIO = 0.00000011e0
- float PROTON_G_FACTOR = 5.5856946893e0
- float U_PROTON_G_FACTOR = 0.0000000016e0
- float PROTON_GYROMAG__RATIO = 2.6752218744e8
- float U_PROTON_GYROMAG__RATIO = 0.0000000011e8
- float PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.577478518e0
- float U_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.000000018e0
- float PROTON_MAG__MOM = 1.41060679736e-26
- float U_PROTON_MAG__MOM = 0.00000000060e-26
- float PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.52103220230e-3
- float U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000046e-3
- float PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.79284734463e0
- float U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000000082e0
- float PROTON_MAG__SHIELDING_CORRECTION = 2.5689e-5
- float U_PROTON_MAG__SHIELDING_CORRECTION = 0.0011e-5
- float PROTON_MASS = 1.67262192369e-27
- float U_PROTON_MASS = 0.00000000051e-27
- float PROTON_MASS_ENERGY_EQUIVALENT = 1.50327761598e-10
- float U_PROTON_MASS_ENERGY_EQUIVALENT = 0.00000000046e-10
- float PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 938.27208816e0
- float U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000029e0
- float PROTON_MASS_IN_U = 1.007276466621e0
- float U_PROTON_MASS_IN_U = 0.000000000053e0
- float PROTON_MOLAR_MASS = 1.00727646627e-3
- float U_PROTON_MOLAR_MASS = 0.00000000031e-3
- float PROTON_MUON_MASS_RATIO = 8.88024337e0
- float U_PROTON_MUON_MASS_RATIO = 0.00000020e0
- float PROTON_NEUTRON_MAG__MOM__RATIO = -1.45989805e0
- float U_PROTON_NEUTRON_MAG__MOM__RATIO = 0.00000034e0
- float PROTON_NEUTRON_MASS_RATIO = 0.99862347812e0
- float U_PROTON_NEUTRON_MASS_RATIO = 0.00000000049e0
- float PROTON_RELATIVE_ATOMIC_MASS = 1.007276466621e0
- float U_PROTON_RELATIVE_ATOMIC_MASS = 0.000000000053e0
- float PROTON_RMS_CHARGE_RADIUS = 8.414e-16
- float U_PROTON_RMS_CHARGE_RADIUS = 0.019e-16

- float PROTON_TAU_MASS_RATIO = 0.528051e0
- float U_PROTON_TAU_MASS_RATIO = 0.000036e0
- float QUANTUM_OF_CIRCULATION = 3.6369475516e-4
- float U_QUANTUM_OF_CIRCULATION = 0.0000000011e-4
- float QUANTUM_OF_CIRCULATION_TIMES_2 = 7.2738951032e-4
- float U_QUANTUM_OF_CIRCULATION_TIMES_2 = 0.0000000022e-4
- float REDUCED_COMPTON_WAVELENGTH = 3.8615926796e-13
- float U_REDUCED_COMPTON_WAVELENGTH = 0.0000000012e-13
- float REDUCED_MUON_COMPTON_WAVELENGTH = 1.867594306e-15
- float U_REDUCED_MUON_COMPTON_WAVELENGTH = 0.000000042e-15
- float REDUCED_NEUTRON_COMPTON_WAVELENGTH = 2.1001941552e-16
- float U_REDUCED_NEUTRON_COMPTON_WAVELENGTH = 0.0000000012e-16
- float REDUCED_PLANCK_CONSTANT = 1.054571817e-34
- float U_REDUCED_PLANCK_CONSTANT = 0.0e0
- float REDUCED_PLANCK_CONSTANT_IN_EV_S = 6.582119569e-16
- float U_REDUCED_PLANCK_CONSTANT_IN_EV_S = 0.0e0
- float REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 197.3269804e0
- float U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 0.0e0
- float REDUCED_PROTON_COMPTON_WAVELENGTH = 2.10308910336e-16
- float U_REDUCED_PROTON_COMPTON_WAVELENGTH = 0.00000000064e-16
- float REDUCED_TAU_COMPTON_WAVELENGTH = 1.110538e-16
- float U_REDUCED_TAU_COMPTON_WAVELENGTH = 0.000075e-16
- float RYDBERG_CONSTANT = 10973731.568160e0
- float U_RYDBERG_CONSTANT = 0.000021e0
- float RYDBERG_CONSTANT_TIMES_C_IN_HZ = 3.2898419602508e15
- float U_RYDBERG_CONSTANT_TIMES_C_IN_HZ = 0.0000000000064e15
- float RYDBERG_CONSTANT_TIMES_HC_IN_EV = 13.605693122994e0
- float U_RYDBERG_CONSTANT_TIMES_HC_IN_EV = 0.000000000026e0
- float RYDBERG_CONSTANT_TIMES_HC_IN_J = 2.1798723611035e-18
- float U_RYDBERG_CONSTANT_TIMES_HC_IN_J = 0.0000000000042e-18
- float SACKUR_TETRODE_CONSTANT__1_K__100_KPA = -1.15170753706e0
- float U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA = 0.00000000045e0
- float SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = -1.16487052358e0
- float U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = 0.00000000045e0
- float SECOND_RADIATION_CONSTANT = 1.438776877e-2
- float U_SECOND_RADIATION_CONSTANT = 0.0e0
- float SHIELDED_HELION_GYROMAG__RATIO = 2.037894569e8
- float U_SHIELDED_HELION_GYROMAG__RATIO = 0.000000024e8
- float SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 32.43409942e0
- float U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 0.00000038e0
- float SHIELDED_HELION_MAG__MOM = -1.074553090e-26
- float U_SHIELDED_HELION_MAG__MOM = 0.000000013e-26
- float SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158671471e-3
- float U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
- float SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127497719e0
- float U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000025e0
- float SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = -0.7617665618e0
- float U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = 0.0000000089e0
- float SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.7617861313e0
- float U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000000033e0
- float SHIELDED_PROTON_GYROMAG__RATIO = 2.675153151e8
- float U_SHIELDED_PROTON_GYROMAG__RATIO = 0.000000029e8
- float SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.57638474e0
- float U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.00000046e0
- float SHIELDED_PROTON_MAG__MOM = 1.410570560e-26

- float U_SHIELDED_PROTON_MAG__MOM = 0.000000015e-26
- float SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.520993128e-3
- float U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000017e-3
- float SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.792775599e0
- float U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000030e0
- float SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 2.0200e-8
- float U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 0.0020e-8
- float SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 2.4140e-8
- float U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 0.0020e-8
- float SPEED_OF_LIGHT_IN_VACUUM = 299792458.0e0
- float U_SPEED_OF_LIGHT_IN_VACUUM = 0.0e0
- float STANDARD_ACCELERATION_OF_GRAVITY = 9.80665e0
- float U_STANDARD_ACCELERATION_OF_GRAVITY = 0.0e0
- float STANDARD_ATMOSPHERE = 101325.0e0
- float U_STANDARD_ATMOSPHERE = 0.0e0
- float STANDARD_STATE_PRESSURE = 100000.0e0
- float U_STANDARD_STATE_PRESSURE = 0.0e0
- float STEFAN_BOLTZMANN_CONSTANT = 5.670374419e-8
- float U_STEFAN_BOLTZMANN_CONSTANT = 0.0e0
- float TAU_COMPTON_WAVELENGTH = 6.97771e-16
- float U_TAU_COMPTON_WAVELENGTH = 0.00047e-16
- float TAU_ELECTRON_MASS_RATIO = 3477.23e0
- float U_TAU_ELECTRON_MASS_RATIO = 0.23e0
- float TAU_ENERGY_EQUIVALENT = 1776.86e0
- float U_TAU_ENERGY_EQUIVALENT = 0.12e0
- float TAU_MASS = 3.16754e-27
- float U_TAU_MASS = 0.00021e-27
- float TAU_MASS_ENERGY_EQUIVALENT = 2.84684e-10
- float U_TAU_MASS_ENERGY_EQUIVALENT = 0.00019e-10
- float TAU_MASS_IN_U = 1.90754e0
- float U_TAU_MASS_IN_U = 0.00013e0
- float TAU_MOLAR_MASS = 1.90754e-3
- float U_TAU_MOLAR_MASS = 0.00013e-3
- float TAU_MUON_MASS_RATIO = 16.8170e0
- float U_TAU_MUON_MASS_RATIO = 0.0011e0
- float TAU_NEUTRON_MASS_RATIO = 1.89115e0
- float U_TAU_NEUTRON_MASS_RATIO = 0.00013e0
- float TAU_PROTON_MASS_RATIO = 1.89376e0
- float U_TAU_PROTON_MASS_RATIO = 0.00013e0
- float THOMSON_CROSS_SECTION = 6.6524587321e-29
- float U_THOMSON_CROSS_SECTION = 0.0000000060e-29
- float TRITON_ELECTRON_MASS_RATIO = 5496.92153573e0
- float U_TRITON_ELECTRON_MASS_RATIO = 0.00000027e0
- float TRITON_G_FACTOR = 5.957924931e0
- float U_TRITON_G_FACTOR = 0.000000012e0
- float TRITON_MAG__MOM = 1.5046095202e-26
- float U_TRITON_MAG__MOM = 0.0000000030e-26
- float TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.6223936651e-3
- float U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.0000000032e-3
- float TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.9789624656e0
- float U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000059e0
- float TRITON_MASS = 5.0073567446e-27
- float U_TRITON_MASS = 0.0000000015e-27
- float TRITON_MASS_ENERGY_EQUIVALENT = 4.5003878060e-10
- float U_TRITON_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10

- float TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.92113298e0
- float U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
- float TRITON_MASS_IN_U = 3.01550071621e0
- float U_TRITON_MASS_IN_U = 0.00000000012e0
- float TRITON_MOLAR_MASS = 3.01550071517e-3
- float U_TRITON_MOLAR_MASS = 0.00000000092e-3
- float TRITON_PROTON_MASS_RATIO = 2.99371703414e0
- float U_TRITON_PROTON_MASS_RATIO = 0.00000000015e0
- float TRITON_RELATIVE_ATOMIC_MASS = 3.01550071621e0
- float U_TRITON_RELATIVE_ATOMIC_MASS = 0.00000000012e0
- float TRITON_TO_PROTON_MAG__MOM__RATIO = 1.0666399191e0
- float U_TRITON_TO_PROTON_MAG__MOM__RATIO = 0.0000000021e0
- float UNIFIED_ATOMIC_MASS_UNIT = 1.66053906660e-27
- float U_UNIFIED_ATOMIC_MASS_UNIT = 0.00000000050e-27
- float VACUUM_ELECTRIC_PERMITTIVITY = 8.8541878128e-12
- float U_VACUUM_ELECTRIC_PERMITTIVITY = 0.0000000013e-12
- float VACUUM_MAG__PERMEABILITY = 1.25663706212e-6
- float U_VACUUM_MAG__PERMEABILITY = 0.00000000019e-6
- float VON_KLITZING_CONSTANT = 25812.80745e0
- float U_VON_KLITZING_CONSTANT = 0.0e0
- float WEAK_MIXING_ANGLE = 0.22290e0
- float U_WEAK_MIXING_ANGLE = 0.00030e0
- float WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 5.878925757e10
- float U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 0.0e0
- float WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 2.897771955e-3
- float U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 0.0e0
- float W_TO_Z_MASS_RATIO = 0.88153e0
- float U_W_TO_Z_MASS_RATIO = 0.00017e0

14.2.1 Detailed Description

```
Codata module - autogenerated
```

14.2.2 Variable Documentation

14.2.2.1 ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
float pycodata.ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 7294.29954142e0
```

Definition at line 3 of file pycodata.py.

14.2.2.2 ALPHA_PARTICLE_MASS

```
float pycodata.ALPHA_PARTICLE_MASS = 6.6446573357e-27
```

Definition at line 6 of file pycodata.py.

14.2.2.3 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
float pycodata.ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 5.9719201914e-10
```

Definition at line 9 of file pycodata.py.

14.2.2.4 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 3727.3794066e0
```

Definition at line 12 of file pycodata.py.

14.2.2.5 ALPHA_PARTICLE_MASS_IN_U

```
float pycodata.ALPHA_PARTICLE_MASS_IN_U = 4.001506179127e0
```

Definition at line 15 of file pycodata.py.

14.2.2.6 ALPHA_PARTICLE_MOLAR_MASS

```
float pycodata.ALPHA_PARTICLE_MOLAR_MASS = 4.0015061777e-3
```

Definition at line 18 of file pycodata.py.

14.2.2.7 ALPHA_PARTICLE_PROTON_MASS_RATIO

```
float pycodata.ALPHA_PARTICLE_PROTON_MASS_RATIO = 3.97259969009e0
```

Definition at line 21 of file pycodata.py.

14.2.2.8 ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
float pycodata.ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 4.001506179127e0
```

Definition at line 24 of file pycodata.py.

14.2.2.9 ANGSTROM_STAR

```
float pycodata.ANGSTROM_STAR = 1.00001495e-10
```

Definition at line 27 of file pycodata.py.

14.2.2.10 ATOMIC_MASS_CONSTANT

```
float pycodata.ATOMIC_MASS_CONSTANT = 1.66053906660e-27
```

Definition at line 30 of file pycodata.py.

14.2.2.11 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
float pycodata.ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 1.49241808560e-10
```

Definition at line 33 of file pycodata.py.

14.2.2.12 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 931.49410242e0
```

Definition at line 36 of file pycodata.py.

14.2.2.13 ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 9.3149410242e8
```

Definition at line 39 of file pycodata.py.

14.2.2.14 ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 3.4231776874e7
```

Definition at line 42 of file pycodata.py.

14.2.2.15 ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 2.25234271871e23
```

Definition at line 45 of file pycodata.py.

14.2.2.16 ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 7.5130066104e14
```

Definition at line 48 of file pycodata.py.

14.2.2.17 ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 1.49241808560e-10
```

Definition at line 51 of file pycodata.py.

14.2.2.18 ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 1.08095401916e13
```

Definition at line 54 of file pycodata.py.

14.2.2.19 ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 1.66053906660e-27
```

Definition at line 57 of file pycodata.py.

14.2.2.20 ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 3.2063613061e-53
```

Definition at line 60 of file pycodata.py.

14.2.2.21 ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 6.2353799905e-65
```

Definition at line 63 of file pycodata.py.

14.2.2.22 ATOMIC_UNIT_OF_ACTION

```
float pycodata.ATOMIC_UNIT_OF_ACTION = 1.054571817e-34
```

Definition at line 66 of file pycodata.py.

14.2.2.23 ATOMIC_UNIT_OF_CHARGE

```
float pycodata.ATOMIC_UNIT_OF_CHARGE = 1.602176634e-19
```

Definition at line 69 of file pycodata.py.

14.2.2.24 ATOMIC_UNIT_OF_CHARGE_DENSITY

```
float pycodata.ATOMIC_UNIT_OF_CHARGE_DENSITY = 1.08120238457e12
```

Definition at line 72 of file pycodata.py.

14.2.2.25 ATOMIC_UNIT_OF_CURRENT

```
float pycodata.ATOMIC_UNIT_OF_CURRENT = 6.623618237510e-3
```

Definition at line 75 of file pycodata.py.

14.2.2.26 ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 8.4783536255e-30
```

Definition at line 78 of file pycodata.py.

14.2.2.27 ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD = 5.14220674763e11
```

Definition at line 81 of file pycodata.py.

14.2.2.28 ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 9.7173624292e21
```

Definition at line 84 of file pycodata.py.

14.2.2.29 ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 1.64877727436e-41
```

Definition at line 87 of file pycodata.py.

14.2.2.30 ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 27.211386245988e0
```

Definition at line 90 of file pycodata.py.

14.2.2.31 ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 4.4865515246e-40
```

Definition at line 93 of file pycodata.py.

14.2.2.32 ATOMIC_UNIT_OF_ENERGY

```
float pycodata.ATOMIC_UNIT_OF_ENERGY = 4.3597447222071e-18
```

Definition at line 96 of file pycodata.py.

14.2.2.33 ATOMIC_UNIT_OF_FORCE

```
float pycodata.ATOMIC_UNIT_OF_FORCE = 8.2387234983e-8
```

Definition at line 99 of file pycodata.py.

14.2.2.34 ATOMIC_UNIT_OF_LENGTH

```
float pycodata.ATOMIC_UNIT_OF_LENGTH = 5.29177210903e-11
```

Definition at line 102 of file pycodata.py.

14.2.2.35 ATOMIC_UNIT_OF_MAG__DIPOLE_MOM

```
float pycodata.ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 1.85480201566e-23
```

Definition at line 105 of file pycodata.py.

14.2.2.36 ATOMIC_UNIT_OF_MAG__FLUX_DENSITY

```
float pycodata.ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 2.35051756758e5
```

Definition at line 108 of file pycodata.py.

14.2.2.37 ATOMIC_UNIT_OF_MAGNETIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_MAGNETIZABILITY = 7.8910366008e-29
```

Definition at line 111 of file pycodata.py.

14.2.2.38 ATOMIC_UNIT_OF_MASS

```
float pycodata.ATOMIC_UNIT_OF_MASS = 9.1093837015e-31
```

Definition at line 114 of file pycodata.py.

14.2.2.39 ATOMIC_UNIT_OF_MOMENTUM

```
float pycodata.ATOMIC_UNIT_OF_MOMENTUM = 1.99285191410e-24
```

Definition at line 117 of file pycodata.py.

14.2.2.40 ATOMIC_UNIT_OF_PERMITTIVITY

```
float pycodata.ATOMIC_UNIT_OF_PERMITTIVITY = 1.11265005545e-10
```

Definition at line 120 of file pycodata.py.

14.2.2.41 ATOMIC_UNIT_OF_TIME

```
float pycodata.ATOMIC_UNIT_OF_TIME = 2.4188843265857e-17
```

Definition at line 123 of file pycodata.py.

14.2.2.42 ATOMIC_UNIT_OF_VELOCITY

```
float pycodata.ATOMIC_UNIT_OF_VELOCITY = 2.18769126364e6
```

Definition at line 126 of file pycodata.py.

14.2.2.43 AVOGADRO_CONSTANT

```
float pycodata.AVOGADRO_CONSTANT = 6.02214076e23
```

Definition at line 129 of file pycodata.py.

14.2.2.44 BOHR_MAGNETON

```
float pycodata.BOHR_MAGNETON = 9.2740100783e-24
```

Definition at line 132 of file pycodata.py.

14.2.2.45 BOHR_MAGNETON_IN_EV_T

```
float pycodata.BOHR_MAGNETON_IN_EV_T = 5.7883818060e-5
```

Definition at line 135 of file pycodata.py.

14.2.2.46 BOHR_MAGNETON_IN_HZ_T

```
float pycodata.BOHR_MAGNETON_IN_HZ_T = 1.39962449361e10
```

Definition at line 138 of file pycodata.py.

14.2.2.47 BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
float pycodata.BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 46.686447783e0
```

Definition at line 141 of file pycodata.py.

14.2.2.48 BOHR_MAGNETON_IN_K_T

```
float pycodata.BOHR_MAGNETON_IN_K_T = 0.67171381563e0
```

Definition at line 144 of file pycodata.py.

14.2.2.49 BOHR_RADIUS

```
float pycodata.BOHR_RADIUS = 5.29177210903e-11
```

Definition at line 147 of file pycodata.py.

14.2.2.50 BOLTZMANN_CONSTANT

```
float pycodata.BOLTZMANN_CONSTANT = 1.380649e-23
```

Definition at line 150 of file pycodata.py.

14.2.2.51 BOLTZMANN_CONSTANT_IN_EV_K

```
float pycodata.BOLTZMANN_CONSTANT_IN_EV_K = 8.617333262e-5
```

Definition at line 153 of file pycodata.py.

14.2.2.52 BOLTZMANN_CONSTANT_IN_HZ_K

```
float pycodata.BOLTZMANN_CONSTANT_IN_HZ_K = 2.083661912e10
```

Definition at line 156 of file pycodata.py.

14.2.2.53 BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN

```
float pycodata.BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 69.50348004e0
```

Definition at line 159 of file pycodata.py.

14.2.2.54 CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
float pycodata.CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 376.730313668e0
```

Definition at line 162 of file pycodata.py.

14.2.2.55 CLASSICAL_ELECTRON_RADIUS

```
float pycodata.CLASSICAL_ELECTRON_RADIUS = 2.8179403262e-15
```

Definition at line 165 of file pycodata.py.

14.2.2.56 COMPTON_WAVELENGTH

```
float pycodata.COMPTON_WAVELENGTH = 2.42631023867e-12
```

Definition at line 168 of file pycodata.py.

14.2.2.57 CONDUCTANCE_QUANTUM

```
float pycodata.CONDUCTANCE_QUANTUM = 7.748091729e-5
```

Definition at line 171 of file pycodata.py.

14.2.2.58 CONVENTIONAL_VALUE_OF_AMPERE_90

```
float pycodata.CONVENTIONAL_VALUE_OF_AMPERE_90 = 1.00000008887e0
```

Definition at line 174 of file pycodata.py.

14.2.2.59 CONVENTIONAL_VALUE_OF_COULOMB_90

```
float pycodata.CONVENTIONAL_VALUE_OF_COULOMB_90 = 1.00000008887e0
```

Definition at line 177 of file pycodata.py.

14.2.2.60 CONVENTIONAL_VALUE_OF_FARAD_90

```
float pycodata.CONVENTIONAL_VALUE_OF_FARAD_90 = 0.99999998220e0
```

Definition at line 180 of file pycodata.py.

14.2.2.61 CONVENTIONAL_VALUE_OF_HENRY_90

```
float pycodata.CONVENTIONAL_VALUE_OF_HENRY_90 = 1.00000001779e0
```

Definition at line 183 of file pycodata.py.

14.2.2.62 CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
float pycodata.CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 483597.9e9
```

Definition at line 186 of file pycodata.py.

14.2.2.63 CONVENTIONAL_VALUE_OF_OHM_90

```
float pycodata.CONVENTIONAL_VALUE_OF_OHM_90 = 1.00000001779e0
```

Definition at line 189 of file pycodata.py.

14.2.2.64 CONVENTIONAL_VALUE_OF_VOLT_90

```
float pycodata.CONVENTIONAL_VALUE_OF_VOLT_90 = 1.00000010666e0
```

Definition at line 192 of file pycodata.py.

14.2.2.65 CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT

```
float pycodata.CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 25812.807e0
```

Definition at line 195 of file pycodata.py.

14.2.2.66 CONVENTIONAL_VALUE_OF_WATT_90

```
float pycodata.CONVENTIONAL_VALUE_OF_WATT_90 = 1.00000019553e0
```

Definition at line 198 of file pycodata.py.

14.2.2.67 COPPER_X_UNIT

```
float pycodata.COPPER_X_UNIT = 1.00207697e-13
```

Definition at line 201 of file pycodata.py.

14.2.2.68 DEUTERON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_ELECTRON_MAG__MOM__RATIO = -4.664345551e-4
```

Definition at line 204 of file pycodata.py.

14.2.2.69 DEUTERON_ELECTRON_MASS_RATIO

```
float pycodata.DEUTERON_ELECTRON_MASS_RATIO = 3670.48296788e0
```

Definition at line 207 of file pycodata.py.

14.2.2.70 DEUTERON_G_FACTOR

```
float pycodata.DEUTERON_G_FACTOR = 0.8574382338e0
```

Definition at line 210 of file pycodata.py.

14.2.2.71 DEUTERON_MAG__MOM

```
float pycodata.DEUTERON_MAG__MOM = 4.330735094e-27
```

Definition at line 213 of file pycodata.py.

14.2.2.72 DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 4.669754570e-4
```

Definition at line 216 of file pycodata.py.

14.2.2.73 DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.8574382338e0
```

Definition at line 219 of file pycodata.py.

14.2.2.74 DEUTERON_MASS

```
float pycodata.DEUTERON_MASS = 3.3435837724e-27
```

Definition at line 222 of file pycodata.py.

14.2.2.75 DEUTERON_MASS_ENERGY_EQUIVALENT

```
float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT = 3.00506323102e-10
```

Definition at line 225 of file pycodata.py.

14.2.2.76 DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 1875.61294257e0
```

Definition at line 228 of file pycodata.py.

14.2.2.77 DEUTERON_MASS_IN_U

```
float pycodata.DEUTERON_MASS_IN_U = 2.013553212745e0
```

Definition at line 231 of file pycodata.py.

14.2.2.78 DEUTERON_MOLAR_MASS

```
float pycodata.DEUTERON_MOLAR_MASS = 2.01355321205e-3
```

Definition at line 234 of file pycodata.py.

14.2.2.79 DEUTERON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_NEUTRON_MAG__MOM__RATIO = -0.44820653e0
```

Definition at line 237 of file pycodata.py.

14.2.2.80 DEUTERON_PROTON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_PROTON_MAG__MOM__RATIO = 0.30701220939e0
```

Definition at line 240 of file pycodata.py.

14.2.2.81 DEUTERON_PROTON_MASS_RATIO

```
float pycodata.DEUTERON_PROTON_MASS_RATIO = 1.99900750139e0
```

Definition at line 243 of file pycodata.py.

14.2.2.82 DEUTERON_RELATIVE_ATOMIC_MASS

```
float pycodata.DEUTERON_RELATIVE_ATOMIC_MASS = 2.013553212745e0
```

Definition at line 246 of file pycodata.py.

14.2.2.83 DEUTERON_RMS_CHARGE_RADIUS

```
float pycodata.DEUTERON_RMS_CHARGE_RADIUS = 2.12799e-15
```

Definition at line 249 of file pycodata.py.

14.2.2.84 ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.ELECTRON_CHARGE_TO_MASS_QUOTIENT = -1.75882001076e11
```

Definition at line 252 of file pycodata.py.

14.2.2.85 ELECTRON_DEUTERON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_DEUTERON_MAG__MOM__RATIO = -2143.9234915e0
```

Definition at line 255 of file pycodata.py.

14.2.2.86 ELECTRON_DEUTERON_MASS_RATIO

```
float pycodata.ELECTRON_DEUTERON_MASS_RATIO = 2.724437107462e-4
```

Definition at line 258 of file pycodata.py.

14.2.2.87 ELECTRON_G_FACTOR

```
float pycodata.ELECTRON_G_FACTOR = -2.00231930436256e0
```

Definition at line 261 of file pycodata.py.

14.2.2.88 ELECTRON_GYROMAG__RATIO

```
float pycodata.ELECTRON_GYROMAG__RATIO = 1.76085963023e11
```

Definition at line 264 of file pycodata.py.

14.2.2.89 ELECTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 28024.9514242e0
```

Definition at line 267 of file pycodata.py.

14.2.2.90 ELECTRON_HELION_MASS_RATIO

```
float pycodata.ELECTRON_HELION_MASS_RATIO = 1.819543074573e-4
```

Definition at line 270 of file pycodata.py.

14.2.2.91 ELECTRON_MAG__MOM

```
float pycodata.ELECTRON_MAG__MOM = -9.2847647043e-24
```

Definition at line 273 of file pycodata.py.

14.2.2.92 ELECTRON_MAG__MOM__ANOMALY

```
float pycodata.ELECTRON_MAG__MOM__ANOMALY = 1.15965218128e-3
```

Definition at line 276 of file pycodata.py.

14.2.2.93 ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.00115965218128e0
```

Definition at line 279 of file pycodata.py.

14.2.2.94 ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1838.28197188e0
```

Definition at line 282 of file pycodata.py.

14.2.2.95 ELECTRON_MASS

```
float pycodata.ELECTRON_MASS = 9.1093837015e-31
```

Definition at line 285 of file pycodata.py.

14.2.2.96 ELECTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT = 8.1871057769e-14
```

Definition at line 288 of file pycodata.py.

14.2.2.97 ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.51099895000e0
```

Definition at line 291 of file pycodata.py.

14.2.2.98 ELECTRON_MASS_IN_U

```
float pycodata.ELECTRON_MASS_IN_U = 5.48579909065e-4
```

Definition at line 294 of file pycodata.py.

14.2.2.99 ELECTRON_MOLAR_MASS

```
float pycodata.ELECTRON_MOLAR_MASS = 5.4857990888e-7
```

Definition at line 297 of file pycodata.py.

14.2.2.100 ELECTRON_MUON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_MUON_MAG__MOM__RATIO = 206.7669883e0
```

Definition at line 300 of file pycodata.py.

14.2.2.101 ELECTRON_MUON_MASS_RATIO

```
float pycodata.ELECTRON_MUON_MASS_RATIO = 4.83633169e-3
```

Definition at line 303 of file pycodata.py.

14.2.2.102 ELECTRON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_NEUTRON_MAG__MOM__RATIO = 960.92050e0
```

Definition at line 306 of file pycodata.py.

14.2.2.103 ELECTRON_NEUTRON_MASS_RATIO

```
float pycodata.ELECTRON_NEUTRON_MASS_RATIO = 5.4386734424e-4
```

Definition at line 309 of file pycodata.py.

14.2.2.104 ELECTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_PROTON_MAG__MOM__RATIO = -658.21068789e0
```

Definition at line 312 of file pycodata.py.

14.2.2.105 ELECTRON_PROTON_MASS_RATIO

```
float pycodata.ELECTRON_PROTON_MASS_RATIO = 5.44617021487e-4
```

Definition at line 315 of file pycodata.py.

14.2.2.106 ELECTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.ELECTRON_RELATIVE_ATOMIC_MASS = 5.48579909065e-4
```

Definition at line 318 of file pycodata.py.

14.2.2.107 ELECTRON_TAU_MASS_RATIO

```
float pycodata.ELECTRON_TAU_MASS_RATIO = 2.87585e-4
```

Definition at line 321 of file pycodata.py.

14.2.2.108 ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO

```
float pycodata.ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 1.370933554787e-4
```

Definition at line 324 of file pycodata.py.

14.2.2.109 ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO

```
float pycodata.ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 864.058257e0
```

Definition at line 327 of file pycodata.py.

14.2.2.110 ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -658.2275971e0
```

Definition at line 330 of file pycodata.py.

14.2.2.111 ELECTRON_TRITON_MASS_RATIO

```
float pycodata.ELECTRON_TRITON_MASS_RATIO = 1.819200062251e-4
```

Definition at line 333 of file pycodata.py.

14.2.2.112 ELECTRON_VOLT

```
float pycodata.ELECTRON_VOLT = 1.602176634e-19
```

Definition at line 336 of file pycodata.py.

14.2.2.113 ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.07354410233e-9
```

Definition at line 339 of file pycodata.py.

14.2.2.114 ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_HARTREE_RELATIONSHIP = 3.6749322175655e-2
```

Definition at line 342 of file pycodata.py.

14.2.2.115 ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_HERTZ_RELATIONSHIP = 2.417989242e14
```

Definition at line 345 of file pycodata.py.

14.2.2.116 ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 8.065543937e5
```

Definition at line 348 of file pycodata.py.

14.2.2.117 ELECTRON_VOLT_JOULE_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_JOULE_RELATIONSHIP = 1.602176634e-19
```

Definition at line 351 of file pycodata.py.

14.2.2.118 ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_KELVIN_RELATIONSHIP = 1.160451812e4
```

Definition at line 354 of file pycodata.py.

14.2.2.119 ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 1.782661921e-36
```

Definition at line 357 of file pycodata.py.

14.2.2.120 ELEMENTARY_CHARGE

```
float pycodata.ELEMENTARY_CHARGE = 1.602176634e-19
```

Definition at line 360 of file pycodata.py.

14.2.2.121 ELEMENTARY_CHARGE_OVER_H_BAR

```
float pycodata.ELEMENTARY_CHARGE_OVER_H_BAR = 1.519267447e15
```

Definition at line 363 of file pycodata.py.

14.2.2.122 FARADAY_CONSTANT

```
float pycodata.FARADAY_CONSTANT = 96485.33212e0
```

Definition at line 366 of file pycodata.py.

14.2.2.123 FERMI_COUPLING_CONSTANT

```
float pycodata.FERMI_COUPLING_CONSTANT = 1.1663787e-5
```

Definition at line 369 of file pycodata.py.

14.2.2.124 FINE_STRUCTURE_CONSTANT

```
float pycodata.FINE_STRUCTURE_CONSTANT = 7.2973525693e-3
```

Definition at line 372 of file pycodata.py.

14.2.2.125 FIRST_RADIATION_CONSTANT

```
float pycodata.FIRST_RADIATION_CONSTANT = 3.741771852e-16
```

Definition at line 375 of file pycodata.py.

14.2.2.126 FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE

```
float pycodata.FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 1.191042972e-16
```

Definition at line 378 of file pycodata.py.

14.2.2.127 HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 2.92126232205e-8
```

Definition at line 381 of file pycodata.py.

14.2.2.128 HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.HARTREE_ELECTRON_VOLT_RELATIONSHIP = 27.211386245988e0
```

Definition at line 384 of file pycodata.py.

14.2.2.129 HARTREE_ENERGY

```
float pycodata.HARTREE_ENERGY = 4.3597447222071e-18
```

Definition at line 387 of file pycodata.py.

14.2.2.130 HARTREE_ENERGY_IN_EV

```
float pycodata.HARTREE_ENERGY_IN_EV = 27.211386245988e0
```

Definition at line 390 of file pycodata.py.

14.2.2.131 HARTREE_HERTZ_RELATIONSHIP

```
float pycodata.HARTREE_HERTZ_RELATIONSHIP = 6.579683920502e15
```

Definition at line 393 of file pycodata.py.

14.2.2.132 HARTREE_INVERSE_METER_RELATIONSHIP

```
float pycodata.HARTREE_INVERSE_METER_RELATIONSHIP = 2.1947463136320e7
```

Definition at line 396 of file pycodata.py.

14.2.2.133 HARTREE_JOULE_RELATIONSHIP

```
float pycodata.HARTREE_JOULE_RELATIONSHIP = 4.3597447222071e-18
```

Definition at line 399 of file pycodata.py.

14.2.2.134 HARTREE_KELVIN_RELATIONSHIP

```
float pycodata.HARTREE_KELVIN_RELATIONSHIP = 3.1577502480407e5
```

Definition at line 402 of file pycodata.py.

14.2.2.135 HARTREE_KILOGRAM_RELATIONSHIP

```
float pycodata.HARTREE_KILOGRAM_RELATIONSHIP = 4.8508702095432e-35
```

Definition at line 405 of file pycodata.py.

14.2.2.136 HELION_ELECTRON_MASS_RATIO

```
float pycodata.HELION_ELECTRON_MASS_RATIO = 5495.88528007e0
```

Definition at line 408 of file pycodata.py.

14.2.2.137 HELION_G_FACTOR

```
float pycodata.HELION_G_FACTOR = -4.255250615e0
```

Definition at line 411 of file pycodata.py.

14.2.2.138 HELION_MAG__MOM

```
float pycodata.HELION_MAG__MOM = -1.074617532e-26
```

Definition at line 414 of file pycodata.py.

14.2.2.139 HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158740958e-3
```

Definition at line 417 of file pycodata.py.

14.2.2.140 HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127625307e0
```

Definition at line 420 of file pycodata.py.

14.2.2.141 HELION_MASS

```
float pycodata.HELION_MASS = 5.0064127796e-27
```

Definition at line 423 of file pycodata.py.

14.2.2.142 HELION_MASS_ENERGY_EQUIVALENT

```
float pycodata.HELION_MASS_ENERGY_EQUIVALENT = 4.4995394125e-10
```

Definition at line 426 of file pycodata.py.

14.2.2.143 HELION_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.39160743e0
```

Definition at line 429 of file pycodata.py.

14.2.2.144 HELION_MASS_IN_U

```
float pycodata.HELION_MASS_IN_U = 3.014932247175e0
```

Definition at line 432 of file pycodata.py.

14.2.2.145 HELION_MOLAR_MASS

```
float pycodata.HELION_MOLAR_MASS = 3.01493224613e-3
```

Definition at line 435 of file pycodata.py.

14.2.2.146 HELION_PROTON_MASS_RATIO

```
float pycodata.HELION_PROTON_MASS_RATIO = 2.99315267167e0
```

Definition at line 438 of file pycodata.py.

14.2.2.147 HELION_RELATIVE_ATOMIC_MASS

```
float pycodata.HELION_RELATIVE_ATOMIC_MASS = 3.014932247175e0
```

Definition at line 441 of file pycodata.py.

14.2.2.148 HELION_SHIELDING_SHIFT

```
float pycodata.HELION_SHIELDING_SHIFT = 5.996743e-5
```

Definition at line 444 of file pycodata.py.

14.2.2.149 HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 4.4398216652e-24
```

Definition at line 447 of file pycodata.py.

14.2.2.150 HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.HERTZ_ELECTRON_VOLT_RELATIONSHIP = 4.135667696e-15
```

Definition at line 450 of file pycodata.py.

14.2.2.151 HERTZ_HARTREE_RELATIONSHIP

```
float pycodata.HERTZ_HARTREE_RELATIONSHIP = 1.5198298460570e-16
```

Definition at line 453 of file pycodata.py.

14.2.2.152 HERTZ_INVERSE_METER_RELATIONSHIP

```
float pycodata.HERTZ_INVERSE_METER_RELATIONSHIP = 3.335640951e-9
```

Definition at line 456 of file pycodata.py.

14.2.2.153 HERTZ_JOULE_RELATIONSHIP

```
float pycodata.HERTZ_JOULE_RELATIONSHIP = 6.62607015e-34
```

Definition at line 459 of file pycodata.py.

14.2.2.154 HERTZ_KELVIN_RELATIONSHIP

```
float pycodata.HERTZ_KELVIN_RELATIONSHIP = 4.799243073e-11
```

Definition at line 462 of file pycodata.py.

14.2.2.155 HERTZ_KILOGRAM_RELATIONSHIP

```
float pycodata.HERTZ_KILOGRAM_RELATIONSHIP = 7.372497323e-51
```

Definition at line 465 of file pycodata.py.

14.2.2.156 HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133

```
float pycodata.HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 9192631770.0e0
```

Definition at line 468 of file pycodata.py.

14.2.2.157 INVERSE_FINE_STRUCTURE_CONSTANT

```
float pycodata.INVERSE_FINE_STRUCTURE_CONSTANT = 137.035999084e0
```

Definition at line 471 of file pycodata.py.

14.2.2.158 INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.33102505010e-15
```

Definition at line 474 of file pycodata.py.

14.2.2.159 INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 1.239841984e-6
```

Definition at line 477 of file pycodata.py.

14.2.2.160 INVERSE_METER_HARTREE_RELATIONSHIP

```
float pycodata.INVERSE_METER_HARTREE_RELATIONSHIP = 4.5563352529120e-8
```

Definition at line 480 of file pycodata.py.

14.2.2.161 INVERSE_METER_HERTZ_RELATIONSHIP

```
float pycodata.INVERSE_METER_HERTZ_RELATIONSHIP = 299792458.0e0
```

Definition at line 483 of file pycodata.py.

14.2.2.162 INVERSE_METER_JOULE_RELATIONSHIP

```
float pycodata.INVERSE_METER_JOULE_RELATIONSHIP = 1.986445857e-25
```

Definition at line 486 of file pycodata.py.

14.2.2.163 INVERSE_METER_KELVIN_RELATIONSHIP

```
float pycodata.INVERSE_METER_KELVIN_RELATIONSHIP = 1.438776877e-2
```

Definition at line 489 of file pycodata.py.

14.2.2.164 INVERSE_METER_KILOGRAM_RELATIONSHIP

```
float pycodata.INVERSE_METER_KILOGRAM_RELATIONSHIP = 2.210219094e-42
```

Definition at line 492 of file pycodata.py.

14.2.2.165 INVERSE_OF_CONDUCTANCE_QUANTUM

```
float pycodata.INVERSE_OF_CONDUCTANCE_QUANTUM = 12906.40372e0
```

Definition at line 495 of file pycodata.py.

14.2.2.166 JOSEPHSON_CONSTANT

```
float pycodata.JOSEPHSON_CONSTANT = 483597.8484e9
```

Definition at line 498 of file pycodata.py.

14.2.2.167 JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.7005352565e9
```

Definition at line 501 of file pycodata.py.

14.2.2.168 JOULE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.JOULE_ELECTRON_VOLT_RELATIONSHIP = 6.241509074e18
```

Definition at line 504 of file pycodata.py.

14.2.2.169 JOULE_HARTREE_RELATIONSHIP

```
float pycodata.JOULE_HARTREE_RELATIONSHIP = 2.2937122783963e17
```

Definition at line 507 of file pycodata.py.

14.2.2.170 JOULE_HERTZ_RELATIONSHIP

```
float pycodata.JOULE_HERTZ_RELATIONSHIP = 1.509190179e33
```

Definition at line 510 of file pycodata.py.

14.2.2.171 JOULE_INVERSE_METER_RELATIONSHIP

```
float pycodata.JOULE_INVERSE_METER_RELATIONSHIP = 5.034116567e24
```

Definition at line 513 of file pycodata.py.

14.2.2.172 JOULE_KELVIN_RELATIONSHIP

```
float pycodata.JOULE_KELVIN_RELATIONSHIP = 7.242970516e22
```

Definition at line 516 of file pycodata.py.

14.2.2.173 JOULE_KILOGRAM_RELATIONSHIP

```
float pycodata.JOULE_KILOGRAM_RELATIONSHIP = 1.112650056e-17
```

Definition at line 519 of file pycodata.py.

14.2.2.174 KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 9.2510873014e-14
```

Definition at line 522 of file pycodata.py.

14.2.2.175 KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.KELVIN_ELECTRON_VOLT_RELATIONSHIP = 8.617333262e-5
```

Definition at line 525 of file pycodata.py.

14.2.2.176 KELVIN_HARTREE_RELATIONSHIP

```
float pycodata.KELVIN_HARTREE_RELATIONSHIP = 3.1668115634556e-6
```

Definition at line 528 of file pycodata.py.

14.2.2.177 KELVIN_HERTZ_RELATIONSHIP

```
float pycodata.KELVIN_HERTZ_RELATIONSHIP = 2.083661912e10
```

Definition at line 531 of file pycodata.py.

14.2.2.178 KELVIN_INVERSE_METER_RELATIONSHIP

```
float pycodata.KELVIN_INVERSE_METER_RELATIONSHIP = 69.50348004e0
```

Definition at line 534 of file pycodata.py.

14.2.2.179 KELVIN_JOULE_RELATIONSHIP

```
float pycodata.KELVIN_JOULE_RELATIONSHIP = 1.380649e-23
```

Definition at line 537 of file pycodata.py.

14.2.2.180 KELVIN_KILOGRAM_RELATIONSHIP

```
float pycodata.KELVIN_KILOGRAM_RELATIONSHIP = 1.536179187e-40
```

Definition at line 540 of file pycodata.py.

14.2.2.181 KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.0221407621e26
```

Definition at line 543 of file pycodata.py.

14.2.2.182 KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 5.609588603e35
```

Definition at line 546 of file pycodata.py.

14.2.2.183 KILOGRAM_HARTREE_RELATIONSHIP

```
float pycodata.KILOGRAM_HARTREE_RELATIONSHIP = 2.0614857887409e34
```

Definition at line 549 of file pycodata.py.

14.2.2.184 KILOGRAM_HERTZ_RELATIONSHIP

```
float pycodata.KILOGRAM_HERTZ_RELATIONSHIP = 1.356392489e50
```

Definition at line 552 of file pycodata.py.

14.2.2.185 KILOGRAM_INVERSE_METER_RELATIONSHIP

```
float pycodata.KILOGRAM_INVERSE_METER_RELATIONSHIP = 4.524438335e41
```

Definition at line 555 of file pycodata.py.

14.2.2.186 KILOGRAM_JOULE_RELATIONSHIP

```
float pycodata.KILOGRAM_JOULE_RELATIONSHIP = 8.987551787e16
```

Definition at line 558 of file pycodata.py.

14.2.2.187 KILOGRAM_KELVIN_RELATIONSHIP

```
float pycodata.KILOGRAM_KELVIN_RELATIONSHIP = 6.509657260e39
```

Definition at line 561 of file pycodata.py.

14.2.2.188 LATTICE_PARAMETER_OF_SILICON

```
float pycodata.LATTICE_PARAMETER_OF_SILICON = 5.431020511e-10
```

Definition at line 564 of file pycodata.py.

14.2.2.189 LATTICE_SPACING_OF_IDEAL_SI__220

```
float pycodata.LATTICE_SPACING_OF_IDEAL_SI__220 = 1.920155716e-10
```

Definition at line 567 of file pycodata.py.

14.2.2.190 LOSCHMIDT_CONSTANT__273_15_K__100_KPA

```
float pycodata.LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 2.651645804e25
```

Definition at line 570 of file pycodata.py.

14.2.2.191 LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA

```
float pycodata.LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 2.686780111e25
```

Definition at line 573 of file pycodata.py.

14.2.2.192 LUMINOUS_EFFICACY

```
float pycodata.LUMINOUS_EFFICACY = 683.0e0
```

Definition at line 576 of file pycodata.py.

14.2.2.193 MAG__FLUX_QUANTUM

```
float pycodata.MAG__FLUX_QUANTUM = 2.067833848e-15
```

Definition at line 579 of file pycodata.py.

14.2.2.194 MOLAR_GAS_CONSTANT

```
float pycodata.MOLAR_GAS_CONSTANT = 8.314462618e0
```

Definition at line 582 of file pycodata.py.

14.2.2.195 MOLAR_MASS_CONSTANT

```
float pycodata.MOLAR_MASS_CONSTANT = 0.99999999965e-3
```

Definition at line 585 of file pycodata.py.

14.2.2.196 MOLAR_MASS_OF_CARBON_12

```
float pycodata.MOLAR_MASS_OF_CARBON_12 = 11.9999999958e-3
```

Definition at line 588 of file pycodata.py.

14.2.2.197 MOLAR_PLANCK_CONSTANT

```
float pycodata.MOLAR_PLANCK_CONSTANT = 3.990312712e-10
```

Definition at line 591 of file pycodata.py.

14.2.2.198 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA

```
float pycodata.MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 22.71095464e-3
```

Definition at line 594 of file pycodata.py.

14.2.2.199 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA

```
float pycodata.MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 22.41396954e-3
```

Definition at line 597 of file pycodata.py.

14.2.2.200 MOLAR_VOLUME_OF_SILICON

```
float pycodata.MOLAR_VOLUME_OF_SILICON = 1.205883199e-5
```

Definition at line 600 of file pycodata.py.

14.2.2.201 MOLYBDENUM_X_UNIT

```
float pycodata.MOLYBDENUM_X_UNIT = 1.00209952e-13
```

Definition at line 603 of file pycodata.py.

14.2.2.202 MUON_COMPTON_WAVELENGTH

```
float pycodata.MUON_COMPTON_WAVELENGTH = 1.173444110e-14
```

Definition at line 606 of file pycodata.py.

14.2.2.203 MUON_ELECTRON_MASS_RATIO

```
float pycodata.MUON_ELECTRON_MASS_RATIO = 206.7682830e0
```

Definition at line 609 of file pycodata.py.

14.2.2.204 MUON_G_FACTOR

```
float pycodata.MUON_G_FACTOR = -2.0023318418e0
```

Definition at line 612 of file pycodata.py.

14.2.2.205 MUON_MAG__MOM

```
float pycodata.MUON_MAG__MOM = -4.49044830e-26
```

Definition at line 615 of file pycodata.py.

14.2.2.206 MUON_MAG__MOM__ANOMALY

```
float pycodata.MUON_MAG__MOM__ANOMALY = 1.16592089e-3
```

Definition at line 618 of file pycodata.py.

14.2.2.207 MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -4.84197047e-3
```

Definition at line 621 of file pycodata.py.

14.2.2.208 MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -8.89059703e0
```

Definition at line 624 of file pycodata.py.

14.2.2.209 MUON_MASS

```
float pycodata.MUON_MASS = 1.883531627e-28
```

Definition at line 627 of file pycodata.py.

14.2.2.210 MUON_MASS_ENERGY_EQUIVALENT

```
float pycodata.MUON_MASS_ENERGY_EQUIVALENT = 1.692833804e-11
```

Definition at line 630 of file pycodata.py.

14.2.2.211 MUON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 105.6583755e0
```

Definition at line 633 of file pycodata.py.

14.2.2.212 MUON_MASS_IN_U

```
float pycodata.MUON_MASS_IN_U = 0.1134289259e0
```

Definition at line 636 of file pycodata.py.

14.2.2.213 MUON_MOLAR_MASS

```
float pycodata.MUON_MOLAR_MASS = 1.134289259e-4
```

Definition at line 639 of file pycodata.py.

14.2.2.214 MUON_NEUTRON_MASS_RATIO

```
float pycodata.MUON_NEUTRON_MASS_RATIO = 0.1124545170e0
```

Definition at line 642 of file pycodata.py.

14.2.2.215 MUON_PROTON_MAG__MOM__RATIO

```
float pycodata.MUON_PROTON_MAG__MOM__RATIO = -3.183345142e0
```

Definition at line 645 of file pycodata.py.

14.2.2.216 MUON_PROTON_MASS_RATIO

```
float pycodata.MUON_PROTON_MASS_RATIO = 0.1126095264e0
```

Definition at line 648 of file pycodata.py.

14.2.2.217 MUON_TAU_MASS_RATIO

```
float pycodata.MUON_TAU_MASS_RATIO = 5.94635e-2
```

Definition at line 651 of file pycodata.py.

14.2.2.218 NATURAL_UNIT_OF_ACTION

```
float pycodata.NATURAL_UNIT_OF_ACTION = 1.054571817e-34
```

Definition at line 654 of file pycodata.py.

14.2.2.219 NATURAL_UNIT_OF_ACTION_IN_EV_S

```
float pycodata.NATURAL_UNIT_OF_ACTION_IN_EV_S = 6.582119569e-16
```

Definition at line 657 of file pycodata.py.

14.2.2.220 NATURAL_UNIT_OF_ENERGY

```
float pycodata.NATURAL_UNIT_OF_ENERGY = 8.1871057769e-14
```

Definition at line 660 of file pycodata.py.

14.2.2.221 NATURAL_UNIT_OF_ENERGY_IN_MEV

```
float pycodata.NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.51099895000e0
```

Definition at line 663 of file pycodata.py.

14.2.2.222 NATURAL_UNIT_OF_LENGTH

```
float pycodata.NATURAL_UNIT_OF_LENGTH = 3.8615926796e-13
```

Definition at line 666 of file pycodata.py.

14.2.2.223 NATURAL_UNIT_OF_MASS

```
float pycodata.NATURAL_UNIT_OF_MASS = 9.1093837015e-31
```

Definition at line 669 of file pycodata.py.

14.2.2.224 NATURAL_UNIT_OF_MOMENTUM

```
float pycodata.NATURAL_UNIT_OF_MOMENTUM = 2.73092453075e-22
```

Definition at line 672 of file pycodata.py.

14.2.2.225 NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C

```
float pycodata.NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.51099895000e0
```

Definition at line 675 of file pycodata.py.

14.2.2.226 NATURAL_UNIT_OF_TIME

```
float pycodata.NATURAL_UNIT_OF_TIME = 1.28808866819e-21
```

Definition at line 678 of file pycodata.py.

14.2.2.227 NATURAL_UNIT_OF_VELOCITY

```
float pycodata.NATURAL_UNIT_OF_VELOCITY = 299792458.0e0
```

Definition at line 681 of file pycodata.py.

14.2.2.228 NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.NEUTRON_COMPTON_WAVELENGTH = 1.31959090581e-15
```

Definition at line 684 of file pycodata.py.

14.2.2.229 NEUTRON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.NEUTRON_ELECTRON_MAG__MOM__RATIO = 1.04066882e-3
```

Definition at line 687 of file pycodata.py.

14.2.2.230 NEUTRON_ELECTRON_MASS_RATIO

```
float pycodata.NEUTRON_ELECTRON_MASS_RATIO = 1838.68366173e0
```

Definition at line 690 of file pycodata.py.

14.2.2.231 NEUTRON_G_FACTOR

```
float pycodata.NEUTRON_G_FACTOR = -3.82608545e0
```

Definition at line 693 of file pycodata.py.

14.2.2.232 NEUTRON_GYROMAG__RATIO

```
float pycodata.NEUTRON_GYROMAG__RATIO = 1.83247171e8
```

Definition at line 696 of file pycodata.py.

14.2.2.233 NEUTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 29.1646931e0
```

Definition at line 699 of file pycodata.py.

14.2.2.234 NEUTRON_MAG__MOM

```
float pycodata.NEUTRON_MAG__MOM = -9.6623651e-27
```

Definition at line 702 of file pycodata.py.

14.2.2.235 NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.04187563e-3
```

Definition at line 705 of file pycodata.py.

14.2.2.236 NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1.91304273e0
```

Definition at line 708 of file pycodata.py.

14.2.2.237 NEUTRON_MASS

```
float pycodata.NEUTRON_MASS = 1.67492749804e-27
```

Definition at line 711 of file pycodata.py.

14.2.2.238 NEUTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT = 1.50534976287e-10
```

Definition at line 714 of file pycodata.py.

14.2.2.239 NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 939.56542052e0
```

Definition at line 717 of file pycodata.py.

14.2.2.240 NEUTRON_MASS_IN_U

```
float pycodata.NEUTRON_MASS_IN_U = 1.00866491595e0
```

Definition at line 720 of file pycodata.py.

14.2.2.241 NEUTRON_MOLAR_MASS

```
float pycodata.NEUTRON_MOLAR_MASS = 1.00866491560e-3
```

Definition at line 723 of file pycodata.py.

14.2.2.242 NEUTRON_MUON_MASS_RATIO

```
float pycodata.NEUTRON_MUON_MASS_RATIO = 8.89248406e0
```

Definition at line 726 of file pycodata.py.

14.2.2.243 NEUTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.NEUTRON_PROTON_MAG__MOM__RATIO = -0.68497934e0
```

Definition at line 729 of file pycodata.py.

14.2.2.244 NEUTRON_PROTON_MASS_DIFFERENCE

```
float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE = 2.30557435e-30
```

Definition at line 732 of file pycodata.py.

14.2.2.245 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT

```
float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 2.07214689e-13
```

Definition at line 735 of file pycodata.py.

14.2.2.246 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 1.29333236e0
```

Definition at line 738 of file pycodata.py.

14.2.2.247 NEUTRON_PROTON_MASS_DIFFERENCE_IN_U

```
float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 1.38844933e-3
```

Definition at line 741 of file pycodata.py.

14.2.2.248 NEUTRON_PROTON_MASS_RATIO

```
float pycodata.NEUTRON_PROTON_MASS_RATIO = 1.00137841931e0
```

Definition at line 744 of file pycodata.py.

14.2.2.249 NEUTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.NEUTRON_RELATIVE_ATOMIC_MASS = 1.00866491595e0
```

Definition at line 747 of file pycodata.py.

14.2.2.250 NEUTRON_TAU_MASS_RATIO

```
float pycodata.NEUTRON_TAU_MASS_RATIO = 0.528779e0
```

Definition at line 750 of file pycodata.py.

14.2.2.251 NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.68499694e0
```

Definition at line 753 of file pycodata.py.

14.2.2.252 NEWTONIAN_CONSTANT_OF_GRAVITATION

```
float pycodata.NEWTONIAN_CONSTANT_OF_GRAVITATION = 6.67430e-11
```

Definition at line 756 of file pycodata.py.

14.2.2.253 NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C

```
float pycodata.NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 6.70883e-39
```

Definition at line 759 of file pycodata.py.

14.2.2.254 NUCLEAR_MAGNETON

```
float pycodata.NUCLEAR_MAGNETON = 5.0507837461e-27
```

Definition at line 762 of file pycodata.py.

14.2.2.255 NUCLEAR_MAGNETON_IN_EV_T

```
float pycodata.NUCLEAR_MAGNETON_IN_EV_T = 3.15245125844e-8
```

Definition at line 765 of file pycodata.py.

14.2.2.256 NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
float pycodata.NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 2.54262341353e-2
```

Definition at line 768 of file pycodata.py.

14.2.2.257 NUCLEAR_MAGNETON_IN_K_T

```
float pycodata.NUCLEAR_MAGNETON_IN_K_T = 3.6582677756e-4
```

Definition at line 771 of file pycodata.py.

14.2.2.258 NUCLEAR_MAGNETON_IN_MHZ_T

```
float pycodata.NUCLEAR_MAGNETON_IN_MHZ_T = 7.6225932291e0
```

Definition at line 774 of file pycodata.py.

14.2.2.259 PLANCK_CONSTANT

```
float pycodata.PLANCK_CONSTANT = 6.62607015e-34
```

Definition at line 777 of file pycodata.py.

14.2.2.260 PLANCK_CONSTANT_IN_EV_HZ

```
float pycodata.PLANCK_CONSTANT_IN_EV_HZ = 4.135667696e-15
```

Definition at line 780 of file pycodata.py.

14.2.2.261 PLANCK_LENGTH

```
float pycodata.PLANCK_LENGTH = 1.616255e-35
```

Definition at line 783 of file pycodata.py.

14.2.2.262 PLANCK_MASS

```
float pycodata.PLANCK_MASS = 2.176434e-8
```

Definition at line 786 of file pycodata.py.

14.2.2.263 PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV

```
float pycodata.PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 1.220890e19
```

Definition at line 789 of file pycodata.py.

14.2.2.264 PLANCK_TEMPERATURE

```
float pycodata.PLANCK_TEMPERATURE = 1.416784e32
```

Definition at line 792 of file pycodata.py.

14.2.2.265 PLANCK_TIME

```
float pycodata.PLANCK_TIME = 5.391247e-44
```

Definition at line 795 of file pycodata.py.

14.2.2.266 PROTON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.PROTON_CHARGE_TO_MASS_QUOTIENT = 9.5788331560e7
```

Definition at line 798 of file pycodata.py.

14.2.2.267 PROTON_COMPTON_WAVELENGTH

```
float pycodata.PROTON_COMPTON_WAVELENGTH = 1.32140985539e-15
```

Definition at line 801 of file pycodata.py.

14.2.2.268 PROTON_ELECTRON_MASS_RATIO

```
float pycodata.PROTON_ELECTRON_MASS_RATIO = 1836.15267343e0
```

Definition at line 804 of file pycodata.py.

14.2.2.269 PROTON_G_FACTOR

```
float pycodata.PROTON_G_FACTOR = 5.5856946893e0
```

Definition at line 807 of file pycodata.py.

14.2.2.270 PROTON_GYROMAG__RATIO

```
float pycodata.PROTON_GYROMAG__RATIO = 2.6752218744e8
```

Definition at line 810 of file pycodata.py.

14.2.2.271 PROTON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.577478518e0
```

Definition at line 813 of file pycodata.py.

14.2.2.272 PROTON_MAG__MOM

```
float pycodata.PROTON_MAG__MOM = 1.41060679736e-26
```

Definition at line 816 of file pycodata.py.

14.2.2.273 PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.52103220230e-3
```

Definition at line 819 of file pycodata.py.

14.2.2.274 PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.79284734463e0
```

Definition at line 822 of file pycodata.py.

14.2.2.275 PROTON_MAG__SHIELDING_CORRECTION

```
float pycodata.PROTON_MAG__SHIELDING_CORRECTION = 2.5689e-5
```

Definition at line 825 of file pycodata.py.

14.2.2.276 PROTON_MASS

```
float pycodata.PROTON_MASS = 1.67262192369e-27
```

Definition at line 828 of file pycodata.py.

14.2.2.277 PROTON_MASS_ENERGY_EQUIVALENT

```
float pycodata.PROTON_MASS_ENERGY_EQUIVALENT = 1.50327761598e-10
```

Definition at line 831 of file pycodata.py.

14.2.2.278 PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 938.27208816e0
```

Definition at line 834 of file pycodata.py.

14.2.2.279 PROTON_MASS_IN_U

```
float pycodata.PROTON_MASS_IN_U = 1.007276466621e0
```

Definition at line 837 of file pycodata.py.

14.2.2.280 PROTON_MOLAR_MASS

```
float pycodata.PROTON_MOLAR_MASS = 1.00727646627e-3
```

Definition at line 840 of file pycodata.py.

14.2.2.281 PROTON_MUON_MASS_RATIO

```
float pycodata.PROTON_MUON_MASS_RATIO = 8.88024337e0
```

Definition at line 843 of file pycodata.py.

14.2.2.282 PROTON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.PROTON_NEUTRON_MAG__MOM__RATIO = -1.45989805e0
```

Definition at line 846 of file pycodata.py.

14.2.2.283 PROTON_NEUTRON_MASS_RATIO

```
float pycodata.PROTON_NEUTRON_MASS_RATIO = 0.99862347812e0
```

Definition at line 849 of file pycodata.py.

14.2.2.284 PROTON_RELATIVE_ATOMIC_MASS

```
float pycodata.PROTON_RELATIVE_ATOMIC_MASS = 1.007276466621e0
```

Definition at line 852 of file pycodata.py.

14.2.2.285 PROTON_RMS_CHARGE_RADIUS

```
float pycodata.PROTON_RMS_CHARGE_RADIUS = 8.414e-16
```

Definition at line 855 of file pycodata.py.

14.2.2.286 PROTON_TAU_MASS_RATIO

```
float pycodata.PROTON_TAU_MASS_RATIO = 0.528051e0
```

Definition at line 858 of file pycodata.py.

14.2.2.287 QUANTUM_OF_CIRCULATION

```
float pycodata.QUANTUM_OF_CIRCULATION = 3.6369475516e-4
```

Definition at line 861 of file pycodata.py.

14.2.2.288 QUANTUM_OF_CIRCULATION_TIMES_2

```
float pycodata.QUANTUM_OF_CIRCULATION_TIMES_2 = 7.2738951032e-4
```

Definition at line 864 of file pycodata.py.

14.2.2.289 REDUCED_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_COMPTON_WAVELENGTH = 3.8615926796e-13
```

Definition at line 867 of file pycodata.py.

14.2.2.290 REDUCED_MUON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_MUON_COMPTON_WAVELENGTH = 1.867594306e-15
```

Definition at line 870 of file pycodata.py.

14.2.2.291 REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_NEUTRON_COMPTON_WAVELENGTH = 2.1001941552e-16
```

Definition at line 873 of file pycodata.py.

14.2.2.292 REDUCED_PLANCK_CONSTANT

```
float pycodata.REDUCED_PLANCK_CONSTANT = 1.054571817e-34
```

Definition at line 876 of file pycodata.py.

14.2.2.293 REDUCED_PLANCK_CONSTANT_IN_EV_S

```
float pycodata.REDUCED_PLANCK_CONSTANT_IN_EV_S = 6.582119569e-16
```

Definition at line 879 of file pycodata.py.

14.2.2.294 REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM

```
float pycodata.REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 197.3269804e0
```

Definition at line 882 of file pycodata.py.

14.2.2.295 REDUCED_PROTON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_PROTON_COMPTON_WAVELENGTH = 2.10308910336e-16
```

Definition at line 885 of file pycodata.py.

14.2.2.296 REDUCED_TAU_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_TAU_COMPTON_WAVELENGTH = 1.110538e-16
```

Definition at line 888 of file pycodata.py.

14.2.2.297 RYDBERG_CONSTANT

```
float pycodata.RYDBERG_CONSTANT = 10973731.568160e0
```

Definition at line 891 of file pycodata.py.

14.2.2.298 RYDBERG_CONSTANT_TIMES_C_IN_HZ

```
float pycodata.RYDBERG_CONSTANT_TIMES_C_IN_HZ = 3.2898419602508e15
```

Definition at line 894 of file pycodata.py.

14.2.2.299 RYDBERG_CONSTANT_TIMES_HC_IN_EV

```
float pycodata.RYDBERG_CONSTANT_TIMES_HC_IN_EV = 13.605693122994e0
```

Definition at line 897 of file pycodata.py.

14.2.2.300 RYDBERG_CONSTANT_TIMES_HC_IN_J

```
float pycodata.RYDBERG_CONSTANT_TIMES_HC_IN_J = 2.1798723611035e-18
```

Definition at line 900 of file pycodata.py.

14.2.2.301 SACKUR_TETRODE_CONSTANT__1_K__100_KPA

```
float pycodata.SACKUR_TETRODE_CONSTANT__1_K__100_KPA = -1.15170753706e0
```

Definition at line 903 of file pycodata.py.

14.2.2.302 SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA

```
float pycodata.SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = -1.16487052358e0
```

Definition at line 906 of file pycodata.py.

14.2.2.303 SECOND_RADIATION_CONSTANT

```
float pycodata.SECOND_RADIATION_CONSTANT = 1.438776877e-2
```

Definition at line 909 of file pycodata.py.

14.2.2.304 SHIELDED_HELION_GYROMAG__RATIO

```
float pycodata.SHIELDED_HELION_GYROMAG__RATIO = 2.037894569e8
```

Definition at line 912 of file pycodata.py.

14.2.2.305 SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 32.43409942e0
```

Definition at line 915 of file pycodata.py.

14.2.2.306 SHIELDED_HELION_MAG__MOM

```
float pycodata.SHIELDED_HELION_MAG__MOM = -1.074553090e-26
```

Definition at line 918 of file pycodata.py.

14.2.2.307 SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158671471e-3
```

Definition at line 921 of file pycodata.py.

14.2.2.308 SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127497719e0
```

Definition at line 924 of file pycodata.py.

14.2.2.309 SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO

```
float pycodata.SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = -0.7617665618e0
```

Definition at line 927 of file pycodata.py.

14.2.2.310 SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.7617861313e0
```

Definition at line 930 of file pycodata.py.

14.2.2.311 SHIELDED_PROTON_GYROMAG__RATIO

```
float pycodata.SHIELDED_PROTON_GYROMAG__RATIO = 2.675153151e8
```

Definition at line 933 of file pycodata.py.

14.2.2.312 SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.57638474e0
```

Definition at line 936 of file pycodata.py.

14.2.2.313 SHIELDED_PROTON_MAG__MOM

```
float pycodata.SHIELDED_PROTON_MAG__MOM = 1.410570560e-26
```

Definition at line 939 of file pycodata.py.

14.2.2.314 SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.520993128e-3
```

Definition at line 942 of file pycodata.py.

14.2.2.315 SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.792775599e0
```

Definition at line 945 of file pycodata.py.

14.2.2.316 SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD

```
float pycodata.SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 2.0200e-8
```

Definition at line 948 of file pycodata.py.

14.2.2.317 SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT

```
float pycodata.SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 2.4140e-8
```

Definition at line 951 of file pycodata.py.

14.2.2.318 SPEED_OF_LIGHT_IN_VACUUM

```
float pycodata.SPEED_OF_LIGHT_IN_VACUUM = 299792458.0e0
```

Definition at line 954 of file pycodata.py.

14.2.2.319 STANDARD_ACCELERATION_OF_GRAVITY

```
float pycodata.STANDARD_ACCELERATION_OF_GRAVITY = 9.80665e0
```

Definition at line 957 of file pycodata.py.

14.2.2.320 STANDARD_ATMOSPHERE

```
float pycodata.STANDARD_ATMOSPHERE = 101325.0e0
```

Definition at line 960 of file pycodata.py.

14.2.2.321 STANDARD_STATE_PRESSURE

```
float pycodata.STANDARD_STATE_PRESSURE = 100000.0e0
```

Definition at line 963 of file pycodata.py.

14.2.2.322 STEFAN_BOLTZMANN_CONSTANT

```
float pycodata.STEFAN_BOLTZMANN_CONSTANT = 5.670374419e-8
```

Definition at line 966 of file pycodata.py.

14.2.2.323 TAU_COMPTON_WAVELENGTH

```
float pycodata.TAU_COMPTON_WAVELENGTH = 6.97771e-16
```

Definition at line 969 of file pycodata.py.

14.2.2.324 TAU_ELECTRON_MASS_RATIO

```
float pycodata.TAU_ELECTRON_MASS_RATIO = 3477.23e0
```

Definition at line 972 of file pycodata.py.

14.2.2.325 TAU_ENERGY_EQUIVALENT

```
float pycodata.TAU_ENERGY_EQUIVALENT = 1776.86e0
```

Definition at line 975 of file pycodata.py.

14.2.2.326 TAU_MASS

```
float pycodata.TAU_MASS = 3.16754e-27
```

Definition at line 978 of file pycodata.py.

14.2.2.327 TAU_MASS_ENERGY_EQUIVALENT

```
float pycodata.TAU_MASS_ENERGY_EQUIVALENT = 2.84684e-10
```

Definition at line 981 of file pycodata.py.

14.2.2.328 TAU_MASS_IN_U

```
float pycodata.TAU_MASS_IN_U = 1.90754e0
```

Definition at line 984 of file pycodata.py.

14.2.2.329 TAU_MOLAR_MASS

```
float pycodata.TAU_MOLAR_MASS = 1.90754e-3
```

Definition at line 987 of file pycodata.py.

14.2.2.330 TAU_MUON_MASS_RATIO

```
float pycodata.TAU_MUON_MASS_RATIO = 16.8170e0
```

Definition at line 990 of file pycodata.py.

14.2.2.331 TAU_NEUTRON_MASS_RATIO

```
float pycodata.TAU_NEUTRON_MASS_RATIO = 1.89115e0
```

Definition at line 993 of file pycodata.py.

14.2.2.332 TAU_PROTON_MASS_RATIO

```
float pycodata.TAU_PROTON_MASS_RATIO = 1.89376e0
```

Definition at line 996 of file pycodata.py.

14.2.2.333 THOMSON_CROSS_SECTION

```
float pycodata.THOMSON_CROSS_SECTION = 6.6524587321e-29
```

Definition at line 999 of file pycodata.py.

14.2.2.334 TRITON_ELECTRON_MASS_RATIO

```
float pycodata.TRITON_ELECTRON_MASS_RATIO = 5496.92153573e0
```

Definition at line 1002 of file pycodata.py.

14.2.2.335 TRITON_G_FACTOR

```
float pycodata.TRITON_G_FACTOR = 5.957924931e0
```

Definition at line 1005 of file pycodata.py.

14.2.2.336 TRITON_MAG__MOM

```
float pycodata.TRITON_MAG__MOM = 1.5046095202e-26
```

Definition at line 1008 of file pycodata.py.

14.2.2.337 TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.6223936651e-3
```

Definition at line 1011 of file pycodata.py.

14.2.2.338 TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.9789624656e0
```

Definition at line 1014 of file pycodata.py.

14.2.2.339 TRITON_MASS

```
float pycodata.TRITON_MASS = 5.0073567446e-27
```

Definition at line 1017 of file pycodata.py.

14.2.2.340 TRITON_MASS_ENERGY_EQUIVALENT

```
float pycodata.TRITON_MASS_ENERGY_EQUIVALENT = 4.5003878060e-10
```

Definition at line 1020 of file pycodata.py.

14.2.2.341 TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.92113298e0
```

Definition at line 1023 of file pycodata.py.

14.2.2.342 TRITON_MASS_IN_U

```
float pycodata.TRITON_MASS_IN_U = 3.01550071621e0
```

Definition at line 1026 of file pycodata.py.

14.2.2.343 TRITON_MOLAR_MASS

```
float pycodata.TRITON_MOLAR_MASS = 3.01550071517e-3
```

Definition at line 1029 of file pycodata.py.

14.2.2.344 TRITON_PROTON_MASS_RATIO

```
float pycodata.TRITON_PROTON_MASS_RATIO = 2.99371703414e0
```

Definition at line 1032 of file pycodata.py.

14.2.2.345 TRITON_RELATIVE_ATOMIC_MASS

```
float pycodata.TRITON_RELATIVE_ATOMIC_MASS = 3.01550071621e0
```

Definition at line 1035 of file pycodata.py.

14.2.2.346 TRITON_TO_PROTON_MAG__MOM__RATIO

```
float pycodata.TRITON_TO_PROTON_MAG__MOM__RATIO = 1.0666399191e0
```

Definition at line 1038 of file pycodata.py.

14.2.2.347 U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
float pycodata.U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 0.00000024e0
```

Definition at line 4 of file pycodata.py.

14.2.2.348 U_ALPHA_PARTICLE_MASS

```
float pycodata.U_ALPHA_PARTICLE_MASS = 0.0000000020e-27
```

Definition at line 7 of file pycodata.py.

14.2.2.349 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 0.0000000018e-10
```

Definition at line 10 of file pycodata.py.

14.2.2.350 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000011e0
```

Definition at line 13 of file pycodata.py.

14.2.2.351 U_ALPHA_PARTICLE_MASS_IN_U

```
float pycodata.U_ALPHA_PARTICLE_MASS_IN_U = 0.000000000063e0
```

Definition at line 16 of file pycodata.py.

14.2.2.352 U_ALPHA_PARTICLE_MOLAR_MASS

```
float pycodata.U_ALPHA_PARTICLE_MOLAR_MASS = 0.0000000012e-3
```

Definition at line 19 of file pycodata.py.

14.2.2.353 U_ALPHA_PARTICLE_PROTON_MASS_RATIO

```
float pycodata.U_ALPHA_PARTICLE_PROTON_MASS_RATIO = 0.00000000022e0
```

Definition at line 22 of file pycodata.py.

14.2.2.354 U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
float pycodata.U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 0.000000000063e0
```

Definition at line 25 of file pycodata.py.

14.2.2.355 U_ANGSTROM_STAR

```
float pycodata.U_ANGSTROM_STAR = 0.00000090e-10
```

Definition at line 28 of file pycodata.py.

14.2.2.356 U_ATOMIC_MASS_CONSTANT

```
float pycodata.U_ATOMIC_MASS_CONSTANT = 0.00000000050e-27
```

Definition at line 31 of file pycodata.py.

14.2.2.357 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
float pycodata.U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 0.00000000045e-10
```

Definition at line 34 of file pycodata.py.

14.2.2.358 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 0.00000028e0
```

Definition at line 37 of file pycodata.py.

14.2.2.359 U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 0.0000000028e8
```

Definition at line 40 of file pycodata.py.

14.2.2.360 U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 0.0000000010e7
```

Definition at line 43 of file pycodata.py.

14.2.2.361 U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 0.00000000068e23
```

Definition at line 46 of file pycodata.py.

14.2.2.362 U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 0.0000000023e14
```

Definition at line 49 of file pycodata.py.

14.2.2.363 U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 0.00000000045e-10
```

Definition at line 52 of file pycodata.py.

14.2.2.364 U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 0.00000000033e13
```

Definition at line 55 of file pycodata.py.

14.2.2.365 U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 0.00000000050e-27
```

Definition at line 58 of file pycodata.py.

14.2.2.366 U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY

```
float pycodata.U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 0.0000000015e-53
```

Definition at line 61 of file pycodata.py.

14.2.2.367 U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY

```
float pycodata.U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 0.0000000038e-65
```

Definition at line 64 of file pycodata.py.

14.2.2.368 U_ATOMIC_UNIT_OF_ACTION

```
float pycodata.U_ATOMIC_UNIT_OF_ACTION = 0.0e0
```

Definition at line 67 of file pycodata.py.

14.2.2.369 U_ATOMIC_UNIT_OF_CHARGE

```
float pycodata.U_ATOMIC_UNIT_OF_CHARGE = 0.0e0
```

Definition at line 70 of file pycodata.py.

14.2.2.370 U_ATOMIC_UNIT_OF_CHARGE_DENSITY

```
float pycodata.U_ATOMIC_UNIT_OF_CHARGE_DENSITY = 0.00000000049e12
```

Definition at line 73 of file pycodata.py.

14.2.2.371 U_ATOMIC_UNIT_OF_CURRENT

```
float pycodata.U_ATOMIC_UNIT_OF_CURRENT = 0.000000000013e-3
```

Definition at line 76 of file pycodata.py.

14.2.2.372 U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 0.0000000013e-30
```

Definition at line 79 of file pycodata.py.

14.2.2.373 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_FIELD = 0.00000000078e11
```

Definition at line 82 of file pycodata.py.

14.2.2.374 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 0.0000000029e21
```

Definition at line 85 of file pycodata.py.

14.2.2.375 U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 0.00000000050e-41
```

Definition at line 88 of file pycodata.py.

14.2.2.376 U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 0.000000000053e0
```

Definition at line 91 of file pycodata.py.

14.2.2.377 U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 0.0000000014e-40
```

Definition at line 94 of file pycodata.py.

14.2.2.378 U_ATOMIC_UNIT_OF_ENERGY

```
float pycodata.U_ATOMIC_UNIT_OF_ENERGY = 0.0000000000085e-18
```

Definition at line 97 of file pycodata.py.

14.2.2.379 U_ATOMIC_UNIT_OF_FORCE

```
float pycodata.U_ATOMIC_UNIT_OF_FORCE = 0.0000000012e-8
```

Definition at line 100 of file pycodata.py.

14.2.2.380 U_ATOMIC_UNIT_OF_LENGTH

```
float pycodata.U_ATOMIC_UNIT_OF_LENGTH = 0.00000000080e-11
```

Definition at line 103 of file pycodata.py.

14.2.2.381 U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM

```
float pycodata.U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 0.00000000056e-23
```

Definition at line 106 of file pycodata.py.

14.2.2.382 U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY

```
float pycodata.U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 0.00000000071e5
```

Definition at line 109 of file pycodata.py.

14.2.2.383 U_ATOMIC_UNIT_OF_MAGNETIZABILITY

```
float pycodata.U_ATOMIC_UNIT_OF_MAGNETIZABILITY = 0.0000000048e-29
```

Definition at line 112 of file pycodata.py.

14.2.2.384 U_ATOMIC_UNIT_OF_MASS

```
float pycodata.U_ATOMIC_UNIT_OF_MASS = 0.0000000028e-31
```

Definition at line 115 of file pycodata.py.

14.2.2.385 U_ATOMIC_UNIT_OF_MOMENTUM

```
float pycodata.U_ATOMIC_UNIT_OF_MOMENTUM = 0.00000000030e-24
```

Definition at line 118 of file pycodata.py.

14.2.2.386 U_ATOMIC_UNIT_OF_PERMITTIVITY

```
float pycodata.U_ATOMIC_UNIT_OF_PERMITTIVITY = 0.00000000017e-10
```

Definition at line 121 of file pycodata.py.

14.2.2.387 U_ATOMIC_UNIT_OF_TIME

```
float pycodata.U_ATOMIC_UNIT_OF_TIME = 0.0000000000047e-17
```

Definition at line 124 of file pycodata.py.

14.2.2.388 U_ATOMIC_UNIT_OF_VELOCITY

```
float pycodata.U_ATOMIC_UNIT_OF_VELOCITY = 0.00000000033e6
```

Definition at line 127 of file pycodata.py.

14.2.2.389 U_AVOGADRO_CONSTANT

```
float pycodata.U_AVOGADRO_CONSTANT = 0.0e0
```

Definition at line 130 of file pycodata.py.

14.2.2.390 U_BOHR_MAGNETON

```
float pycodata.U_BOHR_MAGNETON = 0.0000000028e-24
```

Definition at line 133 of file pycodata.py.

14.2.2.391 U_BOHR_MAGNETON_IN_EV_T

```
float pycodata.U_BOHR_MAGNETON_IN_EV_T = 0.0000000017e-5
```

Definition at line 136 of file pycodata.py.

14.2.2.392 U_BOHR_MAGNETON_IN_HZ_T

```
float pycodata.U_BOHR_MAGNETON_IN_HZ_T = 0.00000000042e10
```

Definition at line 139 of file pycodata.py.

14.2.2.393 U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
float pycodata.U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.000000014e0
```

Definition at line 142 of file pycodata.py.

14.2.2.394 U_BOHR_MAGNETON_IN_K_T

```
float pycodata.U_BOHR_MAGNETON_IN_K_T = 0.00000000020e0
```

Definition at line 145 of file pycodata.py.

14.2.2.395 U_BOHR_RADIUS

```
float pycodata.U_BOHR_RADIUS = 0.00000000080e-11
```

Definition at line 148 of file pycodata.py.

14.2.2.396 U_BOLTZMANN_CONSTANT

```
float pycodata.U_BOLTZMANN_CONSTANT = 0.0e0
```

Definition at line 151 of file pycodata.py.

14.2.2.397 U_BOLTZMANN_CONSTANT_IN_EV_K

```
float pycodata.U_BOLTZMANN_CONSTANT_IN_EV_K = 0.0e0
```

Definition at line 154 of file pycodata.py.

14.2.2.398 U_BOLTZMANN_CONSTANT_IN_HZ_K

```
float pycodata.U_BOLTZMANN_CONSTANT_IN_HZ_K = 0.0e0
```

Definition at line 157 of file pycodata.py.

14.2.2.399 U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN

```
float pycodata.U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 0.0e0
```

Definition at line 160 of file pycodata.py.

14.2.2.400 U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
float pycodata.U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 0.000000057e0
```

Definition at line 163 of file pycodata.py.

14.2.2.401 U_CLASSICAL_ELECTRON_RADIUS

```
float pycodata.U_CLASSICAL_ELECTRON_RADIUS = 0.0000000013e-15
```

Definition at line 166 of file pycodata.py.

14.2.2.402 U_COMPTON_WAVELENGTH

```
float pycodata.U_COMPTON_WAVELENGTH = 0.00000000073e-12
```

Definition at line 169 of file pycodata.py.

14.2.2.403 U_CONDUCTANCE_QUANTUM

```
float pycodata.U_CONDUCTANCE_QUANTUM = 0.0e0
```

Definition at line 172 of file pycodata.py.

14.2.2.404 U_CONVENTIONAL_VALUE_OF_AMPERE_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_AMPERE_90 = 0.0e0
```

Definition at line 175 of file pycodata.py.

14.2.2.405 U_CONVENTIONAL_VALUE_OF_COULOMB_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_COULOMB_90 = 0.0e0
```

Definition at line 178 of file pycodata.py.

14.2.2.406 U_CONVENTIONAL_VALUE_OF_FARAD_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_FARAD_90 = 0.0e0
```

Definition at line 181 of file pycodata.py.

14.2.2.407 U_CONVENTIONAL_VALUE_OF_HENRY_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_HENRY_90 = 0.0e0
```

Definition at line 184 of file pycodata.py.

14.2.2.408 U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
float pycodata.U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 0.0e0
```

Definition at line 187 of file pycodata.py.

14.2.2.409 U_CONVENTIONAL_VALUE_OF_OHM_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_OHM_90 = 0.0e0
```

Definition at line 190 of file pycodata.py.

14.2.2.410 U_CONVENTIONAL_VALUE_OF_VOLT_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_VOLT_90 = 0.0e0
```

Definition at line 193 of file pycodata.py.

14.2.2.411 U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT

```
float pycodata.U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 0.0e0
```

Definition at line 196 of file pycodata.py.

14.2.2.412 U_CONVENTIONAL_VALUE_OF_WATT_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_WATT_90 = 0.0e0
```

Definition at line 199 of file pycodata.py.

14.2.2.413 U_COPPER_X_UNIT

```
float pycodata.U_COPPER_X_UNIT = 0.00000028e-13
```

Definition at line 202 of file pycodata.py.

14.2.2.414 U_DEUTERON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.U_DEUTERON_ELECTRON_MAG__MOM__RATIO = 0.000000012e-4
```

Definition at line 205 of file pycodata.py.

14.2.2.415 U_DEUTERON_ELECTRON_MASS_RATIO

```
float pycodata.U_DEUTERON_ELECTRON_MASS_RATIO = 0.00000013e0
```

Definition at line 208 of file pycodata.py.

14.2.2.416 U_DEUTERON_G_FACTOR

```
float pycodata.U_DEUTERON_G_FACTOR = 0.0000000022e0
```

Definition at line 211 of file pycodata.py.

14.2.2.417 U_DEUTERON_MAG__MOM

```
float pycodata.U_DEUTERON_MAG__MOM = 0.000000011e-27
```

Definition at line 214 of file pycodata.py.

14.2.2.418 U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000012e-4
```

Definition at line 217 of file pycodata.py.

14.2.2.419 U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000022e0
```

Definition at line 220 of file pycodata.py.

14.2.2.420 U_DEUTERON_MASS

```
float pycodata.U_DEUTERON_MASS = 0.0000000010e-27
```

Definition at line 223 of file pycodata.py.

14.2.2.421 U_DEUTERON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_DEUTERON_MASS_ENERGY_EQUIVALENT = 0.00000000091e-10
```

Definition at line 226 of file pycodata.py.

14.2.2.422 U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000057e0
```

Definition at line 229 of file pycodata.py.

14.2.2.423 U_DEUTERON_MASS_IN_U

```
float pycodata.U_DEUTERON_MASS_IN_U = 0.000000000040e0
```

Definition at line 232 of file pycodata.py.

14.2.2.424 U_DEUTERON_MOLAR_MASS

```
float pycodata.U_DEUTERON_MOLAR_MASS = 0.00000000061e-3
```

Definition at line 235 of file pycodata.py.

14.2.2.425 U_DEUTERON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_DEUTERON_NEUTRON_MAG__MOM__RATIO = 0.00000011e0
```

Definition at line 238 of file pycodata.py.

14.2.2.426 U_DEUTERON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_DEUTERON_PROTON_MAG__MOM__RATIO = 0.00000000079e0
```

Definition at line 241 of file pycodata.py.

14.2.2.427 U_DEUTERON_PROTON_MASS_RATIO

```
float pycodata.U_DEUTERON_PROTON_MASS_RATIO = 0.00000000011e0
```

Definition at line 244 of file pycodata.py.

14.2.2.428 U_DEUTERON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_DEUTERON_RELATIVE_ATOMIC_MASS = 0.000000000040e0
```

Definition at line 247 of file pycodata.py.

14.2.2.429 U_DEUTERON_RMS_CHARGE_RADIUS

```
float pycodata.U_DEUTERON_RMS_CHARGE_RADIUS = 0.00074e-15
```

Definition at line 250 of file pycodata.py.

14.2.2.430 U_ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.U_ELECTRON_CHARGE_TO_MASS_QUOTIENT = 0.00000000053e11
```

Definition at line 253 of file pycodata.py.

14.2.2.431 U_ELECTRON_DEUTERON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_DEUTERON_MAG__MOM__RATIO = 0.0000056e0
```

Definition at line 256 of file pycodata.py.

14.2.2.432 U_ELECTRON_DEUTERON_MASS_RATIO

```
float pycodata.U_ELECTRON_DEUTERON_MASS_RATIO = 0.000000000096e-4
```

Definition at line 259 of file pycodata.py.

14.2.2.433 U_ELECTRON_G_FACTOR

```
float pycodata.U_ELECTRON_G_FACTOR = 0.00000000000035e0
```

Definition at line 262 of file pycodata.py.

14.2.2.434 U_ELECTRON_GYROMAG__RATIO

```
float pycodata.U_ELECTRON_GYROMAG__RATIO = 0.00000000053e11
```

Definition at line 265 of file pycodata.py.

14.2.2.435 U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000085e0
```

Definition at line 268 of file pycodata.py.

14.2.2.436 U_ELECTRON_HELION_MASS_RATIO

```
float pycodata.U_ELECTRON_HELION_MASS_RATIO = 0.000000000079e-4
```

Definition at line 271 of file pycodata.py.

14.2.2.437 U_ELECTRON_MAG__MOM

```
float pycodata.U_ELECTRON_MAG__MOM = 0.0000000028e-24
```

Definition at line 274 of file pycodata.py.

14.2.2.438 U_ELECTRON_MAG__MOM__ANOMALY

```
float pycodata.U_ELECTRON_MAG__MOM__ANOMALY = 0.00000000018e-3
```

Definition at line 277 of file pycodata.py.

14.2.2.439 U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000000018e0
```

Definition at line 280 of file pycodata.py.

14.2.2.440 U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000011e0
```

Definition at line 283 of file pycodata.py.

14.2.2.441 U_ELECTRON_MASS

```
float pycodata.U_ELECTRON_MASS = 0.0000000028e-31
```

Definition at line 286 of file pycodata.py.

14.2.2.442 U_ELECTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_ELECTRON_MASS_ENERGY_EQUIVALENT = 0.0000000025e-14
```

Definition at line 289 of file pycodata.py.

14.2.2.443 U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000000015e0
```

Definition at line 292 of file pycodata.py.

14.2.2.444 U_ELECTRON_MASS_IN_U

```
float pycodata.U_ELECTRON_MASS_IN_U = 0.00000000016e-4
```

Definition at line 295 of file pycodata.py.

14.2.2.445 U_ELECTRON_MOLAR_MASS

```
float pycodata.U_ELECTRON_MOLAR_MASS = 0.0000000017e-7
```

Definition at line 298 of file pycodata.py.

14.2.2.446 U_ELECTRON_MUON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_MUON_MAG__MOM__RATIO = 0.0000046e0
```

Definition at line 301 of file pycodata.py.

14.2.2.447 U_ELECTRON_MUON_MASS_RATIO

```
float pycodata.U_ELECTRON_MUON_MASS_RATIO = 0.00000011e-3
```

Definition at line 304 of file pycodata.py.

14.2.2.448 U_ELECTRON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_NEUTRON_MAG__MOM__RATIO = 0.00023e0
```

Definition at line 307 of file pycodata.py.

14.2.2.449 U_ELECTRON_NEUTRON_MASS_RATIO

```
float pycodata.U_ELECTRON_NEUTRON_MASS_RATIO = 0.0000000026e-4
```

Definition at line 310 of file pycodata.py.

14.2.2.450 U_ELECTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_PROTON_MAG__MOM__RATIO = 0.00000020e0
```

Definition at line 313 of file pycodata.py.

14.2.2.451 U_ELECTRON_PROTON_MASS_RATIO

```
float pycodata.U_ELECTRON_PROTON_MASS_RATIO = 0.00000000033e-4
```

Definition at line 316 of file pycodata.py.

14.2.2.452 U_ELECTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_ELECTRON_RELATIVE_ATOMIC_MASS = 0.00000000016e-4
```

Definition at line 319 of file pycodata.py.

14.2.2.453 U_ELECTRON_TAU_MASS_RATIO

```
float pycodata.U_ELECTRON_TAU_MASS_RATIO = 0.00019e-4
```

Definition at line 322 of file pycodata.py.

14.2.2.454 U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO

```
float pycodata.U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 0.000000000045e-4
```

Definition at line 325 of file pycodata.py.

14.2.2.455 U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 0.000010e0
```

Definition at line 328 of file pycodata.py.

14.2.2.456 U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000072e0
```

Definition at line 331 of file pycodata.py.

14.2.2.457 U_ELECTRON_TRITON_MASS_RATIO

```
float pycodata.U_ELECTRON_TRITON_MASS_RATIO = 0.000000000090e-4
```

Definition at line 334 of file pycodata.py.

14.2.2.458 U_ELECTRON_VOLT

```
float pycodata.U_ELECTRON_VOLT = 0.0e0
```

Definition at line 337 of file pycodata.py.

14.2.2.459 U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000032e-9
```

Definition at line 340 of file pycodata.py.

14.2.2.460 U_ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_HARTREE_RELATIONSHIP = 0.0000000000071e-2
```

Definition at line 343 of file pycodata.py.

14.2.2.461 U_ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 346 of file pycodata.py.

14.2.2.462 U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 349 of file pycodata.py.

14.2.2.463 U_ELECTRON_VOLT_JOULE_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 352 of file pycodata.py.

14.2.2.464 U_ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 355 of file pycodata.py.

14.2.2.465 U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 358 of file pycodata.py.

14.2.2.466 U_ELEMENTARY_CHARGE

```
float pycodata.U_ELEMENTARY_CHARGE = 0.0e0
```

Definition at line 361 of file pycodata.py.

14.2.2.467 U_ELEMENTARY_CHARGE_OVER_H_BAR

```
float pycodata.U_ELEMENTARY_CHARGE_OVER_H_BAR = 0.0e0
```

Definition at line 364 of file pycodata.py.

14.2.2.468 U_FARADAY_CONSTANT

```
float pycodata.U_FARADAY_CONSTANT = 0.0e0
```

Definition at line 367 of file pycodata.py.

14.2.2.469 U_FERMI_COUPLING_CONSTANT

```
float pycodata.U_FERMI_COUPLING_CONSTANT = 0.0000006e-5
```

Definition at line 370 of file pycodata.py.

14.2.2.470 U_FINE_STRUCTURE_CONSTANT

```
float pycodata.U_FINE_STRUCTURE_CONSTANT = 0.0000000011e-3
```

Definition at line 373 of file pycodata.py.

14.2.2.471 U_FIRST_RADIATION_CONSTANT

```
float pycodata.U_FIRST_RADIATION_CONSTANT = 0.0e0
```

Definition at line 376 of file pycodata.py.

14.2.2.472 U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE

```
float pycodata.U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 0.0e0
```

Definition at line 379 of file pycodata.py.

14.2.2.473 U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000088e-8
```

Definition at line 382 of file pycodata.py.

14.2.2.474 U_HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_HARTREE_ELECTRON_VOLT_RELATIONSHIP = 0.000000000053e0
```

Definition at line 385 of file pycodata.py.

14.2.2.475 U_HARTREE_ENERGY

```
float pycodata.U_HARTREE_ENERGY = 0.0000000000085e-18
```

Definition at line 388 of file pycodata.py.

14.2.2.476 U_HARTREE_ENERGY_IN_EV

```
float pycodata.U_HARTREE_ENERGY_IN_EV = 0.000000000053e0
```

Definition at line 391 of file pycodata.py.

14.2.2.477 U_HARTREE_HERTZ_RELATIONSHIP

```
float pycodata.U_HARTREE_HERTZ_RELATIONSHIP = 0.000000000013e15
```

Definition at line 394 of file pycodata.py.

14.2.2.478 U_HARTREE_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_HARTREE_INVERSE_METER_RELATIONSHIP = 0.0000000000043e7
```

Definition at line 397 of file pycodata.py.

14.2.2.479 U_HARTREE_JOULE_RELATIONSHIP

```
float pycodata.U_HARTREE_JOULE_RELATIONSHIP = 0.0000000000085e-18
```

Definition at line 400 of file pycodata.py.

14.2.2.480 U_HARTREE_KELVIN_RELATIONSHIP

```
float pycodata.U_HARTREE_KELVIN_RELATIONSHIP = 0.0000000000061e5
```

Definition at line 403 of file pycodata.py.

14.2.2.481 U_HARTREE_KILOGRAM_RELATIONSHIP

```
float pycodata.U_HARTREE_KILOGRAM_RELATIONSHIP = 0.0000000000094e-35
```

Definition at line 406 of file pycodata.py.

14.2.2.482 U_HELION_ELECTRON_MASS_RATIO

```
float pycodata.U_HELION_ELECTRON_MASS_RATIO = 0.00000024e0
```

Definition at line 409 of file pycodata.py.

14.2.2.483 U_HELION_G_FACTOR

```
float pycodata.U_HELION_G_FACTOR = 0.000000050e0
```

Definition at line 412 of file pycodata.py.

14.2.2.484 U_HELION_MAG__MOM

```
float pycodata.U_HELION_MAG__MOM = 0.000000013e-26
```

Definition at line 415 of file pycodata.py.

14.2.2.485 U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
```

Definition at line 418 of file pycodata.py.

14.2.2.486 U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000025e0
```

Definition at line 421 of file pycodata.py.

14.2.2.487 U_HELION_MASS

```
float pycodata.U_HELION_MASS = 0.0000000015e-27
```

Definition at line 424 of file pycodata.py.

14.2.2.488 U_HELION_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_HELION_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
```

Definition at line 427 of file pycodata.py.

14.2.2.489 U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
```

Definition at line 430 of file pycodata.py.

14.2.2.490 U_HELION_MASS_IN_U

```
float pycodata.U_HELION_MASS_IN_U = 0.000000000097e0
```

Definition at line 433 of file pycodata.py.

14.2.2.491 U_HELION_MOLAR_MASS

```
float pycodata.U_HELION_MOLAR_MASS = 0.00000000091e-3
```

Definition at line 436 of file pycodata.py.

14.2.2.492 U_HELION_PROTON_MASS_RATIO

```
float pycodata.U_HELION_PROTON_MASS_RATIO = 0.00000000013e0
```

Definition at line 439 of file pycodata.py.

14.2.2.493 U_HELION_RELATIVE_ATOMIC_MASS

```
float pycodata.U_HELION_RELATIVE_ATOMIC_MASS = 0.000000000097e0
```

Definition at line 442 of file pycodata.py.

14.2.2.494 U_HELION_SHIELDING_SHIFT

```
float pycodata.U_HELION_SHIELDING_SHIFT = 0.000010e-5
```

Definition at line 445 of file pycodata.py.

14.2.2.495 U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000013e-24
```

Definition at line 448 of file pycodata.py.

14.2.2.496 U_HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_HERTZ_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 451 of file pycodata.py.

14.2.2.497 U_HERTZ_HARTREE_RELATIONSHIP

```
float pycodata.U_HERTZ_HARTREE_RELATIONSHIP = 0.0000000000029e-16
```

Definition at line 454 of file pycodata.py.

14.2.2.498 U_HERTZ_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_HERTZ_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 457 of file pycodata.py.

14.2.2.499 U_HERTZ_JOULE_RELATIONSHIP

```
float pycodata.U_HERTZ_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 460 of file pycodata.py.

14.2.2.500 U_HERTZ_KELVIN_RELATIONSHIP

```
float pycodata.U_HERTZ_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 463 of file pycodata.py.

14.2.2.501 U_HERTZ_KILOGRAM_RELATIONSHIP

```
float pycodata.U_HERTZ_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 466 of file pycodata.py.

14.2.2.502 U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133

```
float pycodata.U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 0.0e0
```

Definition at line 469 of file pycodata.py.

14.2.2.503 U_INVERSE_FINE_STRUCTURE_CONSTANT

```
float pycodata.U_INVERSE_FINE_STRUCTURE_CONSTANT = 0.000000021e0
```

Definition at line 472 of file pycodata.py.

14.2.2.504 U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000040e-15
```

Definition at line 475 of file pycodata.py.

14.2.2.505 U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 478 of file pycodata.py.

14.2.2.506 U_INVERSE_METER_HARTREE_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_HARTREE_RELATIONSHIP = 0.0000000000088e-8
```

Definition at line 481 of file pycodata.py.

14.2.2.507 U_INVERSE_METER_HERTZ_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 484 of file pycodata.py.

14.2.2.508 U_INVERSE_METER_JOULE_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 487 of file pycodata.py.

14.2.2.509 U_INVERSE_METER_KELVIN_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 490 of file pycodata.py.

14.2.2.510 U_INVERSE_METER_KILOGRAM_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 493 of file pycodata.py.

14.2.2.511 U_INVERSE_OF_CONDUCTANCE_QUANTUM

```
float pycodata.U_INVERSE_OF_CONDUCTANCE_QUANTUM = 0.0e0
```

Definition at line 496 of file pycodata.py.

14.2.2.512 U_JOSEPHSON_CONSTANT

```
float pycodata.U_JOSEPHSON_CONSTANT = 0.0e0
```

Definition at line 499 of file pycodata.py.

14.2.2.513 U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000020e9
```

Definition at line 502 of file pycodata.py.

14.2.2.514 U_JOULE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_JOULE_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 505 of file pycodata.py.

14.2.2.515 U_JOULE_HARTREE_RELATIONSHIP

```
float pycodata.U_JOULE_HARTREE_RELATIONSHIP = 0.0000000000045e17
```

Definition at line 508 of file pycodata.py.

14.2.2.516 U_JOULE_HERTZ_RELATIONSHIP

```
float pycodata.U_JOULE_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 511 of file pycodata.py.

14.2.2.517 U_JOULE_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_JOULE_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 514 of file pycodata.py.

14.2.2.518 U_JOULE_KELVIN_RELATIONSHIP

```
float pycodata.U_JOULE_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 517 of file pycodata.py.

14.2.2.519 U_JOULE_KILOGRAM_RELATIONSHIP

```
float pycodata.U_JOULE_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 520 of file pycodata.py.

14.2.2.520 U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000028e-14
```

Definition at line 523 of file pycodata.py.

14.2.2.521 U_KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_KELVIN_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 526 of file pycodata.py.

14.2.2.522 U_KELVIN_HARTREE_RELATIONSHIP

```
float pycodata.U_KELVIN_HARTREE_RELATIONSHIP = 0.0000000000061e-6
```

Definition at line 529 of file pycodata.py.

14.2.2.523 U_KELVIN_HERTZ_RELATIONSHIP

```
float pycodata.U_KELVIN_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 532 of file pycodata.py.

14.2.2.524 U_KELVIN_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_KELVIN_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 535 of file pycodata.py.

14.2.2.525 U_KELVIN_JOULE_RELATIONSHIP

```
float pycodata.U_KELVIN_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 538 of file pycodata.py.

14.2.2.526 U_KELVIN_KILOGRAM_RELATIONSHIP

```
float pycodata.U_KELVIN_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 541 of file pycodata.py.

14.2.2.527 U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000018e26
```

Definition at line 544 of file pycodata.py.

14.2.2.528 U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 547 of file pycodata.py.

14.2.2.529 U_KILOGRAM_HARTREE_RELATIONSHIP

```
float pycodata.U_KILOGRAM_HARTREE_RELATIONSHIP = 0.0000000000040e34
```

Definition at line 550 of file pycodata.py.

14.2.2.530 U_KILOGRAM_HERTZ_RELATIONSHIP

```
float pycodata.U_KILOGRAM_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 553 of file pycodata.py.

14.2.2.531 U_KILOGRAM_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_KILOGRAM_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 556 of file pycodata.py.

14.2.2.532 U_KILOGRAM_JOULE_RELATIONSHIP

```
float pycodata.U_KILOGRAM_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 559 of file pycodata.py.

14.2.2.533 U_KILOGRAM_KELVIN_RELATIONSHIP

```
float pycodata.U_KILOGRAM_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 562 of file pycodata.py.

14.2.2.534 U_LATTICE_PARAMETER_OF_SILICON

```
float pycodata.U_LATTICE_PARAMETER_OF_SILICON = 0.000000089e-10
```

Definition at line 565 of file pycodata.py.

14.2.2.535 U_LATTICE_SPACING_OF_IDEAL_SI__220

```
float pycodata.U_LATTICE_SPACING_OF_IDEAL_SI__220 = 0.000000032e-10
```

Definition at line 568 of file pycodata.py.

14.2.2.536 U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA

```
float pycodata.U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 0.0e0
```

Definition at line 571 of file pycodata.py.

14.2.2.537 U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA

```
float pycodata.U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 0.0e0
```

Definition at line 574 of file pycodata.py.

14.2.2.538 U_LUMINOUS_EFFICACY

```
float pycodata.U_LUMINOUS_EFFICACY = 0.0e0
```

Definition at line 577 of file pycodata.py.

14.2.2.539 U_MAG__FLUX_QUANTUM

```
float pycodata.U_MAG__FLUX_QUANTUM = 0.0e0
```

Definition at line 580 of file pycodata.py.

14.2.2.540 U_MOLAR_GAS_CONSTANT

```
float pycodata.U_MOLAR_GAS_CONSTANT = 0.0e0
```

Definition at line 583 of file pycodata.py.

14.2.2.541 U_MOLAR_MASS_CONSTANT

```
float pycodata.U_MOLAR_MASS_CONSTANT = 0.00000000030e-3
```

Definition at line 586 of file pycodata.py.

14.2.2.542 U_MOLAR_MASS_OF_CARBON_12

```
float pycodata.U_MOLAR_MASS_OF_CARBON_12 = 0.0000000036e-3
```

Definition at line 589 of file pycodata.py.

14.2.2.543 U_MOLAR_PLANCK_CONSTANT

```
float pycodata.U_MOLAR_PLANCK_CONSTANT = 0.0e0
```

Definition at line 592 of file pycodata.py.

14.2.2.544 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA

```
float pycodata.U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 0.0e0
```

Definition at line 595 of file pycodata.py.

14.2.2.545 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA

```
float pycodata.U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 0.0e0
```

Definition at line 598 of file pycodata.py.

14.2.2.546 U_MOLAR_VOLUME_OF_SILICON

```
float pycodata.U_MOLAR_VOLUME_OF_SILICON = 0.000000060e-5
```

Definition at line 601 of file pycodata.py.

14.2.2.547 U_MOLYBDENUM_X_UNIT

```
float pycodata.U_MOLYBDENUM_X_UNIT = 0.00000053e-13
```

Definition at line 604 of file pycodata.py.

14.2.2.548 U_MUON_COMPTON_WAVELENGTH

```
float pycodata.U_MUON_COMPTON_WAVELENGTH = 0.000000026e-14
```

Definition at line 607 of file pycodata.py.

14.2.2.549 U_MUON_ELECTRON_MASS_RATIO

```
float pycodata.U_MUON_ELECTRON_MASS_RATIO = 0.0000046e0
```

Definition at line 610 of file pycodata.py.

14.2.2.550 U_MUON_G_FACTOR

```
float pycodata.U_MUON_G_FACTOR = 0.0000000013e0
```

Definition at line 613 of file pycodata.py.

14.2.2.551 U_MUON_MAG__MOM

```
float pycodata.U_MUON_MAG__MOM = 0.00000010e-26
```

Definition at line 616 of file pycodata.py.

14.2.2.552 U_MUON_MAG__MOM__ANOMALY

```
float pycodata.U_MUON_MAG__MOM__ANOMALY = 0.00000063e-3
```

Definition at line 619 of file pycodata.py.

14.2.2.553 U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000011e-3
```

Definition at line 622 of file pycodata.py.

14.2.2.554 U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000020e0
```

Definition at line 625 of file pycodata.py.

14.2.2.555 U_MUON_MASS

```
float pycodata.U_MUON_MASS = 0.000000042e-28
```

Definition at line 628 of file pycodata.py.

14.2.2.556 U_MUON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_MUON_MASS_ENERGY_EQUIVALENT = 0.000000038e-11
```

Definition at line 631 of file pycodata.py.

14.2.2.557 U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000023e0
```

Definition at line 634 of file pycodata.py.

14.2.2.558 U_MUON_MASS_IN_U

```
float pycodata.U_MUON_MASS_IN_U = 0.0000000025e0
```

Definition at line 637 of file pycodata.py.

14.2.2.559 U_MUON_MOLAR_MASS

```
float pycodata.U_MUON_MOLAR_MASS = 0.000000025e-4
```

Definition at line 640 of file pycodata.py.

14.2.2.560 U_MUON_NEUTRON_MASS_RATIO

```
float pycodata.U_MUON_NEUTRON_MASS_RATIO = 0.0000000025e0
```

Definition at line 643 of file pycodata.py.

14.2.2.561 U_MUON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_MUON_PROTON_MAG__MOM__RATIO = 0.000000071e0
```

Definition at line 646 of file pycodata.py.

14.2.2.562 U_MUON_PROTON_MASS_RATIO

```
float pycodata.U_MUON_PROTON_MASS_RATIO = 0.0000000025e0
```

Definition at line 649 of file pycodata.py.

14.2.2.563 U_MUON_TAU_MASS_RATIO

```
float pycodata.U_MUON_TAU_MASS_RATIO = 0.00040e-2
```

Definition at line 652 of file pycodata.py.

14.2.2.564 U_NATURAL_UNIT_OF_ACTION

```
float pycodata.U_NATURAL_UNIT_OF_ACTION = 0.0e0
```

Definition at line 655 of file pycodata.py.

14.2.2.565 U_NATURAL_UNIT_OF_ACTION_IN_EV_S

```
float pycodata.U_NATURAL_UNIT_OF_ACTION_IN_EV_S = 0.0e0
```

Definition at line 658 of file pycodata.py.

14.2.2.566 U_NATURAL_UNIT_OF_ENERGY

```
float pycodata.U_NATURAL_UNIT_OF_ENERGY = 0.0000000025e-14
```

Definition at line 661 of file pycodata.py.

14.2.2.567 U_NATURAL_UNIT_OF_ENERGY_IN_MEV

```
float pycodata.U_NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.00000000015e0
```

Definition at line 664 of file pycodata.py.

14.2.2.568 U_NATURAL_UNIT_OF_LENGTH

```
float pycodata.U_NATURAL_UNIT_OF_LENGTH = 0.0000000012e-13
```

Definition at line 667 of file pycodata.py.

14.2.2.569 U_NATURAL_UNIT_OF_MASS

```
float pycodata.U_NATURAL_UNIT_OF_MASS = 0.0000000028e-31
```

Definition at line 670 of file pycodata.py.

14.2.2.570 U_NATURAL_UNIT_OF_MOMENTUM

```
float pycodata.U_NATURAL_UNIT_OF_MOMENTUM = 0.00000000082e-22
```

Definition at line 673 of file pycodata.py.

14.2.2.571 U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C

```
float pycodata.U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.00000000015e0
```

Definition at line 676 of file pycodata.py.

14.2.2.572 U_NATURAL_UNIT_OF_TIME

```
float pycodata.U_NATURAL_UNIT_OF_TIME = 0.00000000039e-21
```

Definition at line 679 of file pycodata.py.

14.2.2.573 U_NATURAL_UNIT_OF_VELOCITY

```
float pycodata.U_NATURAL_UNIT_OF_VELOCITY = 0.0e0
```

Definition at line 682 of file pycodata.py.

14.2.2.574 U_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.U_NEUTRON_COMPTON_WAVELENGTH = 0.00000000075e-15
```

Definition at line 685 of file pycodata.py.

14.2.2.575 U_NEUTRON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.U_NEUTRON_ELECTRON_MAG__MOM__RATIO = 0.00000025e-3
```

Definition at line 688 of file pycodata.py.

14.2.2.576 U_NEUTRON_ELECTRON_MASS_RATIO

```
float pycodata.U_NEUTRON_ELECTRON_MASS_RATIO = 0.00000089e0
```

Definition at line 691 of file pycodata.py.

14.2.2.577 U_NEUTRON_G_FACTOR

```
float pycodata.U_NEUTRON_G_FACTOR = 0.00000090e0
```

Definition at line 694 of file pycodata.py.

14.2.2.578 U_NEUTRON_GYROMAG__RATIO

```
float pycodata.U_NEUTRON_GYROMAG__RATIO = 0.00000043e8
```

Definition at line 697 of file pycodata.py.

14.2.2.579 U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000069e0
```

Definition at line 700 of file pycodata.py.

14.2.2.580 U_NEUTRON_MAG__MOM

```
float pycodata.U_NEUTRON_MAG__MOM = 0.0000023e-27
```

Definition at line 703 of file pycodata.py.

14.2.2.581 U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000025e-3
```

Definition at line 706 of file pycodata.py.

14.2.2.582 U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000045e0
```

Definition at line 709 of file pycodata.py.

14.2.2.583 U_NEUTRON_MASS

```
float pycodata.U_NEUTRON_MASS = 0.00000000095e-27
```

Definition at line 712 of file pycodata.py.

14.2.2.584 U_NEUTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_NEUTRON_MASS_ENERGY_EQUIVALENT = 0.00000000086e-10
```

Definition at line 715 of file pycodata.py.

14.2.2.585 U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000054e0
```

Definition at line 718 of file pycodata.py.

14.2.2.586 U_NEUTRON_MASS_IN_U

```
float pycodata.U_NEUTRON_MASS_IN_U = 0.00000000049e0
```

Definition at line 721 of file pycodata.py.

14.2.2.587 U_NEUTRON_MOLAR_MASS

```
float pycodata.U_NEUTRON_MOLAR_MASS = 0.00000000057e-3
```

Definition at line 724 of file pycodata.py.

14.2.2.588 U_NEUTRON_MUON_MASS_RATIO

```
float pycodata.U_NEUTRON_MUON_MASS_RATIO = 0.00000020e0
```

Definition at line 727 of file pycodata.py.

14.2.2.589 U_NEUTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_NEUTRON_PROTON_MAG__MOM__RATIO = 0.00000016e0
```

Definition at line 730 of file pycodata.py.

14.2.2.590 U_NEUTRON_PROTON_MASS_DIFFERENCE

```
float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE = 0.00000082e-30
```

Definition at line 733 of file pycodata.py.

14.2.2.591 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT

```
float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 0.00000074e-13
```

Definition at line 736 of file pycodata.py.

14.2.2.592 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 0.00000046e0
```

Definition at line 739 of file pycodata.py.

14.2.2.593 U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U

```
float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 0.00000049e-3
```

Definition at line 742 of file pycodata.py.

14.2.2.594 U_NEUTRON_PROTON_MASS_RATIO

```
float pycodata.U_NEUTRON_PROTON_MASS_RATIO = 0.00000000049e0
```

Definition at line 745 of file pycodata.py.

14.2.2.595 U_NEUTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_NEUTRON_RELATIVE_ATOMIC_MASS = 0.00000000049e0
```

Definition at line 748 of file pycodata.py.

14.2.2.596 U_NEUTRON_TAU_MASS_RATIO

```
float pycodata.U_NEUTRON_TAU_MASS_RATIO = 0.000036e0
```

Definition at line 751 of file pycodata.py.

14.2.2.597 U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.00000016e0
```

Definition at line 754 of file pycodata.py.

14.2.2.598 U_NEWTONIAN_CONSTANT_OF_GRAVITATION

```
float pycodata.U_NEWTONIAN_CONSTANT_OF_GRAVITATION = 0.00015e-11
```

Definition at line 757 of file pycodata.py.

14.2.2.599 U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C

```
float pycodata.U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 0.00015e-39
```

Definition at line 760 of file pycodata.py.

14.2.2.600 U_NUCLEAR_MAGNETON

```
float pycodata.U_NUCLEAR_MAGNETON = 0.0000000015e-27
```

Definition at line 763 of file pycodata.py.

14.2.2.601 U_NUCLEAR_MAGNETON_IN_EV_T

```
float pycodata.U_NUCLEAR_MAGNETON_IN_EV_T = 0.00000000096e-8
```

Definition at line 766 of file pycodata.py.

14.2.2.602 U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
float pycodata.U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.00000000078e-2
```

Definition at line 769 of file pycodata.py.

14.2.2.603 U_NUCLEAR_MAGNETON_IN_K_T

```
float pycodata.U_NUCLEAR_MAGNETON_IN_K_T = 0.0000000011e-4
```

Definition at line 772 of file pycodata.py.

14.2.2.604 U_NUCLEAR_MAGNETON_IN_MHZ_T

```
float pycodata.U_NUCLEAR_MAGNETON_IN_MHZ_T = 0.0000000023e0
```

Definition at line 775 of file pycodata.py.

14.2.2.605 U_PLANCK_CONSTANT

```
float pycodata.U_PLANCK_CONSTANT = 0.0e0
```

Definition at line 778 of file pycodata.py.

14.2.2.606 U_PLANCK_CONSTANT_IN_EV_HZ

```
float pycodata.U_PLANCK_CONSTANT_IN_EV_HZ = 0.0e0
```

Definition at line 781 of file pycodata.py.

14.2.2.607 U_PLANCK_LENGTH

```
float pycodata.U_PLANCK_LENGTH = 0.000018e-35
```

Definition at line 784 of file pycodata.py.

14.2.2.608 U_PLANCK_MASS

```
float pycodata.U_PLANCK_MASS = 0.000024e-8
```

Definition at line 787 of file pycodata.py.

14.2.2.609 U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV

```
float pycodata.U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 0.000014e19
```

Definition at line 790 of file pycodata.py.

14.2.2.610 U_PLANCK_TEMPERATURE

```
float pycodata.U_PLANCK_TEMPERATURE = 0.000016e32
```

Definition at line 793 of file pycodata.py.

14.2.2.611 U_PLANCK_TIME

```
float pycodata.U_PLANCK_TIME = 0.000060e-44
```

Definition at line 796 of file pycodata.py.

14.2.2.612 U_PROTON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.U_PROTON_CHARGE_TO_MASS_QUOTIENT = 0.0000000029e7
```

Definition at line 799 of file pycodata.py.

14.2.2.613 U_PROTON_COMPTON_WAVELENGTH

```
float pycodata.U_PROTON_COMPTON_WAVELENGTH = 0.00000000040e-15
```

Definition at line 802 of file pycodata.py.

14.2.2.614 U_PROTON_ELECTRON_MASS_RATIO

```
float pycodata.U_PROTON_ELECTRON_MASS_RATIO = 0.00000011e0
```

Definition at line 805 of file pycodata.py.

14.2.2.615 U_PROTON_G_FACTOR

```
float pycodata.U_PROTON_G_FACTOR = 0.0000000016e0
```

Definition at line 808 of file pycodata.py.

14.2.2.616 U_PROTON_GYROMAG__RATIO

```
float pycodata.U_PROTON_GYROMAG__RATIO = 0.0000000011e8
```

Definition at line 811 of file pycodata.py.

14.2.2.617 U_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.U_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.000000018e0
```

Definition at line 814 of file pycodata.py.

14.2.2.618 U_PROTON_MAG__MOM

```
float pycodata.U_PROTON_MAG__MOM = 0.00000000060e-26
```

Definition at line 817 of file pycodata.py.

14.2.2.619 U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000046e-3
```

Definition at line 820 of file pycodata.py.

14.2.2.620 U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000000082e0
```

Definition at line 823 of file pycodata.py.

14.2.2.621 U_PROTON_MAG__SHIELDING_CORRECTION

```
float pycodata.U_PROTON_MAG__SHIELDING_CORRECTION = 0.0011e-5
```

Definition at line 826 of file pycodata.py.

14.2.2.622 U_PROTON_MASS

```
float pycodata.U_PROTON_MASS = 0.00000000051e-27
```

Definition at line 829 of file pycodata.py.

14.2.2.623 U_PROTON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_PROTON_MASS_ENERGY_EQUIVALENT = 0.00000000046e-10
```

Definition at line 832 of file pycodata.py.

14.2.2.624 U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000029e0
```

Definition at line 835 of file pycodata.py.

14.2.2.625 U_PROTON_MASS_IN_U

```
float pycodata.U_PROTON_MASS_IN_U = 0.000000000053e0
```

Definition at line 838 of file pycodata.py.

14.2.2.626 U_PROTON_MOLAR_MASS

```
float pycodata.U_PROTON_MOLAR_MASS = 0.00000000031e-3
```

Definition at line 841 of file pycodata.py.

14.2.2.627 U_PROTON_MUON_MASS_RATIO

```
float pycodata.U_PROTON_MUON_MASS_RATIO = 0.00000020e0
```

Definition at line 844 of file pycodata.py.

14.2.2.628 U_PROTON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_PROTON_NEUTRON_MAG__MOM__RATIO = 0.00000034e0
```

Definition at line 847 of file pycodata.py.

14.2.2.629 U_PROTON_NEUTRON_MASS_RATIO

```
float pycodata.U_PROTON_NEUTRON_MASS_RATIO = 0.00000000049e0
```

Definition at line 850 of file pycodata.py.

14.2.2.630 U_PROTON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_PROTON_RELATIVE_ATOMIC_MASS = 0.000000000053e0
```

Definition at line 853 of file pycodata.py.

14.2.2.631 U_PROTON_RMS_CHARGE_RADIUS

```
float pycodata.U_PROTON_RMS_CHARGE_RADIUS = 0.019e-16
```

Definition at line 856 of file pycodata.py.

14.2.2.632 U_PROTON_TAU_MASS_RATIO

```
float pycodata.U_PROTON_TAU_MASS_RATIO = 0.000036e0
```

Definition at line 859 of file pycodata.py.

14.2.2.633 U_QUANTUM_OF_CIRCULATION

```
float pycodata.U_QUANTUM_OF_CIRCULATION = 0.0000000011e-4
```

Definition at line 862 of file pycodata.py.

14.2.2.634 U_QUANTUM_OF_CIRCULATION_TIMES_2

```
float pycodata.U_QUANTUM_OF_CIRCULATION_TIMES_2 = 0.0000000022e-4
```

Definition at line 865 of file pycodata.py.

14.2.2.635 U_REDUCED_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_COMPTON_WAVELENGTH = 0.0000000012e-13
```

Definition at line 868 of file pycodata.py.

14.2.2.636 U_REDUCED_MUON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_MUON_COMPTON_WAVELENGTH = 0.000000042e-15
```

Definition at line 871 of file pycodata.py.

14.2.2.637 U_REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_NEUTRON_COMPTON_WAVELENGTH = 0.0000000012e-16
```

Definition at line 874 of file pycodata.py.

14.2.2.638 U_REDUCED_PLANCK_CONSTANT

```
float pycodata.U_REDUCED_PLANCK_CONSTANT = 0.0e0
```

Definition at line 877 of file pycodata.py.

14.2.2.639 U_REDUCED_PLANCK_CONSTANT_IN_EV_S

```
float pycodata.U_REDUCED_PLANCK_CONSTANT_IN_EV_S = 0.0e0
```

Definition at line 880 of file pycodata.py.

14.2.2.640 U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM

```
float pycodata.U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 0.0e0
```

Definition at line 883 of file pycodata.py.

14.2.2.641 U_REDUCED_PROTON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_PROTON_COMPTON_WAVELENGTH = 0.00000000064e-16
```

Definition at line 886 of file pycodata.py.

14.2.2.642 U_REDUCED_TAU_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_TAU_COMPTON_WAVELENGTH = 0.000075e-16
```

Definition at line 889 of file pycodata.py.

14.2.2.643 U_RYDBERG_CONSTANT

```
float pycodata.U_RYDBERG_CONSTANT = 0.000021e0
```

Definition at line 892 of file pycodata.py.

14.2.2.644 U_RYDBERG_CONSTANT_TIMES_C_IN_HZ

```
float pycodata.U_RYDBERG_CONSTANT_TIMES_C_IN_HZ = 0.0000000000064e15
```

Definition at line 895 of file pycodata.py.

14.2.2.645 U_RYDBERG_CONSTANT_TIMES_HC_IN_EV

```
float pycodata.U_RYDBERG_CONSTANT_TIMES_HC_IN_EV = 0.000000000026e0
```

Definition at line 898 of file pycodata.py.

14.2.2.646 U_RYDBERG_CONSTANT_TIMES_HC_IN_J

```
float pycodata.U_RYDBERG_CONSTANT_TIMES_HC_IN_J = 0.0000000000042e-18
```

Definition at line 901 of file pycodata.py.

14.2.2.647 U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA

```
float pycodata.U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA = 0.00000000045e0
```

Definition at line 904 of file pycodata.py.

14.2.2.648 U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA

```
float pycodata.U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = 0.00000000045e0
```

Definition at line 907 of file pycodata.py.

14.2.2.649 U_SECOND_RADIATION_CONSTANT

```
float pycodata.U_SECOND_RADIATION_CONSTANT = 0.0e0
```

Definition at line 910 of file pycodata.py.

14.2.2.650 U_SHIELDED_HELION_GYROMAG__RATIO

```
float pycodata.U_SHIELDED_HELION_GYROMAG__RATIO = 0.000000024e8
```

Definition at line 913 of file pycodata.py.

14.2.2.651 U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 0.00000038e0
```

Definition at line 916 of file pycodata.py.

14.2.2.652 U_SHIELDED_HELION_MAG__MOM

```
float pycodata.U_SHIELDED_HELION_MAG__MOM = 0.000000013e-26
```

Definition at line 919 of file pycodata.py.

14.2.2.653 U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
```

Definition at line 922 of file pycodata.py.

14.2.2.654 U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000025e0
```

Definition at line 925 of file pycodata.py.

14.2.2.655 U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO

```
float pycodata.U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = 0.0000000089e0
```

Definition at line 928 of file pycodata.py.

14.2.2.656 U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
float pycodata.U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000000033e0
```

Definition at line 931 of file pycodata.py.

14.2.2.657 U_SHIELDED_PROTON_GYROMAG__RATIO

```
float pycodata.U_SHIELDED_PROTON_GYROMAG__RATIO = 0.000000029e8
```

Definition at line 934 of file pycodata.py.

14.2.2.658 U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.00000046e0
```

Definition at line 937 of file pycodata.py.

14.2.2.659 U_SHIELDED_PROTON_MAG__MOM

```
float pycodata.U_SHIELDED_PROTON_MAG__MOM = 0.000000015e-26
```

Definition at line 940 of file pycodata.py.

14.2.2.660 U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000017e-3
```

Definition at line 943 of file pycodata.py.

14.2.2.661 U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000030e0
```

Definition at line 946 of file pycodata.py.

14.2.2.662 U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD

```
float pycodata.U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 0.0020e-8
```

Definition at line 949 of file pycodata.py.

14.2.2.663 U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT

```
float pycodata.U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 0.0020e-8
```

Definition at line 952 of file pycodata.py.

14.2.2.664 U_SPEED_OF_LIGHT_IN_VACUUM

```
float pycodata.U_SPEED_OF_LIGHT_IN_VACUUM = 0.0e0
```

Definition at line 955 of file pycodata.py.

14.2.2.665 U_STANDARD_ACCELERATION_OF_GRAVITY

```
float pycodata.U_STANDARD_ACCELERATION_OF_GRAVITY = 0.0e0
```

Definition at line 958 of file pycodata.py.

14.2.2.666 U_STANDARD_ATMOSPHERE

```
float pycodata.U_STANDARD_ATMOSPHERE = 0.0e0
```

Definition at line 961 of file pycodata.py.

14.2.2.667 U_STANDARD_STATE_PRESSURE

```
float pycodata.U_STANDARD_STATE_PRESSURE = 0.0e0
```

Definition at line 964 of file pycodata.py.

14.2.2.668 U_STEFAN_BOLTZMANN_CONSTANT

```
float pycodata.U_STEFAN_BOLTZMANN_CONSTANT = 0.0e0
```

Definition at line 967 of file pycodata.py.

14.2.2.669 U_TAU_COMPTON_WAVELENGTH

```
float pycodata.U_TAU_COMPTON_WAVELENGTH = 0.00047e-16
```

Definition at line 970 of file pycodata.py.

14.2.2.670 U_TAU_ELECTRON_MASS_RATIO

```
float pycodata.U_TAU_ELECTRON_MASS_RATIO = 0.23e0
```

Definition at line 973 of file pycodata.py.

14.2.2.671 U_TAU_ENERGY_EQUIVALENT

```
float pycodata.U_TAU_ENERGY_EQUIVALENT = 0.12e0
```

Definition at line 976 of file pycodata.py.

14.2.2.672 U_TAU_MASS

```
float pycodata.U_TAU_MASS = 0.00021e-27
```

Definition at line 979 of file pycodata.py.

14.2.2.673 U_TAU_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_TAU_MASS_ENERGY_EQUIVALENT = 0.00019e-10
```

Definition at line 982 of file pycodata.py.

14.2.2.674 U_TAU_MASS_IN_U

```
float pycodata.U_TAU_MASS_IN_U = 0.00013e0
```

Definition at line 985 of file pycodata.py.

14.2.2.675 U_TAU_MOLAR_MASS

```
float pycodata.U_TAU_MOLAR_MASS = 0.00013e-3
```

Definition at line 988 of file pycodata.py.

14.2.2.676 U_TAU_MUON_MASS_RATIO

```
float pycodata.U_TAU_MUON_MASS_RATIO = 0.0011e0
```

Definition at line 991 of file pycodata.py.

14.2.2.677 U_TAU_NEUTRON_MASS_RATIO

```
float pycodata.U_TAU_NEUTRON_MASS_RATIO = 0.00013e0
```

Definition at line 994 of file pycodata.py.

14.2.2.678 U_TAU_PROTON_MASS_RATIO

```
float pycodata.U_TAU_PROTON_MASS_RATIO = 0.00013e0
```

Definition at line 997 of file pycodata.py.

14.2.2.679 U_THOMSON_CROSS_SECTION

```
float pycodata.U_THOMSON_CROSS_SECTION = 0.0000000060e-29
```

Definition at line 1000 of file pycodata.py.

14.2.2.680 U_TRITON_ELECTRON_MASS_RATIO

```
float pycodata.U_TRITON_ELECTRON_MASS_RATIO = 0.00000027e0
```

Definition at line 1003 of file pycodata.py.

14.2.2.681 U_TRITON_G_FACTOR

```
float pycodata.U_TRITON_G_FACTOR = 0.000000012e0
```

Definition at line 1006 of file pycodata.py.

14.2.2.682 U_TRITON_MAG__MOM

```
float pycodata.U_TRITON_MAG__MOM = 0.0000000030e-26
```

Definition at line 1009 of file pycodata.py.

14.2.2.683 U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
float pycodata.U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.0000000032e-3
```

Definition at line 1012 of file pycodata.py.

14.2.2.684 U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
float pycodata.U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000059e0
```

Definition at line 1015 of file pycodata.py.

14.2.2.685 U_TRITON_MASS

```
float pycodata.U_TRITON_MASS = 0.0000000015e-27
```

Definition at line 1018 of file pycodata.py.

14.2.2.686 U_TRITON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_TRITON_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
```

Definition at line 1021 of file pycodata.py.

14.2.2.687 U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
```

Definition at line 1024 of file pycodata.py.

14.2.2.688 U_TRITON_MASS_IN_U

```
float pycodata.U_TRITON_MASS_IN_U = 0.00000000012e0
```

Definition at line 1027 of file pycodata.py.

14.2.2.689 U_TRITON_MOLAR_MASS

```
float pycodata.U_TRITON_MOLAR_MASS = 0.00000000092e-3
```

Definition at line 1030 of file pycodata.py.

14.2.2.690 U_TRITON_PROTON_MASS_RATIO

```
float pycodata.U_TRITON_PROTON_MASS_RATIO = 0.00000000015e0
```

Definition at line 1033 of file pycodata.py.

14.2.2.691 U_TRITON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_TRITON_RELATIVE_ATOMIC_MASS = 0.00000000012e0
```

Definition at line 1036 of file pycodata.py.

14.2.2.692 U_TRITON_TO_PROTON_MAG__MOM__RATIO

```
float pycodata.U_TRITON_TO_PROTON_MAG__MOM__RATIO = 0.0000000021e0
```

Definition at line 1039 of file pycodata.py.

14.2.2.693 U_UNIFIED_ATOMIC_MASS_UNIT

```
float pycodata.U_UNIFIED_ATOMIC_MASS_UNIT = 0.00000000050e-27
```

Definition at line 1042 of file pycodata.py.

14.2.2.694 U_VACUUM_ELECTRIC_PERMITTIVITY

```
float pycodata.U_VACUUM_ELECTRIC_PERMITTIVITY = 0.0000000013e-12
```

Definition at line 1045 of file pycodata.py.

14.2.2.695 U_VACUUM_MAG__PERMEABILITY

```
float pycodata.U_VACUUM_MAG__PERMEABILITY = 0.00000000019e-6
```

Definition at line 1048 of file pycodata.py.

14.2.2.696 U_VON_KLITZING_CONSTANT

```
float pycodata.U_VON_KLITZING_CONSTANT = 0.0e0
```

Definition at line 1051 of file pycodata.py.

14.2.2.697 U_W_TO_Z_MASS_RATIO

```
float pycodata.U_W_TO_Z_MASS_RATIO = 0.00017e0
```

Definition at line 1063 of file pycodata.py.

14.2.2.698 U_WEAK_MIXING_ANGLE

```
float pycodata.U_WEAK_MIXING_ANGLE = 0.00030e0
```

Definition at line 1054 of file pycodata.py.

14.2.2.699 U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 0.0e0
```

Definition at line 1057 of file pycodata.py.

14.2.2.700 U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 0.0e0
```

Definition at line 1060 of file pycodata.py.

14.2.2.701 UNIFIED_ATOMIC_MASS_UNIT

```
float pycodata.UNIFIED_ATOMIC_MASS_UNIT = 1.66053906660e-27
```

Definition at line 1041 of file pycodata.py.

14.2.2.702 VACUUM_ELECTRIC_PERMITTIVITY

```
float pycodata.VACUUM_ELECTRIC_PERMITTIVITY = 8.8541878128e-12
```

Definition at line 1044 of file pycodata.py.

14.2.2.703 VACUUM_MAG__PERMEABILITY

```
float pycodata.VACUUM_MAG__PERMEABILITY = 1.25663706212e-6
```

Definition at line 1047 of file pycodata.py.

14.2.2.704 VON_KLITZING_CONSTANT

```
float pycodata.VON_KLITZING_CONSTANT = 25812.80745e0
```

Definition at line 1050 of file pycodata.py.

14.2.2.705 W_TO_Z_MASS_RATIO

```
float pycodata.W_TO_Z_MASS_RATIO = 0.88153e0
```

Definition at line 1062 of file pycodata.py.

14.2.2.706 WEAK_MIXING_ANGLE

```
float pycodata.WEAK_MIXING_ANGLE = 0.22290e0
```

Definition at line 1053 of file pycodata.py.

14.2.2.707 WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 5.878925757e10
```

Definition at line 1056 of file pycodata.py.

14.2.2.708 WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 2.897771955e-3
```

Definition at line 1059 of file pycodata.py.

Chapter 15

Data Type Documentation

15.1 codata_file_props Struct Reference

Properties of the file for the codata raw data.

Data Fields

- size_t n
- size_t index_header_end
- char codata_path [18]
- char year [5]
- char fmodule_path [18]

15.1.1 Detailed Description

Properties of the file for the codata raw data.

Definition at line 18 of file generator.c.

15.1.2 Field Documentation

15.1.2.1 codata_path

```
char codata_file_props::codata_path[18]
```

Filepath to the raw codata constants.

Definition at line 21 of file generator.c.

15.1.2.2 fmodule_path

```
char codata_file_props::fmodule_path[18]
```

Filepath of the generated Fortran module.

Definition at line 23 of file generator.c.

15.1.2.3 index_header_end

```
size_t codata_file_props::index_header_end
```

Number of lines for the header.

Definition at line 20 of file generator.c.

15.1.2.4 n

```
size_t codata_file_props::n
```

Number of lines.

Definition at line 19 of file generator.c.

15.1.2.5 year

```
char codata_file_props::year[5]
```

Year of release of the codata constants.

Definition at line 22 of file generator.c.

The documentation for this struct was generated from the following file:

- /Users/milan/programs/codata/src/generator.c

Chapter 16

File Documentation

16.1 getting_started/install.md File Reference

16.2 getting_started/license.md File Reference

16.3 getting_started/requirements.md File Reference

16.4 releases/0.1.0-notes.md File Reference

16.5 releases/0.2.0-notes.md File Reference

16.6 releases/0.2.1-notes.md File Reference

16.7 releases/0.3.0-notes.md File Reference

16.8 releases/0.4.0-notes.md File Reference

16.9 releases/0.5.0-notes.md File Reference

16.10 /Users/milan/programs/codata/README.md File Reference

16.11 /Users/milan/programs/codata/src/ccodata.h File Reference

Codata module - autogenerated.

Variables

- const double ALPHA_PARTICLE_ELECTRON_MASS_RATIO =7294.29954142e0
- const double U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO =0.00000024e0
- const double ALPHA_PARTICLE_MASS =6.6446573357e-27
- const double U_ALPHA_PARTICLE_MASS =0.0000000020e-27
- const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT =5.9719201914e-10
- const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT =0.0000000018e-10
- const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV =3727.3794066e0
- const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV =0.0000011e0
- const double ALPHA_PARTICLE_MASS_IN_U =4.001506179127e0
- const double U_ALPHA_PARTICLE_MASS_IN_U =0.000000000063e0
- const double ALPHA_PARTICLE_MOLAR_MASS =4.0015061777e-3
- const double U_ALPHA_PARTICLE_MOLAR_MASS =0.0000000012e-3
- const double ALPHA_PARTICLE_PROTON_MASS_RATIO =3.97259969009e0
- const double U_ALPHA_PARTICLE_PROTON_MASS_RATIO =0.00000000022e0
- const double ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =4.001506179127e0
- const double U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =0.000000000063e0
- const double ANGSTROM_STAR =1.00001495e-10
- const double U_ANGSTROM_STAR =0.00000090e-10
- const double ATOMIC_MASS_CONSTANT =1.66053906660e-27
- const double U_ATOMIC_MASS_CONSTANT =0.00000000050e-27
- const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT =1.49241808560e-10
- const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT =0.00000000045e-10
- const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV =931.49410242e0
- const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV =0.00000028e0
- const double ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP =9.3149410242e8
- const double U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP =0.0000000028e8
- const double ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP =3.4231776874e7
- const double U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP =0.0000000010e7
- const double ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP =2.25234271871e23
- const double U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP =0.00000000068e23
- const double ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP =7.5130066104e14
- const double U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP =0.0000000023e14
- const double ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP =1.49241808560e-10
- const double U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP =0.00000000045e-10
- const double ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP =1.08095401916e13
- const double U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP =0.00000000033e13
- const double ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP =1.66053906660e-27
- const double U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP =0.00000000050e-27
- const double ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY =3.2063613061e-53
- const double U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY =0.0000000015e-53
- const double ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY =6.2353799905e-65
- const double U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY =0.0000000038e-65
- const double ATOMIC_UNIT_OF_ACTION =1.054571817e-34
- const double U_ATOMIC_UNIT_OF_ACTION =0.0e0
- const double ATOMIC_UNIT_OF_CHARGE =1.602176634e-19
- const double U_ATOMIC_UNIT_OF_CHARGE =0.0e0
- const double ATOMIC_UNIT_OF_CHARGE_DENSITY =1.08120238457e12
- const double U_ATOMIC_UNIT_OF_CHARGE_DENSITY =0.00000000049e12
- const double ATOMIC_UNIT_OF_CURRENT =6.623618237510e-3
- const double U_ATOMIC_UNIT_OF_CURRENT =0.000000000013e-3
- const double ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM =8.4783536255e-30
- const double U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM =0.0000000013e-30
- const double ATOMIC_UNIT_OF_ELECTRIC_FIELD =5.14220674763e11

- const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD =0.00000000078e11
- const double ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT =9.7173624292e21
- const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT =0.0000000029e21
- const double ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY =1.64877727436e-41
- const double U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY =0.00000000050e-41
- const double ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL =27.211386245988e0
- const double U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL =0.000000000053e0
- const double ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM =4.4865515246e-40
- const double U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM =0.0000000014e-40
- const double ATOMIC_UNIT_OF_ENERGY =4.3597447222071e-18
- const double U_ATOMIC_UNIT_OF_ENERGY =0.0000000000085e-18
- const double ATOMIC_UNIT_OF_FORCE =8.2387234983e-8
- const double U_ATOMIC_UNIT_OF_FORCE =0.0000000012e-8
- const double ATOMIC_UNIT_OF_LENGTH =5.29177210903e-11
- const double U_ATOMIC_UNIT_OF_LENGTH =0.00000000080e-11
- const double ATOMIC_UNIT_OF_MAG__DIPOLE_MOM =1.85480201566e-23
- const double U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM =0.00000000056e-23
- const double ATOMIC_UNIT_OF_MAG__FLUX_DENSITY =2.35051756758e5
- const double U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY =0.00000000071e5
- const double ATOMIC_UNIT_OF_MAGNETIZABILITY =7.8910366008e-29
- const double U_ATOMIC_UNIT_OF_MAGNETIZABILITY =0.0000000048e-29
- const double ATOMIC_UNIT_OF_MASS =9.1093837015e-31
- const double U_ATOMIC_UNIT_OF_MASS =0.0000000028e-31
- const double ATOMIC_UNIT_OF_MOMENTUM =1.99285191410e-24
- const double U_ATOMIC_UNIT_OF_MOMENTUM =0.00000000030e-24
- const double ATOMIC_UNIT_OF_PERMITTIVITY =1.11265005545e-10
- const double U_ATOMIC_UNIT_OF_PERMITTIVITY =0.00000000017e-10
- const double ATOMIC_UNIT_OF_TIME =2.4188843265857e-17
- const double U_ATOMIC_UNIT_OF_TIME =0.0000000000047e-17
- const double ATOMIC_UNIT_OF_VELOCITY =2.18769126364e6
- const double U_ATOMIC_UNIT_OF_VELOCITY =0.00000000033e6
- const double AVOGADRO_CONSTANT =6.02214076e23
- const double U_AVOGADRO_CONSTANT =0.0e0
- const double BOHR_MAGNETON =9.2740100783e-24
- const double U_BOHR_MAGNETON =0.0000000028e-24
- const double BOHR_MAGNETON_IN_EV_T =5.7883818060e-5
- const double U_BOHR_MAGNETON_IN_EV_T =0.0000000017e-5
- const double BOHR_MAGNETON_IN_HZ_T =1.39962449361e10
- const double U_BOHR_MAGNETON_IN_HZ_T =0.00000000042e10
- const double BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA =46.686447783e0
- const double U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA =0.000000014e0
- const double BOHR_MAGNETON_IN_K_T =0.67171381563e0
- const double U_BOHR_MAGNETON_IN_K_T =0.00000000020e0
- const double BOHR_RADIUS =5.29177210903e-11
- const double U_BOHR_RADIUS =0.00000000080e-11
- const double BOLTZMANN_CONSTANT =1.380649e-23
- const double U_BOLTZMANN_CONSTANT =0.0e0
- const double BOLTZMANN_CONSTANT_IN_EV_K =8.617333262e-5
- const double U_BOLTZMANN_CONSTANT_IN_EV_K =0.0e0
- const double BOLTZMANN_CONSTANT_IN_HZ_K =2.083661912e10
- const double U_BOLTZMANN_CONSTANT_IN_HZ_K =0.0e0
- const double BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN =69.50348004e0
- const double U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN =0.0e0
- const double CHARACTERISTIC_IMPEDANCE_OF_VACUUM =376.730313668e0
- const double U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM =0.000000057e0

- const double CLASSICAL_ELECTRON_RADIUS =2.8179403262e-15
- const double U_CLASSICAL_ELECTRON_RADIUS =0.0000000013e-15
- const double COMPTON_WAVELENGTH =2.42631023867e-12
- const double U_COMPTON_WAVELENGTH =0.00000000073e-12
- const double CONDUCTANCE_QUANTUM =7.748091729e-5
- const double U_CONDUCTANCE_QUANTUM =0.0e0
- const double CONVENTIONAL_VALUE_OF_AMPERE_90 =1.00000008887e0
- const double U_CONVENTIONAL_VALUE_OF_AMPERE_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_COULOMB_90 =1.00000008887e0
- const double U_CONVENTIONAL_VALUE_OF_COULOMB_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_FARAD_90 =0.99999998220e0
- const double U_CONVENTIONAL_VALUE_OF_FARAD_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_HENRY_90 =1.00000001779e0
- const double U_CONVENTIONAL_VALUE_OF_HENRY_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT =483597.9e9
- const double U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT =0.0e0
- const double CONVENTIONAL_VALUE_OF_OHM_90 =1.00000001779e0
- const double U_CONVENTIONAL_VALUE_OF_OHM_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_VOLT_90 =1.00000010666e0
- const double U_CONVENTIONAL_VALUE_OF_VOLT_90 =0.0e0
- const double CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT =25812.807e0
- const double U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT =0.0e0
- const double CONVENTIONAL_VALUE_OF_WATT_90 =1.00000019553e0
- const double U_CONVENTIONAL_VALUE_OF_WATT_90 =0.0e0
- const double COPPER_X_UNIT =1.00207697e-13
- const double U_COPPER_X_UNIT =0.00000028e-13
- const double DEUTERON_ELECTRON_MAG__MOM__RATIO =-4.664345551e-4
- const double U_DEUTERON_ELECTRON_MAG__MOM__RATIO =0.000000012e-4
- const double DEUTERON_ELECTRON_MASS_RATIO =3670.48296788e0
- const double U_DEUTERON_ELECTRON_MASS_RATIO =0.00000013e0
- const double DEUTERON_G_FACTOR =0.8574382338e0
- const double U_DEUTERON_G_FACTOR =0.0000000022e0
- const double DEUTERON_MAG__MOM =4.330735094e-27
- const double U_DEUTERON_MAG__MOM =0.000000011e-27
- const double DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =4.669754570e-4
- const double U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000012e-4
- const double DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.8574382338e0
- const double U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.0000000022e0
- const double DEUTERON_MASS =3.3435837724e-27
- const double U_DEUTERON_MASS =0.0000000010e-27
- const double DEUTERON_MASS_ENERGY_EQUIVALENT =3.00506323102e-10
- const double U_DEUTERON_MASS_ENERGY_EQUIVALENT =0.00000000091e-10
- const double DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV =1875.61294257e0
- const double U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000057e0
- const double DEUTERON_MASS_IN_U =2.013553212745e0
- const double U_DEUTERON_MASS_IN_U =0.000000000040e0
- const double DEUTERON_MOLAR_MASS =2.01355321205e-3
- const double U_DEUTERON_MOLAR_MASS =0.00000000061e-3
- const double DEUTERON_NEUTRON_MAG__MOM__RATIO =-0.44820653e0
- const double U_DEUTERON_NEUTRON_MAG__MOM__RATIO =0.00000011e0
- const double DEUTERON_PROTON_MAG__MOM__RATIO =0.30701220939e0
- const double U_DEUTERON_PROTON_MAG__MOM__RATIO =0.00000000079e0
- const double DEUTERON_PROTON_MASS_RATIO =1.99900750139e0
- const double U_DEUTERON_PROTON_MASS_RATIO =0.00000000011e0
- const double DEUTERON_RELATIVE_ATOMIC_MASS =2.013553212745e0

- const double U_DEUTERON_RELATIVE_ATOMIC_MASS =0.000000000040e0
- const double DEUTERON_RMS_CHARGE_RADIUS =2.12799e-15
- const double U_DEUTERON_RMS_CHARGE_RADIUS =0.00074e-15
- const double ELECTRON_CHARGE_TO_MASS_QUOTIENT =-1.75882001076e11
- const double U_ELECTRON_CHARGE_TO_MASS_QUOTIENT =0.00000000053e11
- const double ELECTRON_DEUTERON_MAG__MOM__RATIO =-2143.9234915e0
- const double U_ELECTRON_DEUTERON_MAG__MOM__RATIO =0.0000056e0
- const double ELECTRON_DEUTERON_MASS_RATIO =2.724437107462e-4
- const double U_ELECTRON_DEUTERON_MASS_RATIO =0.000000000096e-4
- const double ELECTRON_G_FACTOR =-2.00231930436256e0
- const double U_ELECTRON_G_FACTOR =0.00000000000035e0
- const double ELECTRON_GYROMAG__RATIO =1.76085963023e11
- const double U_ELECTRON_GYROMAG__RATIO =0.00000000053e11
- const double ELECTRON_GYROMAG__RATIO_IN_MHZ_T =28024.9514242e0
- const double U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T =0.0000085e0
- const double ELECTRON_HELION_MASS_RATIO =1.819543074573e-4
- const double U_ELECTRON_HELION_MASS_RATIO =0.000000000079e-4
- const double ELECTRON_MAG__MOM =-9.2847647043e-24
- const double U_ELECTRON_MAG__MOM =0.0000000028e-24
- const double ELECTRON_MAG__MOM__ANOMALY =1.15965218128e-3
- const double U_ELECTRON_MAG__MOM__ANOMALY =0.00000000018e-3
- const double ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.00115965218128e0
- const double U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000000000018e0
- const double ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-1838.28197188e0
- const double U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000011e0
- const double ELECTRON_MASS =9.1093837015e-31
- const double U_ELECTRON_MASS =0.0000000028e-31
- const double ELECTRON_MASS_ENERGY_EQUIVALENT =8.1871057769e-14
- const double U_ELECTRON_MASS_ENERGY_EQUIVALENT =0.0000000025e-14
- const double ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.51099895000e0
- const double U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000000015e0
- const double ELECTRON_MASS_IN_U =5.48579909065e-4
- const double U_ELECTRON_MASS_IN_U =0.00000000016e-4
- const double ELECTRON_MOLAR_MASS =5.4857990888e-7
- const double U_ELECTRON_MOLAR_MASS =0.0000000017e-7
- const double ELECTRON_MUON_MAG__MOM__RATIO =206.7669883e0
- const double U_ELECTRON_MUON_MAG__MOM__RATIO =0.0000046e0
- const double ELECTRON_MUON_MASS_RATIO =4.83633169e-3
- const double U_ELECTRON_MUON_MASS_RATIO =0.00000011e-3
- const double ELECTRON_NEUTRON_MAG__MOM__RATIO =960.92050e0
- const double U_ELECTRON_NEUTRON_MAG__MOM__RATIO =0.00023e0
- const double ELECTRON_NEUTRON_MASS_RATIO =5.4386734424e-4
- const double U_ELECTRON_NEUTRON_MASS_RATIO =0.0000000026e-4
- const double ELECTRON_PROTON_MAG__MOM__RATIO =-658.21068789e0
- const double U_ELECTRON_PROTON_MAG__MOM__RATIO =0.00000020e0
- const double ELECTRON_PROTON_MASS_RATIO =5.44617021487e-4
- const double U_ELECTRON_PROTON_MASS_RATIO =0.00000000033e-4
- const double ELECTRON_RELATIVE_ATOMIC_MASS =5.48579909065e-4
- const double U_ELECTRON_RELATIVE_ATOMIC_MASS =0.00000000016e-4
- const double ELECTRON_TAU_MASS_RATIO =2.87585e-4
- const double U_ELECTRON_TAU_MASS_RATIO =0.00019e-4
- const double ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO =1.370933554787e-4
- const double U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO =0.000000000045e-4
- const double ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO =864.058257e0
- const double U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO =0.000010e0

- const double ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-658.2275971e0
- const double U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.0000072e0
- const double ELECTRON_TRITON_MASS_RATIO =1.819200062251e-4
- const double U_ELECTRON_TRITON_MASS_RATIO =0.000000000090e-4
- const double ELECTRON_VOLT =1.602176634e-19
- const double U_ELECTRON_VOLT =0.0e0
- const double ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP =1.07354410233e-9
- const double U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000032e-9
- const double ELECTRON_VOLT_HARTREE_RELATIONSHIP =3.6749322175655e-2
- const double U_ELECTRON_VOLT_HARTREE_RELATIONSHIP =0.0000000000071e-2
- const double ELECTRON_VOLT_HERTZ_RELATIONSHIP =2.417989242e14
- const double U_ELECTRON_VOLT_HERTZ_RELATIONSHIP =0.0e0
- const double ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP =8.065543937e5
- const double U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP =0.0e0
- const double ELECTRON_VOLT_JOULE_RELATIONSHIP =1.602176634e-19
- const double U_ELECTRON_VOLT_JOULE_RELATIONSHIP =0.0e0
- const double ELECTRON_VOLT_KELVIN_RELATIONSHIP =1.160451812e4
- const double U_ELECTRON_VOLT_KELVIN_RELATIONSHIP =0.0e0
- const double ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =1.782661921e-36
- const double U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =0.0e0
- const double ELEMENTARY_CHARGE =1.602176634e-19
- const double U_ELEMENTARY_CHARGE =0.0e0
- const double ELEMENTARY_CHARGE_OVER_H_BAR =1.519267447e15
- const double U_ELEMENTARY_CHARGE_OVER_H_BAR =0.0e0
- const double FARADAY_CONSTANT =96485.33212e0
- const double U_FARADAY_CONSTANT =0.0e0
- const double FERMI_COUPLING_CONSTANT =1.1663787e-5
- const double U_FERMI_COUPLING_CONSTANT =0.0000006e-5
- const double FINE_STRUCTURE_CONSTANT =7.2973525693e-3
- const double U_FINE_STRUCTURE_CONSTANT =0.0000000011e-3
- const double FIRST_RADIATION_CONSTANT =3.741771852e-16
- const double U_FIRST_RADIATION_CONSTANT =0.0e0
- const double FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE =1.191042972e-16
- const double U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE =0.0e0
- const double HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP =2.92126232205e-8
- const double U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000088e-8
- const double HARTREE_ELECTRON_VOLT_RELATIONSHIP =27.211386245988e0
- const double U_HARTREE_ELECTRON_VOLT_RELATIONSHIP =0.000000000053e0
- const double HARTREE_ENERGY =4.3597447222071e-18
- const double U_HARTREE_ENERGY =0.0000000000085e-18
- const double HARTREE_ENERGY_IN_EV =27.211386245988e0
- const double U_HARTREE_ENERGY_IN_EV =0.000000000053e0
- const double HARTREE_HERTZ_RELATIONSHIP =6.579683920502e15
- const double U_HARTREE_HERTZ_RELATIONSHIP =0.000000000013e15
- const double HARTREE_INVERSE_METER_RELATIONSHIP =2.1947463136320e7
- const double U_HARTREE_INVERSE_METER_RELATIONSHIP =0.0000000000043e7
- const double HARTREE_JOULE_RELATIONSHIP =4.3597447222071e-18
- const double U_HARTREE_JOULE_RELATIONSHIP =0.0000000000085e-18
- const double HARTREE_KELVIN_RELATIONSHIP =3.1577502480407e5
- const double U_HARTREE_KELVIN_RELATIONSHIP =0.0000000000061e5
- const double HARTREE_KILOGRAM_RELATIONSHIP =4.8508702095432e-35
- const double U_HARTREE_KILOGRAM_RELATIONSHIP =0.0000000000094e-35
- const double HELION_ELECTRON_MASS_RATIO =5495.88528007e0
- const double U_HELION_ELECTRON_MASS_RATIO =0.00000024e0
- const double HELION_G_FACTOR =-4.255250615e0

- const double U_HELION_G_FACTOR =0.000000050e0
- const double HELION_MAG__MOM =-1.074617532e-26
- const double U_HELION_MAG__MOM =0.000000013e-26
- const double HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.158740958e-3
- const double U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000014e-3
- const double HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-2.127625307e0
- const double U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000025e0
- const double HELION_MASS =5.0064127796e-27
- const double U_HELION_MASS =0.0000000015e-27
- const double HELION_MASS_ENERGY_EQUIVALENT =4.4995394125e-10
- const double U_HELION_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
- const double HELION_MASS_ENERGY_EQUIVALENT_IN_MEV =2808.39160743e0
- const double U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000085e0
- const double HELION_MASS_IN_U =3.014932247175e0
- const double U_HELION_MASS_IN_U =0.000000000097e0
- const double HELION_MOLAR_MASS =3.01493224613e-3
- const double U_HELION_MOLAR_MASS =0.00000000091e-3
- const double HELION_PROTON_MASS_RATIO =2.99315267167e0
- const double U_HELION_PROTON_MASS_RATIO =0.00000000013e0
- const double HELION_RELATIVE_ATOMIC_MASS =3.014932247175e0
- const double U_HELION_RELATIVE_ATOMIC_MASS =0.000000000097e0
- const double HELION_SHIELDING_SHIFT =5.996743e-5
- const double U_HELION_SHIELDING_SHIFT =0.000010e-5
- const double HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP =4.4398216652e-24
- const double U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000013e-24
- const double HERTZ_ELECTRON_VOLT_RELATIONSHIP =4.135667696e-15
- const double U_HERTZ_ELECTRON_VOLT_RELATIONSHIP =0.0e0
- const double HERTZ_HARTREE_RELATIONSHIP =1.5198298460570e-16
- const double U_HERTZ_HARTREE_RELATIONSHIP =0.0000000000029e-16
- const double HERTZ_INVERSE_METER_RELATIONSHIP =3.335640951e-9
- const double U_HERTZ_INVERSE_METER_RELATIONSHIP =0.0e0
- const double HERTZ_JOULE_RELATIONSHIP =6.62607015e-34
- const double U_HERTZ_JOULE_RELATIONSHIP =0.0e0
- const double HERTZ_KELVIN_RELATIONSHIP =4.799243073e-11
- const double U_HERTZ_KELVIN_RELATIONSHIP =0.0e0
- const double HERTZ_KILOGRAM_RELATIONSHIP =7.372497323e-51
- const double U_HERTZ_KILOGRAM_RELATIONSHIP =0.0e0
- const double HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 =9192631770.0e0
- const double U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 =0.0e0
- const double INVERSE_FINE_STRUCTURE_CONSTANT =137.035999084e0
- const double U_INVERSE_FINE_STRUCTURE_CONSTANT =0.000000021e0
- const double INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP =1.33102505010e-15
- const double U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000040e-15
- const double INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP =1.239841984e-6
- const double U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP =0.0e0
- const double INVERSE_METER_HARTREE_RELATIONSHIP =4.5563352529120e-8
- const double U_INVERSE_METER_HARTREE_RELATIONSHIP =0.0000000000088e-8
- const double INVERSE_METER_HERTZ_RELATIONSHIP =299792458.0e0
- const double U_INVERSE_METER_HERTZ_RELATIONSHIP =0.0e0
- const double INVERSE_METER_JOULE_RELATIONSHIP =1.986445857e-25
- const double U_INVERSE_METER_JOULE_RELATIONSHIP =0.0e0
- const double INVERSE_METER_KELVIN_RELATIONSHIP =1.438776877e-2
- const double U_INVERSE_METER_KELVIN_RELATIONSHIP =0.0e0
- const double INVERSE_METER_KILOGRAM_RELATIONSHIP =2.210219094e-42
- const double U_INVERSE_METER_KILOGRAM_RELATIONSHIP =0.0e0

- const double INVERSE_OF_CONDUCTANCE_QUANTUM =12906.40372e0
- const double U_INVERSE_OF_CONDUCTANCE_QUANTUM =0.0e0
- const double JOSEPHSON_CONSTANT =483597.8484e9
- const double U_JOSEPHSON_CONSTANT =0.0e0
- const double JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP =6.7005352565e9
- const double U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000020e9
- const double JOULE_ELECTRON_VOLT_RELATIONSHIP =6.241509074e18
- const double U_JOULE_ELECTRON_VOLT_RELATIONSHIP =0.0e0
- const double JOULE_HARTREE_RELATIONSHIP =2.2937122783963e17
- const double U_JOULE_HARTREE_RELATIONSHIP =0.0000000000045e17
- const double JOULE_HERTZ_RELATIONSHIP =1.509190179e33
- const double U_JOULE_HERTZ_RELATIONSHIP =0.0e0
- const double JOULE_INVERSE_METER_RELATIONSHIP =5.034116567e24
- const double U_JOULE_INVERSE_METER_RELATIONSHIP =0.0e0
- const double JOULE_KELVIN_RELATIONSHIP =7.242970516e22
- const double U_JOULE_KELVIN_RELATIONSHIP =0.0e0
- const double JOULE_KILOGRAM_RELATIONSHIP =1.112650056e-17
- const double U_JOULE_KILOGRAM_RELATIONSHIP =0.0e0
- const double KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP =9.2510873014e-14
- const double U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000028e-14
- const double KELVIN_ELECTRON_VOLT_RELATIONSHIP =8.617333262e-5
- const double U_KELVIN_ELECTRON_VOLT_RELATIONSHIP =0.0e0
- const double KELVIN_HARTREE_RELATIONSHIP =3.1668115634556e-6
- const double U_KELVIN_HARTREE_RELATIONSHIP =0.0000000000061e-6
- const double KELVIN_HERTZ_RELATIONSHIP =2.083661912e10
- const double U_KELVIN_HERTZ_RELATIONSHIP =0.0e0
- const double KELVIN_INVERSE_METER_RELATIONSHIP =69.50348004e0
- const double U_KELVIN_INVERSE_METER_RELATIONSHIP =0.0e0
- const double KELVIN_JOULE_RELATIONSHIP =1.380649e-23
- const double U_KELVIN_JOULE_RELATIONSHIP =0.0e0
- const double KELVIN_KILOGRAM_RELATIONSHIP =1.536179187e-40
- const double U_KELVIN_KILOGRAM_RELATIONSHIP =0.0e0
- const double KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP =6.0221407621e26
- const double U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000018e26
- const double KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =5.609588603e35
- const double U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =0.0e0
- const double KILOGRAM_HARTREE_RELATIONSHIP =2.0614857887409e34
- const double U_KILOGRAM_HARTREE_RELATIONSHIP =0.0000000000040e34
- const double KILOGRAM_HERTZ_RELATIONSHIP =1.356392489e50
- const double U_KILOGRAM_HERTZ_RELATIONSHIP =0.0e0
- const double KILOGRAM_INVERSE_METER_RELATIONSHIP =4.524438335e41
- const double U_KILOGRAM_INVERSE_METER_RELATIONSHIP =0.0e0
- const double KILOGRAM_JOULE_RELATIONSHIP =8.987551787e16
- const double U_KILOGRAM_JOULE_RELATIONSHIP =0.0e0
- const double KILOGRAM_KELVIN_RELATIONSHIP =6.509657260e39
- const double U_KILOGRAM_KELVIN_RELATIONSHIP =0.0e0
- const double LATTICE_PARAMETER_OF_SILICON =5.431020511e-10
- const double U_LATTICE_PARAMETER_OF_SILICON =0.000000089e-10
- const double LATTICE_SPACING_OF_IDEAL_SI__220 =1.920155716e-10
- const double U_LATTICE_SPACING_OF_IDEAL_SI__220 =0.000000032e-10
- const double LOSCHMIDT_CONSTANT__273_15_K__100_KPA =2.651645804e25
- const double U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA =0.0e0
- const double LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA =2.686780111e25
- const double U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA =0.0e0
- const double LUMINOUS_EFFICACY =683.0e0

- const double U_LUMINOUS_EFFICACY =0.0e0
- const double MAG__FLUX_QUANTUM =2.067833848e-15
- const double U_MAG__FLUX_QUANTUM =0.0e0
- const double MOLAR_GAS_CONSTANT =8.314462618e0
- const double U_MOLAR_GAS_CONSTANT =0.0e0
- const double MOLAR_MASS_CONSTANT =0.99999999965e-3
- const double U_MOLAR_MASS_CONSTANT =0.00000000030e-3
- const double MOLAR_MASS_OF_CARBON_12 =11.9999999958e-3
- const double U_MOLAR_MASS_OF_CARBON_12 =0.0000000036e-3
- const double MOLAR_PLANCK_CONSTANT =3.990312712e-10
- const double U_MOLAR_PLANCK_CONSTANT =0.0e0
- const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA =22.71095464e-3
- const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA =0.0e0
- const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA =22.41396954e-3
- const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA =0.0e0
- const double MOLAR_VOLUME_OF_SILICON =1.205883199e-5
- const double U_MOLAR_VOLUME_OF_SILICON =0.000000060e-5
- const double MOLYBDENUM_X_UNIT =1.00209952e-13
- const double U_MOLYBDENUM_X_UNIT =0.00000053e-13
- const double MUON_COMPTON_WAVELENGTH =1.173444110e-14
- const double U_MUON_COMPTON_WAVELENGTH =0.000000026e-14
- const double MUON_ELECTRON_MASS_RATIO =206.7682830e0
- const double U_MUON_ELECTRON_MASS_RATIO =0.0000046e0
- const double MUON_G_FACTOR =-2.0023318418e0
- const double U_MUON_G_FACTOR =0.0000000013e0
- const double MUON_MAG__MOM =-4.49044830e-26
- const double U_MUON_MAG__MOM =0.00000010e-26
- const double MUON_MAG__MOM__ANOMALY =1.16592089e-3
- const double U_MUON_MAG__MOM__ANOMALY =0.00000063e-3
- const double MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-4.84197047e-3
- const double U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000011e-3
- const double MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-8.89059703e0
- const double U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000020e0
- const double MUON_MASS =1.883531627e-28
- const double U_MUON_MASS =0.000000042e-28
- const double MUON_MASS_ENERGY_EQUIVALENT =1.692833804e-11
- const double U_MUON_MASS_ENERGY_EQUIVALENT =0.000000038e-11
- const double MUON_MASS_ENERGY_EQUIVALENT_IN_MEV =105.6583755e0
- const double U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.0000023e0
- const double MUON_MASS_IN_U =0.1134289259e0
- const double U_MUON_MASS_IN_U =0.0000000025e0
- const double MUON_MOLAR_MASS =1.134289259e-4
- const double U_MUON_MOLAR_MASS =0.000000025e-4
- const double MUON_NEUTRON_MASS_RATIO =0.1124545170e0
- const double U_MUON_NEUTRON_MASS_RATIO =0.0000000025e0
- const double MUON_PROTON_MAG__MOM__RATIO =-3.183345142e0
- const double U_MUON_PROTON_MAG__MOM__RATIO =0.000000071e0
- const double MUON_PROTON_MASS_RATIO =0.1126095264e0
- const double U_MUON_PROTON_MASS_RATIO =0.0000000025e0
- const double MUON_TAU_MASS_RATIO =5.94635e-2
- const double U_MUON_TAU_MASS_RATIO =0.00040e-2
- const double NATURAL_UNIT_OF_ACTION =1.054571817e-34
- const double U_NATURAL_UNIT_OF_ACTION =0.0e0
- const double NATURAL_UNIT_OF_ACTION_IN_EV_S =6.582119569e-16
- const double U_NATURAL_UNIT_OF_ACTION_IN_EV_S =0.0e0

- const double NATURAL_UNIT_OF_ENERGY =8.1871057769e-14
- const double U_NATURAL_UNIT_OF_ENERGY =0.0000000025e-14
- const double NATURAL_UNIT_OF_ENERGY_IN_MEV =0.51099895000e0
- const double U_NATURAL_UNIT_OF_ENERGY_IN_MEV =0.00000000015e0
- const double NATURAL_UNIT_OF_LENGTH =3.8615926796e-13
- const double U_NATURAL_UNIT_OF_LENGTH =0.0000000012e-13
- const double NATURAL_UNIT_OF_MASS =9.1093837015e-31
- const double U_NATURAL_UNIT_OF_MASS =0.0000000028e-31
- const double NATURAL_UNIT_OF_MOMENTUM =2.73092453075e-22
- const double U_NATURAL_UNIT_OF_MOMENTUM =0.00000000082e-22
- const double NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C =0.51099895000e0
- const double U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C =0.00000000015e0
- const double NATURAL_UNIT_OF_TIME =1.28808866819e-21
- const double U_NATURAL_UNIT_OF_TIME =0.00000000039e-21
- const double NATURAL_UNIT_OF_VELOCITY =299792458.0e0
- const double U_NATURAL_UNIT_OF_VELOCITY =0.0e0
- const double NEUTRON_COMPTON_WAVELENGTH =1.31959090581e-15
- const double U_NEUTRON_COMPTON_WAVELENGTH =0.00000000075e-15
- const double NEUTRON_ELECTRON_MAG__MOM__RATIO =1.04066882e-3
- const double U_NEUTRON_ELECTRON_MAG__MOM__RATIO =0.00000025e-3
- const double NEUTRON_ELECTRON_MASS_RATIO =1838.68366173e0
- const double U_NEUTRON_ELECTRON_MASS_RATIO =0.00000089e0
- const double NEUTRON_G_FACTOR =-3.82608545e0
- const double U_NEUTRON_G_FACTOR =0.00000090e0
- const double NEUTRON_GYROMAG__RATIO =1.83247171e8
- const double U_NEUTRON_GYROMAG__RATIO =0.00000043e8
- const double NEUTRON_GYROMAG__RATIO_IN_MHZ_T =29.1646931e0
- const double U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T =0.0000069e0
- const double NEUTRON_MAG__MOM =-9.6623651e-27
- const double U_NEUTRON_MAG__MOM =0.0000023e-27
- const double NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.04187563e-3
- const double U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000025e-3
- const double NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-1.91304273e0
- const double U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000045e0
- const double NEUTRON_MASS =1.67492749804e-27
- const double U_NEUTRON_MASS =0.00000000095e-27
- const double NEUTRON_MASS_ENERGY_EQUIVALENT =1.50534976287e-10
- const double U_NEUTRON_MASS_ENERGY_EQUIVALENT =0.00000000086e-10
- const double NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =939.56542052e0
- const double U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000054e0
- const double NEUTRON_MASS_IN_U =1.00866491595e0
- const double U_NEUTRON_MASS_IN_U =0.00000000049e0
- const double NEUTRON_MOLAR_MASS =1.00866491560e-3
- const double U_NEUTRON_MOLAR_MASS =0.00000000057e-3
- const double NEUTRON_MUON_MASS_RATIO =8.89248406e0
- const double U_NEUTRON_MUON_MASS_RATIO =0.00000020e0
- const double NEUTRON_PROTON_MAG__MOM__RATIO =-0.68497934e0
- const double U_NEUTRON_PROTON_MAG__MOM__RATIO =0.00000016e0
- const double NEUTRON_PROTON_MASS_DIFFERENCE =2.30557435e-30
- const double U_NEUTRON_PROTON_MASS_DIFFERENCE =0.00000082e-30
- const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT =2.07214689e-13
- const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT =0.00000074e-13
- const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV =1.↩ 29333236e0

- const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV =0.↩ 00000046e0
- const double NEUTRON_PROTON_MASS_DIFFERENCE_IN_U =1.38844933e-3
- const double U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U =0.00000049e-3
- const double NEUTRON_PROTON_MASS_RATIO =1.00137841931e0
- const double U_NEUTRON_PROTON_MASS_RATIO =0.00000000049e0
- const double NEUTRON_RELATIVE_ATOMIC_MASS =1.00866491595e0
- const double U_NEUTRON_RELATIVE_ATOMIC_MASS =0.00000000049e0
- const double NEUTRON_TAU_MASS_RATIO =0.528779e0
- const double U_NEUTRON_TAU_MASS_RATIO =0.000036e0
- const double NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-0.68499694e0
- const double U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.00000016e0
- const double NEWTONIAN_CONSTANT_OF_GRAVITATION =6.67430e-11
- const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION =0.00015e-11
- const double NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C =6.70883e-39
- const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C =0.00015e-39
- const double NUCLEAR_MAGNETON =5.0507837461e-27
- const double U_NUCLEAR_MAGNETON =0.0000000015e-27
- const double NUCLEAR_MAGNETON_IN_EV_T =3.15245125844e-8
- const double U_NUCLEAR_MAGNETON_IN_EV_T =0.00000000096e-8
- const double NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA =2.54262341353e-2
- const double U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA =0.00000000078e-2
- const double NUCLEAR_MAGNETON_IN_K_T =3.6582677756e-4
- const double U_NUCLEAR_MAGNETON_IN_K_T =0.0000000011e-4
- const double NUCLEAR_MAGNETON_IN_MHZ_T =7.6225932291e0
- const double U_NUCLEAR_MAGNETON_IN_MHZ_T =0.0000000023e0
- const double PLANCK_CONSTANT =6.62607015e-34
- const double U_PLANCK_CONSTANT =0.0e0
- const double PLANCK_CONSTANT_IN_EV_HZ =4.135667696e-15
- const double U_PLANCK_CONSTANT_IN_EV_HZ =0.0e0
- const double PLANCK_LENGTH =1.616255e-35
- const double U_PLANCK_LENGTH =0.000018e-35
- const double PLANCK_MASS =2.176434e-8
- const double U_PLANCK_MASS =0.000024e-8
- const double PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV =1.220890e19
- const double U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV =0.000014e19
- const double PLANCK_TEMPERATURE =1.416784e32
- const double U_PLANCK_TEMPERATURE =0.000016e32
- const double PLANCK_TIME =5.391247e-44
- const double U_PLANCK_TIME =0.000060e-44
- const double PROTON_CHARGE_TO_MASS_QUOTIENT =9.5788331560e7
- const double U_PROTON_CHARGE_TO_MASS_QUOTIENT =0.0000000029e7
- const double PROTON_COMPTON_WAVELENGTH =1.32140985539e-15
- const double U_PROTON_COMPTON_WAVELENGTH =0.00000000040e-15
- const double PROTON_ELECTRON_MASS_RATIO =1836.15267343e0
- const double U_PROTON_ELECTRON_MASS_RATIO =0.00000011e0
- const double PROTON_G_FACTOR =5.5856946893e0
- const double U_PROTON_G_FACTOR =0.0000000016e0
- const double PROTON_GYROMAG__RATIO =2.6752218744e8
- const double U_PROTON_GYROMAG__RATIO =0.0000000011e8
- const double PROTON_GYROMAG__RATIO_IN_MHZ_T =42.577478518e0
- const double U_PROTON_GYROMAG__RATIO_IN_MHZ_T =0.000000018e0
- const double PROTON_MAG__MOM =1.41060679736e-26
- const double U_PROTON_MAG__MOM =0.00000000060e-26
- const double PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.52103220230e-3

- const double U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000000046e-3
- const double PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.79284734463e0
- const double U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000000082e0
- const double PROTON_MAG__SHIELDING_CORRECTION =2.5689e-5
- const double U_PROTON_MAG__SHIELDING_CORRECTION =0.0011e-5
- const double PROTON_MASS =1.67262192369e-27
- const double U_PROTON_MASS =0.00000000051e-27
- const double PROTON_MASS_ENERGY_EQUIVALENT =1.50327761598e-10
- const double U_PROTON_MASS_ENERGY_EQUIVALENT =0.00000000046e-10
- const double PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV =938.27208816e0
- const double U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000029e0
- const double PROTON_MASS_IN_U =1.007276466621e0
- const double U_PROTON_MASS_IN_U =0.000000000053e0
- const double PROTON_MOLAR_MASS =1.00727646627e-3
- const double U_PROTON_MOLAR_MASS =0.00000000031e-3
- const double PROTON_MUON_MASS_RATIO =8.88024337e0
- const double U_PROTON_MUON_MASS_RATIO =0.00000020e0
- const double PROTON_NEUTRON_MAG__MOM__RATIO =-1.45989805e0
- const double U_PROTON_NEUTRON_MAG__MOM__RATIO =0.00000034e0
- const double PROTON_NEUTRON_MASS_RATIO =0.99862347812e0
- const double U_PROTON_NEUTRON_MASS_RATIO =0.00000000049e0
- const double PROTON_RELATIVE_ATOMIC_MASS =1.007276466621e0
- const double U_PROTON_RELATIVE_ATOMIC_MASS =0.000000000053e0
- const double PROTON_RMS_CHARGE_RADIUS =8.414e-16
- const double U_PROTON_RMS_CHARGE_RADIUS =0.019e-16
- const double PROTON_TAU_MASS_RATIO =0.528051e0
- const double U_PROTON_TAU_MASS_RATIO =0.000036e0
- const double QUANTUM_OF_CIRCULATION =3.6369475516e-4
- const double U_QUANTUM_OF_CIRCULATION =0.0000000011e-4
- const double QUANTUM_OF_CIRCULATION_TIMES_2 =7.2738951032e-4
- const double U_QUANTUM_OF_CIRCULATION_TIMES_2 =0.0000000022e-4
- const double REDUCED_COMPTON_WAVELENGTH =3.8615926796e-13
- const double U_REDUCED_COMPTON_WAVELENGTH =0.0000000012e-13
- const double REDUCED_MUON_COMPTON_WAVELENGTH =1.867594306e-15
- const double U_REDUCED_MUON_COMPTON_WAVELENGTH =0.000000042e-15
- const double REDUCED_NEUTRON_COMPTON_WAVELENGTH =2.1001941552e-16
- const double U_REDUCED_NEUTRON_COMPTON_WAVELENGTH =0.0000000012e-16
- const double REDUCED_PLANCK_CONSTANT =1.054571817e-34
- const double U_REDUCED_PLANCK_CONSTANT =0.0e0
- const double REDUCED_PLANCK_CONSTANT_IN_EV_S =6.582119569e-16
- const double U_REDUCED_PLANCK_CONSTANT_IN_EV_S =0.0e0
- const double REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM =197.3269804e0
- const double U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM =0.0e0
- const double REDUCED_PROTON_COMPTON_WAVELENGTH =2.10308910336e-16
- const double U_REDUCED_PROTON_COMPTON_WAVELENGTH =0.00000000064e-16
- const double REDUCED_TAU_COMPTON_WAVELENGTH =1.110538e-16
- const double U_REDUCED_TAU_COMPTON_WAVELENGTH =0.000075e-16
- const double RYDBERG_CONSTANT =10973731.568160e0
- const double U_RYDBERG_CONSTANT =0.000021e0
- const double RYDBERG_CONSTANT_TIMES_C_IN_HZ =3.2898419602508e15
- const double U_RYDBERG_CONSTANT_TIMES_C_IN_HZ =0.0000000000064e15
- const double RYDBERG_CONSTANT_TIMES_HC_IN_EV =13.605693122994e0
- const double U_RYDBERG_CONSTANT_TIMES_HC_IN_EV =0.000000000026e0
- const double RYDBERG_CONSTANT_TIMES_HC_IN_J =2.1798723611035e-18
- const double U_RYDBERG_CONSTANT_TIMES_HC_IN_J =0.0000000000042e-18

- const double SACKUR_TETRODE_CONSTANT__1_K__100_KPA =-1.15170753706e0
- const double U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA =0.00000000045e0
- const double SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA =-1.16487052358e0
- const double U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA =0.00000000045e0
- const double SECOND_RADIATION_CONSTANT =1.438776877e-2
- const double U_SECOND_RADIATION_CONSTANT =0.0e0
- const double SHIELDED_HELION_GYROMAG__RATIO =2.037894569e8
- const double U_SHIELDED_HELION_GYROMAG__RATIO =0.000000024e8
- const double SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T =32.43409942e0
- const double U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T =0.00000038e0
- const double SHIELDED_HELION_MAG__MOM =-1.074553090e-26
- const double U_SHIELDED_HELION_MAG__MOM =0.000000013e-26
- const double SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.158671471e-3
- const double U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000014e-3
- const double SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-2.127497719e0
- const double U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000025e0
- const double SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO =-0.7617665618e0
- const double U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO =0.0000000089e0
- const double SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-0.7617861313e0
- const double U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.0000000033e0
- const double SHIELDED_PROTON_GYROMAG__RATIO =2.675153151e8
- const double U_SHIELDED_PROTON_GYROMAG__RATIO =0.000000029e8
- const double SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T =42.57638474e0
- const double U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T =0.00000046e0
- const double SHIELDED_PROTON_MAG__MOM =1.410570560e-26
- const double U_SHIELDED_PROTON_MAG__MOM =0.000000015e-26
- const double SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.520993128e-3
- const double U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000017e-3
- const double SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.792775599e0
- const double U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000030e0
- const double SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD =2.0200e-8
- const double U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD =0.0020e-8
- const double SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT =2.4140e-8
- const double U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT =0.0020e-8
- const double SPEED_OF_LIGHT_IN_VACUUM =299792458.0e0
- const double U_SPEED_OF_LIGHT_IN_VACUUM =0.0e0
- const double STANDARD_ACCELERATION_OF_GRAVITY =9.80665e0
- const double U_STANDARD_ACCELERATION_OF_GRAVITY =0.0e0
- const double STANDARD_ATMOSPHERE =101325.0e0
- const double U_STANDARD_ATMOSPHERE =0.0e0
- const double STANDARD_STATE_PRESSURE =100000.0e0
- const double U_STANDARD_STATE_PRESSURE =0.0e0
- const double STEFAN_BOLTZMANN_CONSTANT =5.670374419e-8
- const double U_STEFAN_BOLTZMANN_CONSTANT =0.0e0
- const double TAU_COMPTON_WAVELENGTH =6.97771e-16
- const double U_TAU_COMPTON_WAVELENGTH =0.00047e-16
- const double TAU_ELECTRON_MASS_RATIO =3477.23e0
- const double U_TAU_ELECTRON_MASS_RATIO =0.23e0
- const double TAU_ENERGY_EQUIVALENT =1776.86e0
- const double U_TAU_ENERGY_EQUIVALENT =0.12e0
- const double TAU_MASS =3.16754e-27
- const double U_TAU_MASS =0.00021e-27
- const double TAU_MASS_ENERGY_EQUIVALENT =2.84684e-10
- const double U_TAU_MASS_ENERGY_EQUIVALENT =0.00019e-10
- const double TAU_MASS_IN_U =1.90754e0

- const double U_TAU_MASS_IN_U =0.00013e0
- const double TAU_MOLAR_MASS =1.90754e-3
- const double U_TAU_MOLAR_MASS =0.00013e-3
- const double TAU_MUON_MASS_RATIO =16.8170e0
- const double U_TAU_MUON_MASS_RATIO =0.0011e0
- const double TAU_NEUTRON_MASS_RATIO =1.89115e0
- const double U_TAU_NEUTRON_MASS_RATIO =0.00013e0
- const double TAU_PROTON_MASS_RATIO =1.89376e0
- const double U_TAU_PROTON_MASS_RATIO =0.00013e0
- const double THOMSON_CROSS_SECTION =6.6524587321e-29
- const double U_THOMSON_CROSS_SECTION =0.0000000060e-29
- const double TRITON_ELECTRON_MASS_RATIO =5496.92153573e0
- const double U_TRITON_ELECTRON_MASS_RATIO =0.00000027e0
- const double TRITON_G_FACTOR =5.957924931e0
- const double U_TRITON_G_FACTOR =0.000000012e0
- const double TRITON_MAG__MOM =1.5046095202e-26
- const double U_TRITON_MAG__MOM =0.0000000030e-26
- const double TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.6223936651e-3
- const double U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.0000000032e-3
- const double TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.9789624656e0
- const double U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.0000000059e0
- const double TRITON_MASS =5.0073567446e-27
- const double U_TRITON_MASS =0.0000000015e-27
- const double TRITON_MASS_ENERGY_EQUIVALENT =4.5003878060e-10
- const double U_TRITON_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
- const double TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV =2808.92113298e0
- const double U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000085e0
- const double TRITON_MASS_IN_U =3.01550071621e0
- const double U_TRITON_MASS_IN_U =0.00000000012e0
- const double TRITON_MOLAR_MASS =3.01550071517e-3
- const double U_TRITON_MOLAR_MASS =0.00000000092e-3
- const double TRITON_PROTON_MASS_RATIO =2.99371703414e0
- const double U_TRITON_PROTON_MASS_RATIO =0.00000000015e0
- const double TRITON_RELATIVE_ATOMIC_MASS =3.01550071621e0
- const double U_TRITON_RELATIVE_ATOMIC_MASS =0.00000000012e0
- const double TRITON_TO_PROTON_MAG__MOM__RATIO =1.0666399191e0
- const double U_TRITON_TO_PROTON_MAG__MOM__RATIO =0.0000000021e0
- const double UNIFIED_ATOMIC_MASS_UNIT =1.66053906660e-27
- const double U_UNIFIED_ATOMIC_MASS_UNIT =0.00000000050e-27
- const double VACUUM_ELECTRIC_PERMITTIVITY =8.8541878128e-12
- const double U_VACUUM_ELECTRIC_PERMITTIVITY =0.0000000013e-12
- const double VACUUM_MAG__PERMEABILITY =1.25663706212e-6
- const double U_VACUUM_MAG__PERMEABILITY =0.00000000019e-6
- const double VON_KLITZING_CONSTANT =25812.80745e0
- const double U_VON_KLITZING_CONSTANT =0.0e0
- const double WEAK_MIXING_ANGLE =0.22290e0
- const double U_WEAK_MIXING_ANGLE =0.00030e0
- const double WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT =5.878925757e10
- const double U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT =0.0e0
- const double WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT =2.897771955e-3
- const double U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT =0.0e0
- const double W_TO_Z_MASS_RATIO =0.88153e0
- const double U_W_TO_Z_MASS_RATIO =0.00017e0

16.11.1 Detailed Description

Codata module - autogenerated.

Definition in file ccodata.h.

16.11.2 Variable Documentation

16.11.2.1 ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
const double ALPHA_PARTICLE_ELECTRON_MASS_RATIO =7294.29954142e0
```

Definition at line 6 of file ccodata.h.

16.11.2.2 ALPHA_PARTICLE_MASS

```
const double ALPHA_PARTICLE_MASS =6.6446573357e-27
```

kg

Definition at line 9 of file ccodata.h.

16.11.2.3 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT =5.9719201914e-10
```

J

Definition at line 12 of file ccodata.h.

16.11.2.4 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV =3727.3794066e0
```

MeV

Definition at line 15 of file ccodata.h.

16.11.2.5 ALPHA_PARTICLE_MASS_IN_U

```
const double ALPHA_PARTICLE_MASS_IN_U =4.001506179127e0
```

u

Definition at line 18 of file ccodata.h.

16.11.2.6 ALPHA_PARTICLE_MOLAR_MASS

```
const double ALPHA_PARTICLE_MOLAR_MASS =4.0015061777e-3
```

kg mol^-1

Definition at line 21 of file ccodata.h.

16.11.2.7 ALPHA_PARTICLE_PROTON_MASS_RATIO

```
const double ALPHA_PARTICLE_PROTON_MASS_RATIO =3.97259969009e0
```

Definition at line 24 of file ccodata.h.

16.11.2.8 ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
const double ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =4.001506179127e0
```

Definition at line 27 of file ccodata.h.

16.11.2.9 ANGSTROM_STAR

```
const double ANGSTROM_STAR =1.00001495e-10
```

m

Definition at line 30 of file ccodata.h.

16.11.2.10 ATOMIC_MASS_CONSTANT

```
const double ATOMIC_MASS_CONSTANT =1.66053906660e-27
```

kg

Definition at line 33 of file ccodata.h.

16.11.2.11 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT =1.49241808560e-10
```

J

Definition at line 36 of file ccodata.h.

16.11.2.12 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV

```
const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV =931.49410242e0
```

MeV

Definition at line 39 of file ccodata.h.

16.11.2.13 ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP =9.3149410242e8
```

eV

Definition at line 42 of file ccodata.h.

16.11.2.14 ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP =3.4231776874e7
```

E_h

Definition at line 45 of file ccodata.h.

16.11.2.15 ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP =2.25234271871e23
```

Hz

Definition at line 48 of file ccodata.h.

16.11.2.16 ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP =7.5130066104e14
```

m^-1

Definition at line 51 of file ccodata.h.

16.11.2.17 ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP =1.49241808560e-10
```

J

Definition at line 54 of file ccodata.h.

16.11.2.18 ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP =1.08095401916e13
```

K

Definition at line 57 of file ccodata.h.

16.11.2.19 ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP =1.66053906660e-27
```

kg

Definition at line 60 of file ccodata.h.

16.11.2.20 ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY

```
const double ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY =3.2063613061e-53
```

C^3 m^3 J^-2

Definition at line 63 of file ccodata.h.

16.11.2.21 ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY

```
const double ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY =6.2353799905e-65
```

C^4 m^4 J^-3

Definition at line 66 of file ccodata.h.

16.11.2.22 ATOMIC_UNIT_OF_ACTION

```
const double ATOMIC_UNIT_OF_ACTION =1.054571817e-34
```

J s

Definition at line 69 of file ccodata.h.

16.11.2.23 ATOMIC_UNIT_OF_CHARGE

```
const double ATOMIC_UNIT_OF_CHARGE =1.602176634e-19
```

C

Definition at line 72 of file ccodata.h.

16.11.2.24 ATOMIC_UNIT_OF_CHARGE_DENSITY

```
const double ATOMIC_UNIT_OF_CHARGE_DENSITY =1.08120238457e12
```

C m^-3

Definition at line 75 of file ccodata.h.

16.11.2.25 ATOMIC_UNIT_OF_CURRENT

```
const double ATOMIC_UNIT_OF_CURRENT =6.623618237510e-3
```

A

Definition at line 78 of file ccodata.h.

16.11.2.26 ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM

```
const double ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM =8.4783536255e-30
```

C m

Definition at line 81 of file ccodata.h.

16.11.2.27 ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
const double ATOMIC_UNIT_OF_ELECTRIC_FIELD =5.14220674763e11
```

V m^-1

Definition at line 84 of file ccodata.h.

16.11.2.28 ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT

```
const double ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT =9.7173624292e21
```

V m^-2

Definition at line 87 of file ccodata.h.

16.11.2.29 ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY

```
const double ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY =1.64877727436e-41
```

C^2 m^2 J^-1

Definition at line 90 of file ccodata.h.

16.11.2.30 ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
const double ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL =27.211386245988e0
```

V

Definition at line 93 of file ccodata.h.

16.11.2.31 ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM

```
const double ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM =4.4865515246e-40
```

C m^2

Definition at line 96 of file ccodata.h.

16.11.2.32 ATOMIC_UNIT_OF_ENERGY

```
const double ATOMIC_UNIT_OF_ENERGY =4.3597447222071e-18
```

J

Definition at line 99 of file ccodata.h.

16.11.2.33 ATOMIC_UNIT_OF_FORCE

```
const double ATOMIC_UNIT_OF_FORCE =8.2387234983e-8
```

N

Definition at line 102 of file ccodata.h.

16.11.2.34 ATOMIC_UNIT_OF_LENGTH

```
const double ATOMIC_UNIT_OF_LENGTH =5.29177210903e-11
```

m

Definition at line 105 of file ccodata.h.

16.11.2.35 ATOMIC_UNIT_OF_MAG__DIPOLE_MOM

```
const double ATOMIC_UNIT_OF_MAG__DIPOLE_MOM =1.85480201566e-23
```

J T^-1

Definition at line 108 of file ccodata.h.

16.11.2.36 ATOMIC_UNIT_OF_MAG__FLUX_DENSITY

```
const double ATOMIC_UNIT_OF_MAG__FLUX_DENSITY =2.35051756758e5
```

T

Definition at line 111 of file ccodata.h.

16.11.2.37 ATOMIC_UNIT_OF_MAGNETIZABILITY

```
const double ATOMIC_UNIT_OF_MAGNETIZABILITY =7.8910366008e-29
```

J T^-2

Definition at line 114 of file ccodata.h.

16.11.2.38 ATOMIC_UNIT_OF_MASS

```
const double ATOMIC_UNIT_OF_MASS =9.1093837015e-31
```

kg

Definition at line 117 of file ccodata.h.

16.11.2.39 ATOMIC_UNIT_OF_MOMENTUM

```
const double ATOMIC_UNIT_OF_MOMENTUM =1.99285191410e-24
```

kg m s^-1

Definition at line 120 of file ccodata.h.

16.11.2.40 ATOMIC_UNIT_OF_PERMITTIVITY

```
const double ATOMIC_UNIT_OF_PERMITTIVITY =1.11265005545e-10
```

F m^-1

Definition at line 123 of file ccodata.h.

16.11.2.41 ATOMIC_UNIT_OF_TIME

```
const double ATOMIC_UNIT_OF_TIME =2.4188843265857e-17
```

s

Definition at line 126 of file ccodata.h.

16.11.2.42 ATOMIC_UNIT_OF_VELOCITY

```
const double ATOMIC_UNIT_OF_VELOCITY =2.18769126364e6
```

m s^-1

Definition at line 129 of file ccodata.h.

16.11.2.43 AVOGADRO_CONSTANT

```
const double AVOGADRO_CONSTANT =6.02214076e23
```

mol^-1

Definition at line 132 of file ccodata.h.

16.11.2.44 BOHR_MAGNETON

```
const double BOHR_MAGNETON =9.2740100783e-24
```

J T^-1

Definition at line 135 of file ccodata.h.

16.11.2.45 BOHR_MAGNETON_IN_EV_T

```
const double BOHR_MAGNETON_IN_EV_T =5.7883818060e-5
```

eV T^-1

Definition at line 138 of file ccodata.h.

16.11.2.46 BOHR_MAGNETON_IN_HZ_T

```
const double BOHR_MAGNETON_IN_HZ_T =1.39962449361e10
```

Hz T^-1

Definition at line 141 of file ccodata.h.

16.11.2.47 BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
const double BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA =46.686447783e0
```

m^-1 T^-1

Definition at line 144 of file ccodata.h.

16.11.2.48 BOHR_MAGNETON_IN_K_T

```
const double BOHR_MAGNETON_IN_K_T =0.67171381563e0
```

K T^-1

Definition at line 147 of file ccodata.h.

16.11.2.49 BOHR_RADIUS

```
const double BOHR_RADIUS =5.29177210903e-11
```

m

Definition at line 150 of file ccodata.h.

16.11.2.50 BOLTZMANN_CONSTANT

```
const double BOLTZMANN_CONSTANT =1.380649e-23
```

J K^-1

Definition at line 153 of file ccodata.h.

16.11.2.51 BOLTZMANN_CONSTANT_IN_EV_K

```
const double BOLTZMANN_CONSTANT_IN_EV_K =8.617333262e-5
```

eV K^-1

Definition at line 156 of file ccodata.h.

16.11.2.52 BOLTZMANN_CONSTANT_IN_HZ_K

```
const double BOLTZMANN_CONSTANT_IN_HZ_K =2.083661912e10
```

Hz K^-1

Definition at line 159 of file ccodata.h.

16.11.2.53 BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN

```
const double BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN =69.50348004e0
```

m^-1 K^-1

Definition at line 162 of file ccodata.h.

16.11.2.54 CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
const double CHARACTERISTIC_IMPEDANCE_OF_VACUUM =376.730313668e0
```

ohm

Definition at line 165 of file ccodata.h.

16.11.2.55 CLASSICAL_ELECTRON_RADIUS

```
const double CLASSICAL_ELECTRON_RADIUS =2.8179403262e-15
```

m

Definition at line 168 of file ccodata.h.

16.11.2.56 COMPTON_WAVELENGTH

```
const double COMPTON_WAVELENGTH =2.42631023867e-12
```

m

Definition at line 171 of file ccodata.h.

16.11.2.57 CONDUCTANCE_QUANTUM

```
const double CONDUCTANCE_QUANTUM =7.748091729e-5
```

S

Definition at line 174 of file ccodata.h.

16.11.2.58 CONVENTIONAL_VALUE_OF_AMPERE_90

```
const double CONVENTIONAL_VALUE_OF_AMPERE_90 =1.00000008887e0
```

A

Definition at line 177 of file ccodata.h.

16.11.2.59 CONVENTIONAL_VALUE_OF_COULOMB_90

```
const double CONVENTIONAL_VALUE_OF_COULOMB_90 =1.00000008887e0
```

C

Definition at line 180 of file ccodata.h.

16.11.2.60 CONVENTIONAL_VALUE_OF_FARAD_90

```
const double CONVENTIONAL_VALUE_OF_FARAD_90 =0.99999998220e0
```

F

Definition at line 183 of file ccodata.h.

16.11.2.61 CONVENTIONAL_VALUE_OF_HENRY_90

```
const double CONVENTIONAL_VALUE_OF_HENRY_90 =1.00000001779e0
```

H

Definition at line 186 of file ccodata.h.

16.11.2.62 CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
const double CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT =483597.9e9
```

Hz V^-1

Definition at line 189 of file ccodata.h.

16.11.2.63 CONVENTIONAL_VALUE_OF_OHM_90

```
const double CONVENTIONAL_VALUE_OF_OHM_90 =1.00000001779e0
```

ohm

Definition at line 192 of file ccodata.h.

16.11.2.64 CONVENTIONAL_VALUE_OF_VOLT_90

```
const double CONVENTIONAL_VALUE_OF_VOLT_90 =1.00000010666e0
```

V

Definition at line 195 of file ccodata.h.

16.11.2.65 CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT

```
const double CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT =25812.807e0
```

ohm

Definition at line 198 of file ccodata.h.

16.11.2.66 CONVENTIONAL_VALUE_OF_WATT_90

```
const double CONVENTIONAL_VALUE_OF_WATT_90 =1.00000019553e0
```

W

Definition at line 201 of file ccodata.h.

16.11.2.67 COPPER_X_UNIT

```
const double COPPER_X_UNIT =1.00207697e-13
```

m

Definition at line 204 of file ccodata.h.

16.11.2.68 DEUTERON_ELECTRON_MAG__MOM__RATIO

```
const double DEUTERON_ELECTRON_MAG__MOM__RATIO =-4.664345551e-4
```

Definition at line 207 of file ccodata.h.

16.11.2.69 DEUTERON_ELECTRON_MASS_RATIO

```
const double DEUTERON_ELECTRON_MASS_RATIO =3670.48296788e0
```

Definition at line 210 of file ccodata.h.

16.11.2.70 DEUTERON_G_FACTOR

```
const double DEUTERON_G_FACTOR =0.8574382338e0
```

Definition at line 213 of file ccodata.h.

16.11.2.71 DEUTERON_MAG__MOM

```
const double DEUTERON_MAG__MOM =4.330735094e-27
```

J T^-1

Definition at line 216 of file ccodata.h.

16.11.2.72 DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =4.669754570e-4
```

Definition at line 219 of file ccodata.h.

16.11.2.73 DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.8574382338e0
```

Definition at line 222 of file ccodata.h.

16.11.2.74 DEUTERON_MASS

```
const double DEUTERON_MASS =3.3435837724e-27
```

kg

Definition at line 225 of file ccodata.h.

16.11.2.75 DEUTERON_MASS_ENERGY_EQUIVALENT

```
const double DEUTERON_MASS_ENERGY_EQUIVALENT =3.00506323102e-10
```

J

Definition at line 228 of file ccodata.h.

16.11.2.76 DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV =1875.61294257e0
```

MeV

Definition at line 231 of file ccodata.h.

16.11.2.77 DEUTERON_MASS_IN_U

```
const double DEUTERON_MASS_IN_U =2.013553212745e0
```

u

Definition at line 234 of file ccodata.h.

16.11.2.78 DEUTERON_MOLAR_MASS

```
const double DEUTERON_MOLAR_MASS =2.01355321205e-3
```

kg mol^-1

Definition at line 237 of file ccodata.h.

16.11.2.79 DEUTERON_NEUTRON_MAG__MOM__RATIO

```
const double DEUTERON_NEUTRON_MAG__MOM__RATIO =-0.44820653e0
```

Definition at line 240 of file ccodata.h.

16.11.2.80 DEUTERON_PROTON_MAG__MOM__RATIO

```
const double DEUTERON_PROTON_MAG__MOM__RATIO =0.30701220939e0
```

Definition at line 243 of file ccodata.h.

16.11.2.81 DEUTERON_PROTON_MASS_RATIO

```
const double DEUTERON_PROTON_MASS_RATIO =1.99900750139e0
```

Definition at line 246 of file ccodata.h.

16.11.2.82 DEUTERON_RELATIVE_ATOMIC_MASS

```
const double DEUTERON_RELATIVE_ATOMIC_MASS =2.013553212745e0
```

Definition at line 249 of file ccodata.h.

16.11.2.83 DEUTERON_RMS_CHARGE_RADIUS

```
const double DEUTERON_RMS_CHARGE_RADIUS =2.12799e-15
```

m

Definition at line 252 of file ccodata.h.

16.11.2.84 ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
const double ELECTRON_CHARGE_TO_MASS_QUOTIENT =-1.75882001076e11
```

C kg^-1

Definition at line 255 of file ccodata.h.

16.11.2.85 ELECTRON_DEUTERON_MAG__MOM__RATIO

```
const double ELECTRON_DEUTERON_MAG__MOM__RATIO =-2143.9234915e0
```

Definition at line 258 of file ccodata.h.

16.11.2.86 ELECTRON_DEUTERON_MASS_RATIO

```
const double ELECTRON_DEUTERON_MASS_RATIO =2.724437107462e-4
```

Definition at line 261 of file ccodata.h.

16.11.2.87 ELECTRON_G_FACTOR

```
const double ELECTRON_G_FACTOR =-2.00231930436256e0
```

Definition at line 264 of file ccodata.h.

16.11.2.88 ELECTRON_GYROMAG__RATIO

```
const double ELECTRON_GYROMAG__RATIO =1.76085963023e11
```

s^-1 T^-1

Definition at line 267 of file ccodata.h.

16.11.2.89 ELECTRON_GYROMAG__RATIO_IN_MHZ_T

```
const double ELECTRON_GYROMAG__RATIO_IN_MHZ_T =28024.9514242e0
```

MHz T^-1

Definition at line 270 of file ccodata.h.

16.11.2.90 ELECTRON_HELION_MASS_RATIO

```
const double ELECTRON_HELION_MASS_RATIO =1.819543074573e-4
```

Definition at line 273 of file ccodata.h.

16.11.2.91 ELECTRON_MAG__MOM

```
const double ELECTRON_MAG__MOM =-9.2847647043e-24
```

J T^-1

Definition at line 276 of file ccodata.h.

16.11.2.92 ELECTRON_MAG__MOM__ANOMALY

```
const double ELECTRON_MAG__MOM__ANOMALY =1.15965218128e-3
```

Definition at line 279 of file ccodata.h.

16.11.2.93 ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.00115965218128e0
```

Definition at line 282 of file ccodata.h.

16.11.2.94 ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-1838.28197188e0
```

Definition at line 285 of file ccodata.h.

16.11.2.95 ELECTRON_MASS

```
const double ELECTRON_MASS =9.1093837015e-31
```

kg

Definition at line 288 of file ccodata.h.

16.11.2.96 ELECTRON_MASS_ENERGY_EQUIVALENT

```
const double ELECTRON_MASS_ENERGY_EQUIVALENT =8.1871057769e-14
```

J

Definition at line 291 of file ccodata.h.

16.11.2.97 ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.51099895000e0
```

MeV

Definition at line 294 of file ccodata.h.

16.11.2.98 ELECTRON_MASS_IN_U

```
const double ELECTRON_MASS_IN_U =5.48579909065e-4
```

u

Definition at line 297 of file ccodata.h.

16.11.2.99 ELECTRON_MOLAR_MASS

```
const double ELECTRON_MOLAR_MASS =5.4857990888e-7
```

kg mol^-1

Definition at line 300 of file ccodata.h.

16.11.2.100 ELECTRON_MUON_MAG__MOM__RATIO

```
const double ELECTRON_MUON_MAG__MOM__RATIO =206.7669883e0
```

Definition at line 303 of file ccodata.h.

16.11.2.101 ELECTRON_MUON_MASS_RATIO

```
const double ELECTRON_MUON_MASS_RATIO =4.83633169e-3
```

Definition at line 306 of file ccodata.h.

16.11.2.102 ELECTRON_NEUTRON_MAG__MOM__RATIO

```
const double ELECTRON_NEUTRON_MAG__MOM__RATIO =960.92050e0
```

Definition at line 309 of file ccodata.h.

16.11.2.103 ELECTRON_NEUTRON_MASS_RATIO

```
const double ELECTRON_NEUTRON_MASS_RATIO =5.4386734424e-4
```

Definition at line 312 of file ccodata.h.

16.11.2.104 ELECTRON_PROTON_MAG__MOM__RATIO

```
const double ELECTRON_PROTON_MAG__MOM__RATIO =-658.21068789e0
```

Definition at line 315 of file ccodata.h.

16.11.2.105 ELECTRON_PROTON_MASS_RATIO

```
const double ELECTRON_PROTON_MASS_RATIO =5.44617021487e-4
```

Definition at line 318 of file ccodata.h.

16.11.2.106 ELECTRON_RELATIVE_ATOMIC_MASS

```
const double ELECTRON_RELATIVE_ATOMIC_MASS =5.48579909065e-4
```

Definition at line 321 of file ccodata.h.

16.11.2.107 ELECTRON_TAU_MASS_RATIO

```
const double ELECTRON_TAU_MASS_RATIO =2.87585e-4
```

Definition at line 324 of file ccodata.h.

16.11.2.108 ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO

```
const double ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO =1.370933554787e-4
```

Definition at line 327 of file ccodata.h.

16.11.2.109 ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO

```
const double ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO =864.058257e0
```

Definition at line 330 of file ccodata.h.

16.11.2.110 ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-658.2275971e0
```

Definition at line 333 of file ccodata.h.

16.11.2.111 ELECTRON_TRITON_MASS_RATIO

```
const double ELECTRON_TRITON_MASS_RATIO =1.819200062251e-4
```

Definition at line 336 of file ccodata.h.

16.11.2.112 ELECTRON_VOLT

```
const double ELECTRON_VOLT =1.602176634e-19
```

J

Definition at line 339 of file ccodata.h.

16.11.2.113 ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP =1.07354410233e-9
```

u

Definition at line 342 of file ccodata.h.

16.11.2.114 ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
const double ELECTRON_VOLT_HARTREE_RELATIONSHIP =3.6749322175655e-2
```

E_h

Definition at line 345 of file ccodata.h.

16.11.2.115 ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
const double ELECTRON_VOLT_HERTZ_RELATIONSHIP =2.417989242e14
```

Hz

Definition at line 348 of file ccodata.h.

16.11.2.116 ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
const double ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP =8.065543937e5
```

m^-1

Definition at line 351 of file ccodata.h.

16.11.2.117 ELECTRON_VOLT_JOULE_RELATIONSHIP

```
const double ELECTRON_VOLT_JOULE_RELATIONSHIP =1.602176634e-19
```

J

Definition at line 354 of file ccodata.h.

16.11.2.118 ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
const double ELECTRON_VOLT_KELVIN_RELATIONSHIP =1.160451812e4
```

K

Definition at line 357 of file ccodata.h.

16.11.2.119 ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
const double ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =1.782661921e-36
```

kg

Definition at line 360 of file ccodata.h.

16.11.2.120 ELEMENTARY_CHARGE

```
const double ELEMENTARY_CHARGE =1.602176634e-19
```

C

Definition at line 363 of file ccodata.h.

16.11.2.121 ELEMENTARY_CHARGE_OVER_H_BAR

```
const double ELEMENTARY_CHARGE_OVER_H_BAR =1.519267447e15
```

A J^-1

Definition at line 366 of file ccodata.h.

16.11.2.122 FARADAY_CONSTANT

```
const double FARADAY_CONSTANT =96485.33212e0
```

C mol^-1

Definition at line 369 of file ccodata.h.

16.11.2.123 FERMI_COUPLING_CONSTANT

```
const double FERMI_COUPLING_CONSTANT =1.1663787e-5
```

GeV^-2

Definition at line 372 of file ccodata.h.

16.11.2.124 FINE_STRUCTURE_CONSTANT

```
const double FINE_STRUCTURE_CONSTANT =7.2973525693e-3
```

Definition at line 375 of file ccodata.h.

16.11.2.125 FIRST_RADIATION_CONSTANT

```
const double FIRST_RADIATION_CONSTANT =3.741771852e-16
```

W m^2

Definition at line 378 of file ccodata.h.

16.11.2.126 FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE

```
const double FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE =1.191042972e-16
```

W m^2 sr^-1

Definition at line 381 of file ccodata.h.

16.11.2.127 HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP =2.92126232205e-8
```

u

Definition at line 384 of file ccodata.h.

16.11.2.128 HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
const double HARTREE_ELECTRON_VOLT_RELATIONSHIP =27.211386245988e0
```

eV

Definition at line 387 of file ccodata.h.

16.11.2.129 HARTREE_ENERGY

```
const double HARTREE_ENERGY =4.3597447222071e-18
```

J

Definition at line 390 of file ccodata.h.

16.11.2.130 HARTREE_ENERGY_IN_EV

```
const double HARTREE_ENERGY_IN_EV =27.211386245988e0
```

eV

Definition at line 393 of file ccodata.h.

16.11.2.131 HARTREE_HERTZ_RELATIONSHIP

```
const double HARTREE_HERTZ_RELATIONSHIP =6.579683920502e15
```

Hz

Definition at line 396 of file ccodata.h.

16.11.2.132 HARTREE_INVERSE_METER_RELATIONSHIP

```
const double HARTREE_INVERSE_METER_RELATIONSHIP =2.1947463136320e7
```

m^-1

Definition at line 399 of file ccodata.h.

16.11.2.133 HARTREE_JOULE_RELATIONSHIP

```
const double HARTREE_JOULE_RELATIONSHIP =4.3597447222071e-18
```

J

Definition at line 402 of file ccodata.h.

16.11.2.134 HARTREE_KELVIN_RELATIONSHIP

```
const double HARTREE_KELVIN_RELATIONSHIP =3.1577502480407e5
```

K

Definition at line 405 of file ccodata.h.

16.11.2.135 HARTREE_KILOGRAM_RELATIONSHIP

```
const double HARTREE_KILOGRAM_RELATIONSHIP =4.8508702095432e-35
```

kg

Definition at line 408 of file ccodata.h.

16.11.2.136 HELION_ELECTRON_MASS_RATIO

```
const double HELION_ELECTRON_MASS_RATIO =5495.88528007e0
```

Definition at line 411 of file ccodata.h.

16.11.2.137 HELION_G_FACTOR

```
const double HELION_G_FACTOR =-4.255250615e0
```

Definition at line 414 of file ccodata.h.

16.11.2.138 HELION_MAG__MOM

```
const double HELION_MAG__MOM =-1.074617532e-26
```

J T^-1

Definition at line 417 of file ccodata.h.

16.11.2.139 HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.158740958e-3
```

Definition at line 420 of file ccodata.h.

16.11.2.140 HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-2.127625307e0
```

Definition at line 423 of file ccodata.h.

16.11.2.141 HELION_MASS

```
const double HELION_MASS =5.0064127796e-27
```

kg

Definition at line 426 of file ccodata.h.

16.11.2.142 HELION_MASS_ENERGY_EQUIVALENT

```
const double HELION_MASS_ENERGY_EQUIVALENT =4.4995394125e-10
```

J

Definition at line 429 of file ccodata.h.

16.11.2.143 HELION_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double HELION_MASS_ENERGY_EQUIVALENT_IN_MEV =2808.39160743e0
```

MeV

Definition at line 432 of file ccodata.h.

16.11.2.144 HELION_MASS_IN_U

```
const double HELION_MASS_IN_U =3.014932247175e0
```

u

Definition at line 435 of file ccodata.h.

16.11.2.145 HELION_MOLAR_MASS

```
const double HELION_MOLAR_MASS =3.01493224613e-3
```

kg mol^-1

Definition at line 438 of file ccodata.h.

16.11.2.146 HELION_PROTON_MASS_RATIO

```
const double HELION_PROTON_MASS_RATIO =2.99315267167e0
```

Definition at line 441 of file ccodata.h.

16.11.2.147 HELION_RELATIVE_ATOMIC_MASS

```
const double HELION_RELATIVE_ATOMIC_MASS =3.014932247175e0
```

Definition at line 444 of file ccodata.h.

16.11.2.148 HELION_SHIELDING_SHIFT

```
const double HELION_SHIELDING_SHIFT =5.996743e-5
```

Definition at line 447 of file ccodata.h.

16.11.2.149 HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP =4.4398216652e-24
```

u

Definition at line 450 of file ccodata.h.

16.11.2.150 HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
const double HERTZ_ELECTRON_VOLT_RELATIONSHIP =4.135667696e-15
```

eV

Definition at line 453 of file ccodata.h.

16.11.2.151 HERTZ_HARTREE_RELATIONSHIP

```
const double HERTZ_HARTREE_RELATIONSHIP =1.5198298460570e-16
```

E_h

Definition at line 456 of file ccodata.h.

16.11.2.152 HERTZ_INVERSE_METER_RELATIONSHIP

```
const double HERTZ_INVERSE_METER_RELATIONSHIP =3.335640951e-9
```

m^-1

Definition at line 459 of file ccodata.h.

16.11.2.153 HERTZ_JOULE_RELATIONSHIP

```
const double HERTZ_JOULE_RELATIONSHIP =6.62607015e-34
```

J

Definition at line 462 of file ccodata.h.

16.11.2.154 HERTZ_KELVIN_RELATIONSHIP

```
const double HERTZ_KELVIN_RELATIONSHIP =4.799243073e-11
```

K

Definition at line 465 of file ccodata.h.

16.11.2.155 HERTZ_KILOGRAM_RELATIONSHIP

```
const double HERTZ_KILOGRAM_RELATIONSHIP =7.372497323e-51
```

kg

Definition at line 468 of file ccodata.h.

16.11.2.156 HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133

```
const double HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 =9192631770.0e0
```

Hz

Definition at line 471 of file ccodata.h.

16.11.2.157 INVERSE_FINE_STRUCTURE_CONSTANT

```
const double INVERSE_FINE_STRUCTURE_CONSTANT =137.035999084e0
```

Definition at line 474 of file ccodata.h.

16.11.2.158 INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP =1.33102505010e-15
```

u

Definition at line 477 of file ccodata.h.

16.11.2.159 INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
const double INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP =1.239841984e-6
```

eV

Definition at line 480 of file ccodata.h.

16.11.2.160 INVERSE_METER_HARTREE_RELATIONSHIP

```
const double INVERSE_METER_HARTREE_RELATIONSHIP =4.5563352529120e-8
```

E_h

Definition at line 483 of file ccodata.h.

16.11.2.161 INVERSE_METER_HERTZ_RELATIONSHIP

```
const double INVERSE_METER_HERTZ_RELATIONSHIP =299792458.0e0
```

Hz

Definition at line 486 of file ccodata.h.

16.11.2.162 INVERSE_METER_JOULE_RELATIONSHIP

```
const double INVERSE_METER_JOULE_RELATIONSHIP =1.986445857e-25
```

J

Definition at line 489 of file ccodata.h.

16.11.2.163 INVERSE_METER_KELVIN_RELATIONSHIP

```
const double INVERSE_METER_KELVIN_RELATIONSHIP =1.438776877e-2
```

K

Definition at line 492 of file ccodata.h.

16.11.2.164 INVERSE_METER_KILOGRAM_RELATIONSHIP

```
const double INVERSE_METER_KILOGRAM_RELATIONSHIP =2.210219094e-42
```

kg

Definition at line 495 of file ccodata.h.

16.11.2.165 INVERSE_OF_CONDUCTANCE_QUANTUM

```
const double INVERSE_OF_CONDUCTANCE_QUANTUM =12906.40372e0
```

ohm

Definition at line 498 of file ccodata.h.

16.11.2.166 JOSEPHSON_CONSTANT

```
const double JOSEPHSON_CONSTANT =483597.8484e9
```

Hz V^-1

Definition at line 501 of file ccodata.h.

16.11.2.167 JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP =6.7005352565e9
```

u

Definition at line 504 of file ccodata.h.

16.11.2.168 JOULE_ELECTRON_VOLT_RELATIONSHIP

```
const double JOULE_ELECTRON_VOLT_RELATIONSHIP =6.241509074e18
```

eV

Definition at line 507 of file ccodata.h.

16.11.2.169 JOULE_HARTREE_RELATIONSHIP

```
const double JOULE_HARTREE_RELATIONSHIP =2.2937122783963e17
```

E_h

Definition at line 510 of file ccodata.h.

16.11.2.170 JOULE_HERTZ_RELATIONSHIP

```
const double JOULE_HERTZ_RELATIONSHIP =1.509190179e33
```

Hz

Definition at line 513 of file ccodata.h.

16.11.2.171 JOULE_INVERSE_METER_RELATIONSHIP

```
const double JOULE_INVERSE_METER_RELATIONSHIP =5.034116567e24
```

m^-1

Definition at line 516 of file ccodata.h.

16.11.2.172 JOULE_KELVIN_RELATIONSHIP

```
const double JOULE_KELVIN_RELATIONSHIP =7.242970516e22
```

K

Definition at line 519 of file ccodata.h.

16.11.2.173 JOULE_KILOGRAM_RELATIONSHIP

```
const double JOULE_KILOGRAM_RELATIONSHIP =1.112650056e-17
```

kg

Definition at line 522 of file ccodata.h.

16.11.2.174 KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP =9.2510873014e-14
```

u

Definition at line 525 of file ccodata.h.

16.11.2.175 KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
const double KELVIN_ELECTRON_VOLT_RELATIONSHIP =8.617333262e-5
```

eV

Definition at line 528 of file ccodata.h.

16.11.2.176 KELVIN_HARTREE_RELATIONSHIP

```
const double KELVIN_HARTREE_RELATIONSHIP =3.1668115634556e-6
```

E_h

Definition at line 531 of file ccodata.h.

16.11.2.177 KELVIN_HERTZ_RELATIONSHIP

```
const double KELVIN_HERTZ_RELATIONSHIP =2.083661912e10
```

Hz

Definition at line 534 of file ccodata.h.

16.11.2.178 KELVIN_INVERSE_METER_RELATIONSHIP

```
const double KELVIN_INVERSE_METER_RELATIONSHIP =69.50348004e0
```

m^-1

Definition at line 537 of file ccodata.h.

16.11.2.179 KELVIN_JOULE_RELATIONSHIP

```
const double KELVIN_JOULE_RELATIONSHIP =1.380649e-23
```

J

Definition at line 540 of file ccodata.h.

16.11.2.180 KELVIN_KILOGRAM_RELATIONSHIP

```
const double KELVIN_KILOGRAM_RELATIONSHIP =1.536179187e-40
```

kg

Definition at line 543 of file ccodata.h.

16.11.2.181 KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP =6.0221407621e26
```

u

Definition at line 546 of file ccodata.h.

16.11.2.182 KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
const double KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =5.609588603e35
```

eV

Definition at line 549 of file ccodata.h.

16.11.2.183 KILOGRAM_HARTREE_RELATIONSHIP

```
const double KILOGRAM_HARTREE_RELATIONSHIP =2.0614857887409e34
```

E_h

Definition at line 552 of file ccodata.h.

16.11.2.184 KILOGRAM_HERTZ_RELATIONSHIP

```
const double KILOGRAM_HERTZ_RELATIONSHIP =1.356392489e50
```

Hz

Definition at line 555 of file ccodata.h.

16.11.2.185 KILOGRAM_INVERSE_METER_RELATIONSHIP

```
const double KILOGRAM_INVERSE_METER_RELATIONSHIP =4.524438335e41
```

m^-1

Definition at line 558 of file ccodata.h.

16.11.2.186 KILOGRAM_JOULE_RELATIONSHIP

```
const double KILOGRAM_JOULE_RELATIONSHIP =8.987551787e16
```

J

Definition at line 561 of file ccodata.h.

16.11.2.187 KILOGRAM_KELVIN_RELATIONSHIP

```
const double KILOGRAM_KELVIN_RELATIONSHIP =6.509657260e39
```

K

Definition at line 564 of file ccodata.h.

16.11.2.188 LATTICE_PARAMETER_OF_SILICON

```
const double LATTICE_PARAMETER_OF_SILICON =5.431020511e-10
```

m

Definition at line 567 of file ccodata.h.

16.11.2.189 LATTICE_SPACING_OF_IDEAL_SI__220

```
const double LATTICE_SPACING_OF_IDEAL_SI__220 =1.920155716e-10
```

m

Definition at line 570 of file ccodata.h.

16.11.2.190 LOSCHMIDT_CONSTANT__273_15_K__100_KPA

```
const double LOSCHMIDT_CONSTANT__273_15_K__100_KPA =2.651645804e25
```

m^-3

Definition at line 573 of file ccodata.h.

16.11.2.191 LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA

```
const double LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA =2.686780111e25
```

m^-3

Definition at line 576 of file ccodata.h.

16.11.2.192 LUMINOUS_EFFICACY

```
const double LUMINOUS_EFFICACY =683.0e0
```

lm W^-1

Definition at line 579 of file ccodata.h.

16.11.2.193 MAG__FLUX_QUANTUM

```
const double MAG__FLUX_QUANTUM =2.067833848e-15
```

Wb

Definition at line 582 of file ccodata.h.

16.11.2.194 MOLAR_GAS_CONSTANT

```
const double MOLAR_GAS_CONSTANT =8.314462618e0
```

J mol^-1 K^-1

Definition at line 585 of file ccodata.h.

16.11.2.195 MOLAR_MASS_CONSTANT

```
const double MOLAR_MASS_CONSTANT =0.99999999965e-3
```

kg mol^-1

Definition at line 588 of file ccodata.h.

16.11.2.196 MOLAR_MASS_OF_CARBON_12

```
const double MOLAR_MASS_OF_CARBON_12 =11.9999999958e-3
```

kg mol^-1

Definition at line 591 of file ccodata.h.

16.11.2.197 MOLAR_PLANCK_CONSTANT

```
const double MOLAR_PLANCK_CONSTANT =3.990312712e-10
```

J Hz^-1 mol^-1

Definition at line 594 of file ccodata.h.

16.11.2.198 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA

```
const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA =22.71095464e-3
```

m^3 mol^-1

Definition at line 597 of file ccodata.h.

16.11.2.199 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA

```
const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA =22.41396954e-3
```

m^3 mol^-1

Definition at line 600 of file ccodata.h.

16.11.2.200 MOLAR_VOLUME_OF_SILICON

```
const double MOLAR_VOLUME_OF_SILICON =1.205883199e-5
```

m^3 mol^-1

Definition at line 603 of file ccodata.h.

16.11.2.201 MOLYBDENUM_X_UNIT

```
const double MOLYBDENUM_X_UNIT =1.00209952e-13
```

m

Definition at line 606 of file ccodata.h.

16.11.2.202 MUON_COMPTON_WAVELENGTH

```
const double MUON_COMPTON_WAVELENGTH =1.173444110e-14
```

m

Definition at line 609 of file ccodata.h.

16.11.2.203 MUON_ELECTRON_MASS_RATIO

```
const double MUON_ELECTRON_MASS_RATIO =206.7682830e0
```

Definition at line 612 of file ccodata.h.

16.11.2.204 MUON_G_FACTOR

```
const double MUON_G_FACTOR =-2.0023318418e0
```

Definition at line 615 of file ccodata.h.

16.11.2.205 MUON_MAG__MOM

```
const double MUON_MAG__MOM =-4.49044830e-26
```

J T^-1

Definition at line 618 of file ccodata.h.

16.11.2.206 MUON_MAG__MOM__ANOMALY

```
const double MUON_MAG__MOM__ANOMALY =1.16592089e-3
```

Definition at line 621 of file ccodata.h.

16.11.2.207 MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-4.84197047e-3
```

Definition at line 624 of file ccodata.h.

16.11.2.208 MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-8.89059703e0
```

Definition at line 627 of file ccodata.h.

16.11.2.209 MUON_MASS

```
const double MUON_MASS =1.883531627e-28
```

kg

Definition at line 630 of file ccodata.h.

16.11.2.210 MUON_MASS_ENERGY_EQUIVALENT

```
const double MUON_MASS_ENERGY_EQUIVALENT =1.692833804e-11
```

J

Definition at line 633 of file ccodata.h.

16.11.2.211 MUON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double MUON_MASS_ENERGY_EQUIVALENT_IN_MEV =105.6583755e0
```

MeV

Definition at line 636 of file ccodata.h.

16.11.2.212 MUON_MASS_IN_U

```
const double MUON_MASS_IN_U =0.1134289259e0
```

u

Definition at line 639 of file ccodata.h.

16.11.2.213 MUON_MOLAR_MASS

```
const double MUON_MOLAR_MASS =1.134289259e-4
```

kg mol^-1

Definition at line 642 of file ccodata.h.

16.11.2.214 MUON_NEUTRON_MASS_RATIO

```
const double MUON_NEUTRON_MASS_RATIO =0.1124545170e0
```

Definition at line 645 of file ccodata.h.

16.11.2.215 MUON_PROTON_MAG__MOM__RATIO

```
const double MUON_PROTON_MAG__MOM__RATIO =-3.183345142e0
```

Definition at line 648 of file ccodata.h.

16.11.2.216 MUON_PROTON_MASS_RATIO

```
const double MUON_PROTON_MASS_RATIO =0.1126095264e0
```

Definition at line 651 of file ccodata.h.

16.11.2.217 MUON_TAU_MASS_RATIO

```
const double MUON_TAU_MASS_RATIO =5.94635e-2
```

Definition at line 654 of file ccodata.h.

16.11.2.218 NATURAL_UNIT_OF_ACTION

```
const double NATURAL_UNIT_OF_ACTION =1.054571817e-34
```

J s

Definition at line 657 of file ccodata.h.

16.11.2.219 NATURAL_UNIT_OF_ACTION_IN_EV_S

```
const double NATURAL_UNIT_OF_ACTION_IN_EV_S =6.582119569e-16
```

eV s

Definition at line 660 of file ccodata.h.

16.11.2.220 NATURAL_UNIT_OF_ENERGY

```
const double NATURAL_UNIT_OF_ENERGY =8.1871057769e-14
```

J

Definition at line 663 of file ccodata.h.

16.11.2.221 NATURAL_UNIT_OF_ENERGY_IN_MEV

```
const double NATURAL_UNIT_OF_ENERGY_IN_MEV =0.51099895000e0
```

MeV

Definition at line 666 of file ccodata.h.

16.11.2.222 NATURAL_UNIT_OF_LENGTH

```
const double NATURAL_UNIT_OF_LENGTH =3.8615926796e-13
```

m

Definition at line 669 of file ccodata.h.

16.11.2.223 NATURAL_UNIT_OF_MASS

```
const double NATURAL_UNIT_OF_MASS =9.1093837015e-31
```

kg

Definition at line 672 of file ccodata.h.

16.11.2.224 NATURAL_UNIT_OF_MOMENTUM

```
const double NATURAL_UNIT_OF_MOMENTUM =2.73092453075e-22
```

kg m s^-1

Definition at line 675 of file ccodata.h.

16.11.2.225 NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C

```
const double NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C =0.51099895000e0
```

MeV/c

Definition at line 678 of file ccodata.h.

16.11.2.226 NATURAL_UNIT_OF_TIME

```
const double NATURAL_UNIT_OF_TIME =1.28808866819e-21
```

s

Definition at line 681 of file ccodata.h.

16.11.2.227 NATURAL_UNIT_OF_VELOCITY

```
const double NATURAL_UNIT_OF_VELOCITY =299792458.0e0
```

m s^-1

Definition at line 684 of file ccodata.h.

16.11.2.228 NEUTRON_COMPTON_WAVELENGTH

```
const double NEUTRON_COMPTON_WAVELENGTH =1.31959090581e-15
```

m

Definition at line 687 of file ccodata.h.

16.11.2.229 NEUTRON_ELECTRON_MAG__MOM__RATIO

```
const double NEUTRON_ELECTRON_MAG__MOM__RATIO =1.04066882e-3
```

Definition at line 690 of file ccodata.h.

16.11.2.230 NEUTRON_ELECTRON_MASS_RATIO

```
const double NEUTRON_ELECTRON_MASS_RATIO =1838.68366173e0
```

Definition at line 693 of file ccodata.h.

16.11.2.231 NEUTRON_G_FACTOR

```
const double NEUTRON_G_FACTOR =-3.82608545e0
```

Definition at line 696 of file ccodata.h.

16.11.2.232 NEUTRON_GYROMAG__RATIO

```
const double NEUTRON_GYROMAG__RATIO =1.83247171e8
```

s^-1 T^-1

Definition at line 699 of file ccodata.h.

16.11.2.233 NEUTRON_GYROMAG__RATIO_IN_MHZ_T

```
const double NEUTRON_GYROMAG__RATIO_IN_MHZ_T =29.1646931e0
```

MHz T^-1

Definition at line 702 of file ccodata.h.

16.11.2.234 NEUTRON_MAG__MOM

```
const double NEUTRON_MAG__MOM =-9.6623651e-27
```

J T^-1

Definition at line 705 of file ccodata.h.

16.11.2.235 NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.04187563e-3
```

Definition at line 708 of file ccodata.h.

16.11.2.236 NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-1.91304273e0
```

Definition at line 711 of file ccodata.h.

16.11.2.237 NEUTRON_MASS

```
const double NEUTRON_MASS =1.67492749804e-27
```

kg

Definition at line 714 of file ccodata.h.

16.11.2.238 NEUTRON_MASS_ENERGY_EQUIVALENT

```
const double NEUTRON_MASS_ENERGY_EQUIVALENT =1.50534976287e-10
```

J

Definition at line 717 of file ccodata.h.

16.11.2.239 NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =939.56542052e0
```

MeV

Definition at line 720 of file ccodata.h.

16.11.2.240 NEUTRON_MASS_IN_U

```
const double NEUTRON_MASS_IN_U =1.00866491595e0
```

u

Definition at line 723 of file ccodata.h.

16.11.2.241 NEUTRON_MOLAR_MASS

```
const double NEUTRON_MOLAR_MASS =1.00866491560e-3
```

kg mol^-1

Definition at line 726 of file ccodata.h.

16.11.2.242 NEUTRON_MUON_MASS_RATIO

```
const double NEUTRON_MUON_MASS_RATIO =8.89248406e0
```

Definition at line 729 of file ccodata.h.

16.11.2.243 NEUTRON_PROTON_MAG__MOM__RATIO

```
const double NEUTRON_PROTON_MAG__MOM__RATIO =-0.68497934e0
```

Definition at line 732 of file ccodata.h.

16.11.2.244 NEUTRON_PROTON_MASS_DIFFERENCE

```
const double NEUTRON_PROTON_MASS_DIFFERENCE =2.30557435e-30
```

kg

Definition at line 735 of file ccodata.h.

16.11.2.245 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT

```
const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT =2.07214689e-13
```

J

Definition at line 738 of file ccodata.h.

16.11.2.246 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV

```
const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV =1.29333236e0
```

MeV

Definition at line 741 of file ccodata.h.

16.11.2.247 NEUTRON_PROTON_MASS_DIFFERENCE_IN_U

```
const double NEUTRON_PROTON_MASS_DIFFERENCE_IN_U =1.38844933e-3
```

u

Definition at line 744 of file ccodata.h.

16.11.2.248 NEUTRON_PROTON_MASS_RATIO

```
const double NEUTRON_PROTON_MASS_RATIO =1.00137841931e0
```

Definition at line 747 of file ccodata.h.

16.11.2.249 NEUTRON_RELATIVE_ATOMIC_MASS

```
const double NEUTRON_RELATIVE_ATOMIC_MASS =1.00866491595e0
```

Definition at line 750 of file ccodata.h.

16.11.2.250 NEUTRON_TAU_MASS_RATIO

```
const double NEUTRON_TAU_MASS_RATIO =0.528779e0
```

Definition at line 753 of file ccodata.h.

16.11.2.251 NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-0.68499694e0
```

Definition at line 756 of file ccodata.h.

16.11.2.252 NEWTONIAN_CONSTANT_OF_GRAVITATION

```
const double NEWTONIAN_CONSTANT_OF_GRAVITATION =6.67430e-11
```

m^3 kg^-1 s^-2

Definition at line 759 of file ccodata.h.

16.11.2.253 NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C

```
const double NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C =6.70883e-39
```

(GeV/c^2)^-2

Definition at line 762 of file ccodata.h.

16.11.2.254 NUCLEAR_MAGNETON

```
const double NUCLEAR_MAGNETON =5.0507837461e-27
```

J T^-1

Definition at line 765 of file ccodata.h.

16.11.2.255 NUCLEAR_MAGNETON_IN_EV_T

```
const double NUCLEAR_MAGNETON_IN_EV_T =3.15245125844e-8
```

eV T^-1

Definition at line 768 of file ccodata.h.

16.11.2.256 NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
const double NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA =2.54262341353e-2
```

m^-1 T^-1

Definition at line 771 of file ccodata.h.

16.11.2.257 NUCLEAR_MAGNETON_IN_K_T

```
const double NUCLEAR_MAGNETON_IN_K_T =3.6582677756e-4
```

K T^-1

Definition at line 774 of file ccodata.h.

16.11.2.258 NUCLEAR_MAGNETON_IN_MHZ_T

```
const double NUCLEAR_MAGNETON_IN_MHZ_T =7.6225932291e0
```

MHz T^-1

Definition at line 777 of file ccodata.h.

16.11.2.259 PLANCK_CONSTANT

```
const double PLANCK_CONSTANT =6.62607015e-34
```

J Hz^-1

Definition at line 780 of file ccodata.h.

16.11.2.260 PLANCK_CONSTANT_IN_EV_HZ

```
const double PLANCK_CONSTANT_IN_EV_HZ =4.135667696e-15
```

eV Hz^-1

Definition at line 783 of file ccodata.h.

16.11.2.261 PLANCK_LENGTH

```
const double PLANCK_LENGTH =1.616255e-35
```

m

Definition at line 786 of file ccodata.h.

16.11.2.262 PLANCK_MASS

```
const double PLANCK_MASS =2.176434e-8
```

kg

Definition at line 789 of file ccodata.h.

16.11.2.263 PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV

```
const double PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV =1.220890e19
```

GeV

Definition at line 792 of file ccodata.h.

16.11.2.264 PLANCK_TEMPERATURE

```
const double PLANCK_TEMPERATURE =1.416784e32
```

K

Definition at line 795 of file ccodata.h.

16.11.2.265 PLANCK_TIME

```
const double PLANCK_TIME =5.391247e-44
```

s

Definition at line 798 of file ccodata.h.

16.11.2.266 PROTON_CHARGE_TO_MASS_QUOTIENT

```
const double PROTON_CHARGE_TO_MASS_QUOTIENT =9.5788331560e7
```

C kg^-1

Definition at line 801 of file ccodata.h.

16.11.2.267 PROTON_COMPTON_WAVELENGTH

```
const double PROTON_COMPTON_WAVELENGTH =1.32140985539e-15
```

m

Definition at line 804 of file ccodata.h.

16.11.2.268 PROTON_ELECTRON_MASS_RATIO

```
const double PROTON_ELECTRON_MASS_RATIO =1836.15267343e0
```

Definition at line 807 of file ccodata.h.

16.11.2.269 PROTON_G_FACTOR

```
const double PROTON_G_FACTOR =5.5856946893e0
```

Definition at line 810 of file ccodata.h.

16.11.2.270 PROTON_GYROMAG__RATIO

```
const double PROTON_GYROMAG__RATIO =2.6752218744e8
```

s^-1 T^-1

Definition at line 813 of file ccodata.h.

16.11.2.271 PROTON_GYROMAG__RATIO_IN_MHZ_T

```
const double PROTON_GYROMAG__RATIO_IN_MHZ_T =42.577478518e0
```

MHz T^-1

Definition at line 816 of file ccodata.h.

16.11.2.272 PROTON_MAG__MOM

```
const double PROTON_MAG__MOM =1.41060679736e-26
```

J T^-1

Definition at line 819 of file ccodata.h.

16.11.2.273 PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.52103220230e-3
```

Definition at line 822 of file ccodata.h.

16.11.2.274 PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.79284734463e0
```

Definition at line 825 of file ccodata.h.

16.11.2.275 PROTON_MAG__SHIELDING_CORRECTION

```
const double PROTON_MAG__SHIELDING_CORRECTION =2.5689e-5
```

Definition at line 828 of file ccodata.h.

16.11.2.276 PROTON_MASS

```
const double PROTON_MASS =1.67262192369e-27
```

kg

Definition at line 831 of file ccodata.h.

16.11.2.277 PROTON_MASS_ENERGY_EQUIVALENT

```
const double PROTON_MASS_ENERGY_EQUIVALENT =1.50327761598e-10
```

J

Definition at line 834 of file ccodata.h.

16.11.2.278 PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV =938.27208816e0
```

MeV

Definition at line 837 of file ccodata.h.

16.11.2.279 PROTON_MASS_IN_U

```
const double PROTON_MASS_IN_U =1.007276466621e0
```

u

Definition at line 840 of file ccodata.h.

16.11.2.280 PROTON_MOLAR_MASS

```
const double PROTON_MOLAR_MASS =1.00727646627e-3
```

kg mol^-1

Definition at line 843 of file ccodata.h.

16.11.2.281 PROTON_MUON_MASS_RATIO

```
const double PROTON_MUON_MASS_RATIO =8.88024337e0
```

Definition at line 846 of file ccodata.h.

16.11.2.282 PROTON_NEUTRON_MAG__MOM__RATIO

```
const double PROTON_NEUTRON_MAG__MOM__RATIO =-1.45989805e0
```

Definition at line 849 of file ccodata.h.

16.11.2.283 PROTON_NEUTRON_MASS_RATIO

```
const double PROTON_NEUTRON_MASS_RATIO =0.99862347812e0
```

Definition at line 852 of file ccodata.h.

16.11.2.284 PROTON_RELATIVE_ATOMIC_MASS

```
const double PROTON_RELATIVE_ATOMIC_MASS =1.007276466621e0
```

Definition at line 855 of file ccodata.h.

16.11.2.285 PROTON_RMS_CHARGE_RADIUS

```
const double PROTON_RMS_CHARGE_RADIUS =8.414e-16
```

m

Definition at line 858 of file ccodata.h.

16.11.2.286 PROTON_TAU_MASS_RATIO

```
const double PROTON_TAU_MASS_RATIO =0.528051e0
```

Definition at line 861 of file ccodata.h.

16.11.2.287 QUANTUM_OF_CIRCULATION

```
const double QUANTUM_OF_CIRCULATION =3.6369475516e-4
```

m^2 s^-1

Definition at line 864 of file ccodata.h.

16.11.2.288 QUANTUM_OF_CIRCULATION_TIMES_2

```
const double QUANTUM_OF_CIRCULATION_TIMES_2 =7.2738951032e-4
```

m^2 s^-1

Definition at line 867 of file ccodata.h.

16.11.2.289 REDUCED_COMPTON_WAVELENGTH

```
const double REDUCED_COMPTON_WAVELENGTH =3.8615926796e-13
```

m

Definition at line 870 of file ccodata.h.

16.11.2.290 REDUCED_MUON_COMPTON_WAVELENGTH

```
const double REDUCED_MUON_COMPTON_WAVELENGTH =1.867594306e-15
```

m

Definition at line 873 of file ccodata.h.

16.11.2.291 REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
const double REDUCED_NEUTRON_COMPTON_WAVELENGTH =2.1001941552e-16
```

m

Definition at line 876 of file ccodata.h.

16.11.2.292 REDUCED_PLANCK_CONSTANT

```
const double REDUCED_PLANCK_CONSTANT =1.054571817e-34
```

J s

Definition at line 879 of file ccodata.h.

16.11.2.293 REDUCED_PLANCK_CONSTANT_IN_EV_S

```
const double REDUCED_PLANCK_CONSTANT_IN_EV_S =6.582119569e-16
```

eV s

Definition at line 882 of file ccodata.h.

16.11.2.294 REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM

```
const double REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM =197.3269804e0
```

MeV fm

Definition at line 885 of file ccodata.h.

16.11.2.295 REDUCED_PROTON_COMPTON_WAVELENGTH

```
const double REDUCED_PROTON_COMPTON_WAVELENGTH =2.10308910336e-16
```

m

Definition at line 888 of file ccodata.h.

16.11.2.296 REDUCED_TAU_COMPTON_WAVELENGTH

```
const double REDUCED_TAU_COMPTON_WAVELENGTH =1.110538e-16
```

m

Definition at line 891 of file ccodata.h.

16.11.2.297 RYDBERG_CONSTANT

```
const double RYDBERG_CONSTANT =10973731.568160e0
```

m^-1

Definition at line 894 of file ccodata.h.

16.11.2.298 RYDBERG_CONSTANT_TIMES_C_IN_HZ

```
const double RYDBERG_CONSTANT_TIMES_C_IN_HZ =3.2898419602508e15
```

Hz

Definition at line 897 of file ccodata.h.

16.11.2.299 RYDBERG_CONSTANT_TIMES_HC_IN_EV

```
const double RYDBERG_CONSTANT_TIMES_HC_IN_EV =13.605693122994e0
```

eV

Definition at line 900 of file ccodata.h.

16.11.2.300 RYDBERG_CONSTANT_TIMES_HC_IN_J

```
const double RYDBERG_CONSTANT_TIMES_HC_IN_J =2.1798723611035e-18
```

J

Definition at line 903 of file ccodata.h.

16.11.2.301 SACKUR_TETRODE_CONSTANT__1_K__100_KPA

```
const double SACKUR_TETRODE_CONSTANT__1_K__100_KPA =-1.15170753706e0
```

Definition at line 906 of file ccodata.h.

16.11.2.302 SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA

```
const double SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA =-1.16487052358e0
```

Definition at line 909 of file ccodata.h.

16.11.2.303 SECOND_RADIATION_CONSTANT

```
const double SECOND_RADIATION_CONSTANT =1.438776877e-2
```

m K

Definition at line 912 of file ccodata.h.

16.11.2.304 SHIELDED_HELION_GYROMAG__RATIO

```
const double SHIELDED_HELION_GYROMAG__RATIO =2.037894569e8
```

s^-1 T^-1

Definition at line 915 of file ccodata.h.

16.11.2.305 SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T

```
const double SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T =32.43409942e0
```

MHz T^-1

Definition at line 918 of file ccodata.h.

16.11.2.306 SHIELDED_HELION_MAG__MOM

```
const double SHIELDED_HELION_MAG__MOM =-1.074553090e-26
```

J T^-1

Definition at line 921 of file ccodata.h.

16.11.2.307 SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =-1.158671471e-3
```

Definition at line 924 of file ccodata.h.

16.11.2.308 SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =-2.127497719e0
```

Definition at line 927 of file ccodata.h.

16.11.2.309 SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO

```
const double SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO =-0.7617665618e0
```

Definition at line 930 of file ccodata.h.

16.11.2.310 SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO =-0.7617861313e0
```

Definition at line 933 of file ccodata.h.

16.11.2.311 SHIELDED_PROTON_GYROMAG__RATIO

```
const double SHIELDED_PROTON_GYROMAG__RATIO =2.675153151e8
```

s^-1 T^-1

Definition at line 936 of file ccodata.h.

16.11.2.312 SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
const double SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T =42.57638474e0
```

MHz T^-1

Definition at line 939 of file ccodata.h.

16.11.2.313 SHIELDED_PROTON_MAG__MOM

```
const double SHIELDED_PROTON_MAG__MOM =1.410570560e-26
```

J T^-1

Definition at line 942 of file ccodata.h.

16.11.2.314 SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.520993128e-3
```

Definition at line 945 of file ccodata.h.

16.11.2.315 SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.792775599e0
```

Definition at line 948 of file ccodata.h.

16.11.2.316 SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD

```
const double SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD =2.0200e-8
```

Definition at line 951 of file ccodata.h.

16.11.2.317 SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT

```
const double SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT =2.4140e-8
```

Definition at line 954 of file ccodata.h.

16.11.2.318 SPEED_OF_LIGHT_IN_VACUUM

```
const double SPEED_OF_LIGHT_IN_VACUUM =299792458.0e0
```

m s^-1

Definition at line 957 of file ccodata.h.

16.11.2.319 STANDARD_ACCELERATION_OF_GRAVITY

```
const double STANDARD_ACCELERATION_OF_GRAVITY =9.80665e0
```

m s^-2

Definition at line 960 of file ccodata.h.

16.11.2.320 STANDARD_ATMOSPHERE

```
const double STANDARD_ATMOSPHERE =101325.0e0
```

Pa

Definition at line 963 of file ccodata.h.

16.11.2.321 STANDARD_STATE_PRESSURE

```
const double STANDARD_STATE_PRESSURE =100000.0e0
```

Pa

Definition at line 966 of file ccodata.h.

16.11.2.322 STEFAN_BOLTZMANN_CONSTANT

```
const double STEFAN_BOLTZMANN_CONSTANT =5.670374419e-8
```

W m^-2 K^-4

Definition at line 969 of file ccodata.h.

16.11.2.323 TAU_COMPTON_WAVELENGTH

```
const double TAU_COMPTON_WAVELENGTH =6.97771e-16
```

m

Definition at line 972 of file ccodata.h.

16.11.2.324 TAU_ELECTRON_MASS_RATIO

```
const double TAU_ELECTRON_MASS_RATIO =3477.23e0
```

Definition at line 975 of file ccodata.h.

16.11.2.325 TAU_ENERGY_EQUIVALENT

```
const double TAU_ENERGY_EQUIVALENT =1776.86e0
```

MeV

Definition at line 978 of file ccodata.h.

16.11.2.326 TAU_MASS

```
const double TAU_MASS =3.16754e-27
```

kg

Definition at line 981 of file ccodata.h.

16.11.2.327 TAU_MASS_ENERGY_EQUIVALENT

```
const double TAU_MASS_ENERGY_EQUIVALENT =2.84684e-10
```

J

Definition at line 984 of file ccodata.h.

16.11.2.328 TAU_MASS_IN_U

```
const double TAU_MASS_IN_U =1.90754e0
```

u

Definition at line 987 of file ccodata.h.

16.11.2.329 TAU_MOLAR_MASS

```
const double TAU_MOLAR_MASS =1.90754e-3
```

kg mol^-1

Definition at line 990 of file ccodata.h.

16.11.2.330 TAU_MUON_MASS_RATIO

```
const double TAU_MUON_MASS_RATIO =16.8170e0
```

Definition at line 993 of file ccodata.h.

16.11.2.331 TAU_NEUTRON_MASS_RATIO

```
const double TAU_NEUTRON_MASS_RATIO =1.89115e0
```

Definition at line 996 of file ccodata.h.

16.11.2.332 TAU_PROTON_MASS_RATIO

```
const double TAU_PROTON_MASS_RATIO =1.89376e0
```

Definition at line 999 of file ccodata.h.

16.11.2.333 THOMSON_CROSS_SECTION

```
const double THOMSON_CROSS_SECTION =6.6524587321e-29
```

m^2

Definition at line 1002 of file ccodata.h.

16.11.2.334 TRITON_ELECTRON_MASS_RATIO

```
const double TRITON_ELECTRON_MASS_RATIO =5496.92153573e0
```

Definition at line 1005 of file ccodata.h.

16.11.2.335 TRITON_G_FACTOR

```
const double TRITON_G_FACTOR =5.957924931e0
```

Definition at line 1008 of file ccodata.h.

16.11.2.336 TRITON_MAG__MOM

```
const double TRITON_MAG__MOM =1.5046095202e-26
```

J T^-1

Definition at line 1011 of file ccodata.h.

16.11.2.337 TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =1.6223936651e-3
```

Definition at line 1014 of file ccodata.h.

16.11.2.338 TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =2.9789624656e0
```

Definition at line 1017 of file ccodata.h.

16.11.2.339 TRITON_MASS

```
const double TRITON_MASS =5.0073567446e-27
```

kg

Definition at line 1020 of file ccodata.h.

16.11.2.340 TRITON_MASS_ENERGY_EQUIVALENT

```
const double TRITON_MASS_ENERGY_EQUIVALENT =4.5003878060e-10
```

J

Definition at line 1023 of file ccodata.h.

16.11.2.341 TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV =2808.92113298e0
```

MeV

Definition at line 1026 of file ccodata.h.

16.11.2.342 TRITON_MASS_IN_U

```
const double TRITON_MASS_IN_U =3.01550071621e0
```

u

Definition at line 1029 of file ccodata.h.

16.11.2.343 TRITON_MOLAR_MASS

```
const double TRITON_MOLAR_MASS =3.01550071517e-3
```

kg mol^-1

Definition at line 1032 of file ccodata.h.

16.11.2.344 TRITON_PROTON_MASS_RATIO

```
const double TRITON_PROTON_MASS_RATIO =2.99371703414e0
```

Definition at line 1035 of file ccodata.h.

16.11.2.345 TRITON_RELATIVE_ATOMIC_MASS

```
const double TRITON_RELATIVE_ATOMIC_MASS =3.01550071621e0
```

Definition at line 1038 of file ccodata.h.

16.11.2.346 TRITON_TO_PROTON_MAG__MOM__RATIO

```
const double TRITON_TO_PROTON_MAG__MOM__RATIO =1.0666399191e0
```

Definition at line 1041 of file ccodata.h.

16.11.2.347 U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
const double U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO =0.00000024e0
```

Definition at line 7 of file ccodata.h.

16.11.2.348 U_ALPHA_PARTICLE_MASS

```
const double U_ALPHA_PARTICLE_MASS =0.0000000020e-27
```

kg

Definition at line 10 of file ccodata.h.

16.11.2.349 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT =0.0000000018e-10
```

J

Definition at line 13 of file ccodata.h.

16.11.2.350 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV =0.0000011e0
```

MeV

Definition at line 16 of file ccodata.h.

16.11.2.351 U_ALPHA_PARTICLE_MASS_IN_U

```
const double U_ALPHA_PARTICLE_MASS_IN_U =0.000000000063e0
```

u

Definition at line 19 of file ccodata.h.

16.11.2.352 U_ALPHA_PARTICLE_MOLAR_MASS

```
const double U_ALPHA_PARTICLE_MOLAR_MASS =0.0000000012e-3
```

kg mol^-1

Definition at line 22 of file ccodata.h.

16.11.2.353 U_ALPHA_PARTICLE_PROTON_MASS_RATIO

```
const double U_ALPHA_PARTICLE_PROTON_MASS_RATIO =0.00000000022e0
```

Definition at line 25 of file ccodata.h.

16.11.2.354 U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
const double U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =0.000000000063e0
```

Definition at line 28 of file ccodata.h.

16.11.2.355 U_ANGSTROM_STAR

```
const double U_ANGSTROM_STAR =0.00000090e-10
```

m

Definition at line 31 of file ccodata.h.

16.11.2.356 U_ATOMIC_MASS_CONSTANT

```
const double U_ATOMIC_MASS_CONSTANT =0.00000000050e-27
```

kg

Definition at line 34 of file ccodata.h.

16.11.2.357 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT =0.00000000045e-10
```

J

Definition at line 37 of file ccodata.h.

16.11.2.358 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV

```
const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV =0.00000028e0
```

MeV

Definition at line 40 of file ccodata.h.

16.11.2.359 U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP =0.0000000028e8
```

eV

Definition at line 43 of file ccodata.h.

16.11.2.360 U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP =0.0000000010e7
```

E_h

Definition at line 46 of file ccodata.h.

16.11.2.361 U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP =0.00000000068e23
```

Hz

Definition at line 49 of file ccodata.h.

16.11.2.362 U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP =0.0000000023e14
```

m^-1

Definition at line 52 of file ccodata.h.

16.11.2.363 U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP =0.00000000045e-10
```

J

Definition at line 55 of file ccodata.h.

16.11.2.364 U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP =0.00000000033e13
```

K

Definition at line 58 of file ccodata.h.

16.11.2.365 U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
const double U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP =0.00000000050e-27
```

kg

Definition at line 61 of file ccodata.h.

16.11.2.366 U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY

```
const double U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY =0.0000000015e-53
```

C^3 m^3 J^-2

Definition at line 64 of file ccodata.h.

16.11.2.367 U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY

```
const double U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY =0.0000000038e-65
```

C^4 m^4 J^-3

Definition at line 67 of file ccodata.h.

16.11.2.368 U_ATOMIC_UNIT_OF_ACTION

```
const double U_ATOMIC_UNIT_OF_ACTION =0.0e0
```

J s

Definition at line 70 of file ccodata.h.

16.11.2.369 U_ATOMIC_UNIT_OF_CHARGE

```
const double U_ATOMIC_UNIT_OF_CHARGE =0.0e0
```

C

Definition at line 73 of file ccodata.h.

16.11.2.370 U_ATOMIC_UNIT_OF_CHARGE_DENSITY

```
const double U_ATOMIC_UNIT_OF_CHARGE_DENSITY =0.00000000049e12
```

C m^-3

Definition at line 76 of file ccodata.h.

16.11.2.371 U_ATOMIC_UNIT_OF_CURRENT

```
const double U_ATOMIC_UNIT_OF_CURRENT =0.000000000013e-3
```

A

Definition at line 79 of file ccodata.h.

16.11.2.372 U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM =0.0000000013e-30
```

C m

Definition at line 82 of file ccodata.h.

16.11.2.373 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD =0.00000000078e11
```

V m^-1

Definition at line 85 of file ccodata.h.

16.11.2.374 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT =0.0000000029e21
```

V m^-2

Definition at line 88 of file ccodata.h.

16.11.2.375 U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY =0.00000000050e-41
```

C^2 m^2 J^-1

Definition at line 91 of file ccodata.h.

16.11.2.376 U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL =0.000000000053e0
```

V

Definition at line 94 of file ccodata.h.

16.11.2.377 U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM

```
const double U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM =0.0000000014e-40
```

C m^2

Definition at line 97 of file ccodata.h.

16.11.2.378 U_ATOMIC_UNIT_OF_ENERGY

```
const double U_ATOMIC_UNIT_OF_ENERGY =0.0000000000085e-18
```

J

Definition at line 100 of file ccodata.h.

16.11.2.379 U_ATOMIC_UNIT_OF_FORCE

```
const double U_ATOMIC_UNIT_OF_FORCE =0.0000000012e-8
```

N

Definition at line 103 of file ccodata.h.

16.11.2.380 U_ATOMIC_UNIT_OF_LENGTH

```
const double U_ATOMIC_UNIT_OF_LENGTH =0.00000000080e-11
```

m

Definition at line 106 of file ccodata.h.

16.11.2.381 U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM

```
const double U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM =0.00000000056e-23
```

J T^-1

Definition at line 109 of file ccodata.h.

16.11.2.382 U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY

```
const double U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY =0.00000000071e5
```

T

Definition at line 112 of file ccodata.h.

16.11.2.383 U_ATOMIC_UNIT_OF_MAGNETIZABILITY

```
const double U_ATOMIC_UNIT_OF_MAGNETIZABILITY =0.0000000048e-29
```

J T^-2

Definition at line 115 of file ccodata.h.

16.11.2.384 U_ATOMIC_UNIT_OF_MASS

```
const double U_ATOMIC_UNIT_OF_MASS =0.0000000028e-31
```

kg

Definition at line 118 of file ccodata.h.

16.11.2.385 U_ATOMIC_UNIT_OF_MOMENTUM

```
const double U_ATOMIC_UNIT_OF_MOMENTUM =0.00000000030e-24
```

kg m s^-1

Definition at line 121 of file ccodata.h.

16.11.2.386 U_ATOMIC_UNIT_OF_PERMITTIVITY

```
const double U_ATOMIC_UNIT_OF_PERMITTIVITY =0.00000000017e-10
```

F m^-1

Definition at line 124 of file ccodata.h.

16.11.2.387 U_ATOMIC_UNIT_OF_TIME

```
const double U_ATOMIC_UNIT_OF_TIME =0.0000000000047e-17
```

s

Definition at line 127 of file ccodata.h.

16.11.2.388 U_ATOMIC_UNIT_OF_VELOCITY

```
const double U_ATOMIC_UNIT_OF_VELOCITY =0.00000000033e6
```

m s^-1

Definition at line 130 of file ccodata.h.

16.11.2.389 U_AVOGADRO_CONSTANT

```
const double U_AVOGADRO_CONSTANT =0.0e0
```

mol^-1

Definition at line 133 of file ccodata.h.

16.11.2.390 U_BOHR_MAGNETON

```
const double U_BOHR_MAGNETON =0.0000000028e-24
```

J T^-1

Definition at line 136 of file ccodata.h.

16.11.2.391 U_BOHR_MAGNETON_IN_EV_T

```
const double U_BOHR_MAGNETON_IN_EV_T =0.0000000017e-5
```

eV T^-1

Definition at line 139 of file ccodata.h.

16.11.2.392 U_BOHR_MAGNETON_IN_HZ_T

```
const double U_BOHR_MAGNETON_IN_HZ_T =0.00000000042e10
```

Hz T^-1

Definition at line 142 of file ccodata.h.

16.11.2.393 U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
const double U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA =0.000000014e0
```

m^-1 T^-1

Definition at line 145 of file ccodata.h.

16.11.2.394 U_BOHR_MAGNETON_IN_K_T

```
const double U_BOHR_MAGNETON_IN_K_T =0.00000000020e0
```

K T^-1

Definition at line 148 of file ccodata.h.

16.11.2.395 U_BOHR_RADIUS

```
const double U_BOHR_RADIUS =0.00000000080e-11
```

m

Definition at line 151 of file ccodata.h.

16.11.2.396 U_BOLTZMANN_CONSTANT

```
const double U_BOLTZMANN_CONSTANT =0.0e0
```

J K^-1

Definition at line 154 of file ccodata.h.

16.11.2.397 U_BOLTZMANN_CONSTANT_IN_EV_K

```
const double U_BOLTZMANN_CONSTANT_IN_EV_K =0.0e0
```

eV K^-1

Definition at line 157 of file ccodata.h.

16.11.2.398 U_BOLTZMANN_CONSTANT_IN_HZ_K

```
const double U_BOLTZMANN_CONSTANT_IN_HZ_K =0.0e0
```

Hz K^-1

Definition at line 160 of file ccodata.h.

16.11.2.399 U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN

```
const double U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN =0.0e0
```

m^-1 K^-1

Definition at line 163 of file ccodata.h.

16.11.2.400 U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
const double U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM =0.000000057e0
```

ohm

Definition at line 166 of file ccodata.h.

16.11.2.401 U_CLASSICAL_ELECTRON_RADIUS

```
const double U_CLASSICAL_ELECTRON_RADIUS =0.0000000013e-15
```

m

Definition at line 169 of file ccodata.h.

16.11.2.402 U_COMPTON_WAVELENGTH

```
const double U_COMPTON_WAVELENGTH =0.00000000073e-12
```

m

Definition at line 172 of file ccodata.h.

16.11.2.403 U_CONDUCTANCE_QUANTUM

```
const double U_CONDUCTANCE_QUANTUM =0.0e0
```

S

Definition at line 175 of file ccodata.h.

16.11.2.404 U_CONVENTIONAL_VALUE_OF_AMPERE_90

```
const double U_CONVENTIONAL_VALUE_OF_AMPERE_90 =0.0e0
```

A

Definition at line 178 of file ccodata.h.

16.11.2.405 U_CONVENTIONAL_VALUE_OF_COULOMB_90

```
const double U_CONVENTIONAL_VALUE_OF_COULOMB_90 =0.0e0
```

C

Definition at line 181 of file ccodata.h.

16.11.2.406 U_CONVENTIONAL_VALUE_OF_FARAD_90

```
const double U_CONVENTIONAL_VALUE_OF_FARAD_90 =0.0e0
```

F

Definition at line 184 of file ccodata.h.

16.11.2.407 U_CONVENTIONAL_VALUE_OF_HENRY_90

```
const double U_CONVENTIONAL_VALUE_OF_HENRY_90 =0.0e0
```

H

Definition at line 187 of file ccodata.h.

16.11.2.408 U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
const double U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT =0.0e0
```

Hz V^-1

Definition at line 190 of file ccodata.h.

16.11.2.409 U_CONVENTIONAL_VALUE_OF_OHM_90

```
const double U_CONVENTIONAL_VALUE_OF_OHM_90 =0.0e0
```

ohm

Definition at line 193 of file ccodata.h.

16.11.2.410 U_CONVENTIONAL_VALUE_OF_VOLT_90

```
const double U_CONVENTIONAL_VALUE_OF_VOLT_90 =0.0e0
```

V

Definition at line 196 of file ccodata.h.

16.11.2.411 U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT

```
const double U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT =0.0e0
```

ohm

Definition at line 199 of file ccodata.h.

16.11.2.412 U_CONVENTIONAL_VALUE_OF_WATT_90

```
const double U_CONVENTIONAL_VALUE_OF_WATT_90 =0.0e0
```

W

Definition at line 202 of file ccodata.h.

16.11.2.413 U_COPPER_X_UNIT

```
const double U_COPPER_X_UNIT =0.00000028e-13
```

m

Definition at line 205 of file ccodata.h.

16.11.2.414 U_DEUTERON_ELECTRON_MAG__MOM__RATIO

```
const double U_DEUTERON_ELECTRON_MAG__MOM__RATIO =0.000000012e-4
```

Definition at line 208 of file ccodata.h.

16.11.2.415 U_DEUTERON_ELECTRON_MASS_RATIO

```
const double U_DEUTERON_ELECTRON_MASS_RATIO =0.00000013e0
```

Definition at line 211 of file ccodata.h.

16.11.2.416 U_DEUTERON_G_FACTOR

```
const double U_DEUTERON_G_FACTOR =0.0000000022e0
```

Definition at line 214 of file ccodata.h.

16.11.2.417 U_DEUTERON_MAG__MOM

```
const double U_DEUTERON_MAG__MOM =0.000000011e-27
```

J T^-1

Definition at line 217 of file ccodata.h.

16.11.2.418 U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000012e-4
```

Definition at line 220 of file ccodata.h.

16.11.2.419 U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.0000000022e0
```

Definition at line 223 of file ccodata.h.

16.11.2.420 U_DEUTERON_MASS

```
const double U_DEUTERON_MASS =0.0000000010e-27
```

kg

Definition at line 226 of file ccodata.h.

16.11.2.421 U_DEUTERON_MASS_ENERGY_EQUIVALENT

```
const double U_DEUTERON_MASS_ENERGY_EQUIVALENT =0.00000000091e-10
```

J

Definition at line 229 of file ccodata.h.

16.11.2.422 U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000057e0
```

MeV

Definition at line 232 of file ccodata.h.

16.11.2.423 U_DEUTERON_MASS_IN_U

```
const double U_DEUTERON_MASS_IN_U =0.000000000040e0
```

u

Definition at line 235 of file ccodata.h.

16.11.2.424 U_DEUTERON_MOLAR_MASS

```
const double U_DEUTERON_MOLAR_MASS =0.00000000061e-3
```

kg mol^-1

Definition at line 238 of file ccodata.h.

16.11.2.425 U_DEUTERON_NEUTRON_MAG__MOM__RATIO

```
const double U_DEUTERON_NEUTRON_MAG__MOM__RATIO =0.00000011e0
```

Definition at line 241 of file ccodata.h.

16.11.2.426 U_DEUTERON_PROTON_MAG__MOM__RATIO

```
const double U_DEUTERON_PROTON_MAG__MOM__RATIO =0.00000000079e0
```

Definition at line 244 of file ccodata.h.

16.11.2.427 U_DEUTERON_PROTON_MASS_RATIO

```
const double U_DEUTERON_PROTON_MASS_RATIO =0.00000000011e0
```

Definition at line 247 of file ccodata.h.

16.11.2.428 U_DEUTERON_RELATIVE_ATOMIC_MASS

```
const double U_DEUTERON_RELATIVE_ATOMIC_MASS =0.000000000040e0
```

Definition at line 250 of file ccodata.h.

16.11.2.429 U_DEUTERON_RMS_CHARGE_RADIUS

```
const double U_DEUTERON_RMS_CHARGE_RADIUS =0.00074e-15
```

m

Definition at line 253 of file ccodata.h.

16.11.2.430 U_ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
const double U_ELECTRON_CHARGE_TO_MASS_QUOTIENT =0.00000000053e11
```

C kg^-1

Definition at line 256 of file ccodata.h.

16.11.2.431 U_ELECTRON_DEUTERON_MAG__MOM__RATIO

```
const double U_ELECTRON_DEUTERON_MAG__MOM__RATIO =0.0000056e0
```

Definition at line 259 of file ccodata.h.

16.11.2.432 U_ELECTRON_DEUTERON_MASS_RATIO

```
const double U_ELECTRON_DEUTERON_MASS_RATIO =0.000000000096e-4
```

Definition at line 262 of file ccodata.h.

16.11.2.433 U_ELECTRON_G_FACTOR

```
const double U_ELECTRON_G_FACTOR =0.00000000000035e0
```

Definition at line 265 of file ccodata.h.

16.11.2.434 U_ELECTRON_GYROMAG__RATIO

```
const double U_ELECTRON_GYROMAG__RATIO =0.00000000053e11
```

s^-1 T^-1

Definition at line 268 of file ccodata.h.

16.11.2.435 U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T

```
const double U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T =0.0000085e0
```

MHz T^-1

Definition at line 271 of file ccodata.h.

16.11.2.436 U_ELECTRON_HELION_MASS_RATIO

```
const double U_ELECTRON_HELION_MASS_RATIO =0.000000000079e-4
```

Definition at line 274 of file ccodata.h.

16.11.2.437 U_ELECTRON_MAG__MOM

```
const double U_ELECTRON_MAG__MOM =0.0000000028e-24
```

J T^-1

Definition at line 277 of file ccodata.h.

16.11.2.438 U_ELECTRON_MAG__MOM__ANOMALY

```
const double U_ELECTRON_MAG__MOM__ANOMALY =0.00000000018e-3
```

Definition at line 280 of file ccodata.h.

16.11.2.439 U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000000000018e0
```

Definition at line 283 of file ccodata.h.

16.11.2.440 U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000011e0
```

Definition at line 286 of file ccodata.h.

16.11.2.441 U_ELECTRON_MASS

```
const double U_ELECTRON_MASS =0.0000000028e-31
```

kg

Definition at line 289 of file ccodata.h.

16.11.2.442 U_ELECTRON_MASS_ENERGY_EQUIVALENT

```
const double U_ELECTRON_MASS_ENERGY_EQUIVALENT =0.0000000025e-14
```

J

Definition at line 292 of file ccodata.h.

16.11.2.443 U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000000015e0
```

MeV

Definition at line 295 of file ccodata.h.

16.11.2.444 U_ELECTRON_MASS_IN_U

```
const double U_ELECTRON_MASS_IN_U =0.00000000016e-4
```

u

Definition at line 298 of file ccodata.h.

16.11.2.445 U_ELECTRON_MOLAR_MASS

```
const double U_ELECTRON_MOLAR_MASS =0.0000000017e-7
```

kg mol^-1

Definition at line 301 of file ccodata.h.

16.11.2.446 U_ELECTRON_MUON_MAG__MOM__RATIO

```
const double U_ELECTRON_MUON_MAG__MOM__RATIO =0.0000046e0
```

Definition at line 304 of file ccodata.h.

16.11.2.447 U_ELECTRON_MUON_MASS_RATIO

```
const double U_ELECTRON_MUON_MASS_RATIO =0.00000011e-3
```

Definition at line 307 of file ccodata.h.

16.11.2.448 U_ELECTRON_NEUTRON_MAG__MOM__RATIO

```
const double U_ELECTRON_NEUTRON_MAG__MOM__RATIO =0.00023e0
```

Definition at line 310 of file ccodata.h.

16.11.2.449 U_ELECTRON_NEUTRON_MASS_RATIO

```
const double U_ELECTRON_NEUTRON_MASS_RATIO =0.0000000026e-4
```

Definition at line 313 of file ccodata.h.

16.11.2.450 U_ELECTRON_PROTON_MAG__MOM__RATIO

```
const double U_ELECTRON_PROTON_MAG__MOM__RATIO =0.00000020e0
```

Definition at line 316 of file ccodata.h.

16.11.2.451 U_ELECTRON_PROTON_MASS_RATIO

```
const double U_ELECTRON_PROTON_MASS_RATIO =0.00000000033e-4
```

Definition at line 319 of file ccodata.h.

16.11.2.452 U_ELECTRON_RELATIVE_ATOMIC_MASS

```
const double U_ELECTRON_RELATIVE_ATOMIC_MASS =0.00000000016e-4
```

Definition at line 322 of file ccodata.h.

16.11.2.453 U_ELECTRON_TAU_MASS_RATIO

```
const double U_ELECTRON_TAU_MASS_RATIO =0.00019e-4
```

Definition at line 325 of file ccodata.h.

16.11.2.454 U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO

```
const double U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO =0.000000000045e-4
```

Definition at line 328 of file ccodata.h.

16.11.2.455 U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO

```
const double U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO =0.000010e0
```

Definition at line 331 of file ccodata.h.

16.11.2.456 U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.0000072e0
```

Definition at line 334 of file ccodata.h.

16.11.2.457 U_ELECTRON_TRITON_MASS_RATIO

```
const double U_ELECTRON_TRITON_MASS_RATIO =0.000000000090e-4
```

Definition at line 337 of file ccodata.h.

16.11.2.458 U_ELECTRON_VOLT

```
const double U_ELECTRON_VOLT =0.0e0
```

J

Definition at line 340 of file ccodata.h.

16.11.2.459 U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000032e-9
```

u

Definition at line 343 of file ccodata.h.

16.11.2.460 U_ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
const double U_ELECTRON_VOLT_HARTREE_RELATIONSHIP =0.0000000000071e-2
```

E_h

Definition at line 346 of file ccodata.h.

16.11.2.461 U_ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
const double U_ELECTRON_VOLT_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 349 of file ccodata.h.

16.11.2.462 U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
const double U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 352 of file ccodata.h.

16.11.2.463 U_ELECTRON_VOLT_JOULE_RELATIONSHIP

```
const double U_ELECTRON_VOLT_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 355 of file ccodata.h.

16.11.2.464 U_ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
const double U_ELECTRON_VOLT_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 358 of file ccodata.h.

16.11.2.465 U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
const double U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 361 of file ccodata.h.

16.11.2.466 U_ELEMENTARY_CHARGE

```
const double U_ELEMENTARY_CHARGE =0.0e0
```

C

Definition at line 364 of file ccodata.h.

16.11.2.467 U_ELEMENTARY_CHARGE_OVER_H_BAR

```
const double U_ELEMENTARY_CHARGE_OVER_H_BAR =0.0e0
```

A J^-1

Definition at line 367 of file ccodata.h.

16.11.2.468 U_FARADAY_CONSTANT

```
const double U_FARADAY_CONSTANT =0.0e0
```

C mol^-1

Definition at line 370 of file ccodata.h.

16.11.2.469 U_FERMI_COUPLING_CONSTANT

```
const double U_FERMI_COUPLING_CONSTANT =0.0000006e-5
```

GeV^-2

Definition at line 373 of file ccodata.h.

16.11.2.470 U_FINE_STRUCTURE_CONSTANT

```
const double U_FINE_STRUCTURE_CONSTANT =0.0000000011e-3
```

Definition at line 376 of file ccodata.h.

16.11.2.471 U_FIRST_RADIATION_CONSTANT

```
const double U_FIRST_RADIATION_CONSTANT =0.0e0
```

W m^2

Definition at line 379 of file ccodata.h.

16.11.2.472 U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE

```
const double U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE =0.0e0
```

W m^2 sr^-1

Definition at line 382 of file ccodata.h.

16.11.2.473 U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000088e-8
```

u

Definition at line 385 of file ccodata.h.

16.11.2.474 U_HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
const double U_HARTREE_ELECTRON_VOLT_RELATIONSHIP =0.000000000053e0
```

eV

Definition at line 388 of file ccodata.h.

16.11.2.475 U_HARTREE_ENERGY

```
const double U_HARTREE_ENERGY =0.0000000000085e-18
```

J

Definition at line 391 of file ccodata.h.

16.11.2.476 U_HARTREE_ENERGY_IN_EV

```
const double U_HARTREE_ENERGY_IN_EV =0.000000000053e0
```

eV

Definition at line 394 of file ccodata.h.

16.11.2.477 U_HARTREE_HERTZ_RELATIONSHIP

```
const double U_HARTREE_HERTZ_RELATIONSHIP =0.000000000013e15
```

Hz

Definition at line 397 of file ccodata.h.

16.11.2.478 U_HARTREE_INVERSE_METER_RELATIONSHIP

```
const double U_HARTREE_INVERSE_METER_RELATIONSHIP =0.0000000000043e7
```

m^-1

Definition at line 400 of file ccodata.h.

16.11.2.479 U_HARTREE_JOULE_RELATIONSHIP

```
const double U_HARTREE_JOULE_RELATIONSHIP =0.0000000000085e-18
```

J

Definition at line 403 of file ccodata.h.

16.11.2.480 U_HARTREE_KELVIN_RELATIONSHIP

```
const double U_HARTREE_KELVIN_RELATIONSHIP =0.0000000000061e5
```

K

Definition at line 406 of file ccodata.h.

16.11.2.481 U_HARTREE_KILOGRAM_RELATIONSHIP

```
const double U_HARTREE_KILOGRAM_RELATIONSHIP =0.0000000000094e-35
```

kg

Definition at line 409 of file ccodata.h.

16.11.2.482 U_HELION_ELECTRON_MASS_RATIO

```
const double U_HELION_ELECTRON_MASS_RATIO =0.00000024e0
```

Definition at line 412 of file ccodata.h.

16.11.2.483 U_HELION_G_FACTOR

```
const double U_HELION_G_FACTOR =0.000000050e0
```

Definition at line 415 of file ccodata.h.

16.11.2.484 U_HELION_MAG__MOM

```
const double U_HELION_MAG__MOM =0.000000013e-26
```

J T^-1

Definition at line 418 of file ccodata.h.

16.11.2.485 U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000014e-3
```

Definition at line 421 of file ccodata.h.

16.11.2.486 U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000025e0
```

Definition at line 424 of file ccodata.h.

16.11.2.487 U_HELION_MASS

```
const double U_HELION_MASS =0.0000000015e-27
```

kg

Definition at line 427 of file ccodata.h.

16.11.2.488 U_HELION_MASS_ENERGY_EQUIVALENT

```
const double U_HELION_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
```

J

Definition at line 430 of file ccodata.h.

16.11.2.489 U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000085e0
```

MeV

Definition at line 433 of file ccodata.h.

16.11.2.490 U_HELION_MASS_IN_U

```
const double U_HELION_MASS_IN_U =0.000000000097e0
```

u

Definition at line 436 of file ccodata.h.

16.11.2.491 U_HELION_MOLAR_MASS

```
const double U_HELION_MOLAR_MASS =0.00000000091e-3
```

kg mol^-1

Definition at line 439 of file ccodata.h.

16.11.2.492 U_HELION_PROTON_MASS_RATIO

```
const double U_HELION_PROTON_MASS_RATIO =0.00000000013e0
```

Definition at line 442 of file ccodata.h.

16.11.2.493 U_HELION_RELATIVE_ATOMIC_MASS

```
const double U_HELION_RELATIVE_ATOMIC_MASS =0.000000000097e0
```

Definition at line 445 of file ccodata.h.

16.11.2.494 U_HELION_SHIELDING_SHIFT

```
const double U_HELION_SHIELDING_SHIFT =0.000010e-5
```

Definition at line 448 of file ccodata.h.

16.11.2.495 U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000013e-24
```

u

Definition at line 451 of file ccodata.h.

16.11.2.496 U_HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
const double U_HERTZ_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 454 of file ccodata.h.

16.11.2.497 U_HERTZ_HARTREE_RELATIONSHIP

```
const double U_HERTZ_HARTREE_RELATIONSHIP =0.0000000000029e-16
```

E_h

Definition at line 457 of file ccodata.h.

16.11.2.498 U_HERTZ_INVERSE_METER_RELATIONSHIP

```
const double U_HERTZ_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 460 of file ccodata.h.

16.11.2.499 U_HERTZ_JOULE_RELATIONSHIP

```
const double U_HERTZ_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 463 of file ccodata.h.

16.11.2.500 U_HERTZ_KELVIN_RELATIONSHIP

```
const double U_HERTZ_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 466 of file ccodata.h.

16.11.2.501 U_HERTZ_KILOGRAM_RELATIONSHIP

```
const double U_HERTZ_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 469 of file ccodata.h.

16.11.2.502 U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133

```
const double U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 =0.0e0
```

Hz

Definition at line 472 of file ccodata.h.

16.11.2.503 U_INVERSE_FINE_STRUCTURE_CONSTANT

```
const double U_INVERSE_FINE_STRUCTURE_CONSTANT =0.000000021e0
```

Definition at line 475 of file ccodata.h.

16.11.2.504 U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP =0.00000000040e-15
```

u

Definition at line 478 of file ccodata.h.

16.11.2.505 U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
const double U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 481 of file ccodata.h.

16.11.2.506 U_INVERSE_METER_HARTREE_RELATIONSHIP

```
const double U_INVERSE_METER_HARTREE_RELATIONSHIP =0.0000000000088e-8
```

E_h

Definition at line 484 of file ccodata.h.

16.11.2.507 U_INVERSE_METER_HERTZ_RELATIONSHIP

```
const double U_INVERSE_METER_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 487 of file ccodata.h.

16.11.2.508 U_INVERSE_METER_JOULE_RELATIONSHIP

```
const double U_INVERSE_METER_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 490 of file ccodata.h.

16.11.2.509 U_INVERSE_METER_KELVIN_RELATIONSHIP

```
const double U_INVERSE_METER_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 493 of file ccodata.h.

16.11.2.510 U_INVERSE_METER_KILOGRAM_RELATIONSHIP

```
const double U_INVERSE_METER_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 496 of file ccodata.h.

16.11.2.511 U_INVERSE_OF_CONDUCTANCE_QUANTUM

```
const double U_INVERSE_OF_CONDUCTANCE_QUANTUM =0.0e0
```

ohm

Definition at line 499 of file ccodata.h.

16.11.2.512 U_JOSEPHSON_CONSTANT

```
const double U_JOSEPHSON_CONSTANT =0.0e0
```

Hz V^-1

Definition at line 502 of file ccodata.h.

16.11.2.513 U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000020e9
```

u

Definition at line 505 of file ccodata.h.

16.11.2.514 U_JOULE_ELECTRON_VOLT_RELATIONSHIP

```
const double U_JOULE_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 508 of file ccodata.h.

16.11.2.515 U_JOULE_HARTREE_RELATIONSHIP

```
const double U_JOULE_HARTREE_RELATIONSHIP =0.0000000000045e17
```

E_h

Definition at line 511 of file ccodata.h.

16.11.2.516 U_JOULE_HERTZ_RELATIONSHIP

```
const double U_JOULE_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 514 of file ccodata.h.

16.11.2.517 U_JOULE_INVERSE_METER_RELATIONSHIP

```
const double U_JOULE_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 517 of file ccodata.h.

16.11.2.518 U_JOULE_KELVIN_RELATIONSHIP

```
const double U_JOULE_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 520 of file ccodata.h.

16.11.2.519 U_JOULE_KILOGRAM_RELATIONSHIP

```
const double U_JOULE_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 523 of file ccodata.h.

16.11.2.520 U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000028e-14
```

u

Definition at line 526 of file ccodata.h.

16.11.2.521 U_KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
const double U_KELVIN_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 529 of file ccodata.h.

16.11.2.522 U_KELVIN_HARTREE_RELATIONSHIP

```
const double U_KELVIN_HARTREE_RELATIONSHIP =0.0000000000061e-6
```

E_h

Definition at line 532 of file ccodata.h.

16.11.2.523 U_KELVIN_HERTZ_RELATIONSHIP

```
const double U_KELVIN_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 535 of file ccodata.h.

16.11.2.524 U_KELVIN_INVERSE_METER_RELATIONSHIP

```
const double U_KELVIN_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 538 of file ccodata.h.

16.11.2.525 U_KELVIN_JOULE_RELATIONSHIP

```
const double U_KELVIN_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 541 of file ccodata.h.

16.11.2.526 U_KELVIN_KILOGRAM_RELATIONSHIP

```
const double U_KELVIN_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 544 of file ccodata.h.

16.11.2.527 U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP =0.0000000018e26
```

u

Definition at line 547 of file ccodata.h.

16.11.2.528 U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
const double U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 550 of file ccodata.h.

16.11.2.529 U_KILOGRAM_HARTREE_RELATIONSHIP

```
const double U_KILOGRAM_HARTREE_RELATIONSHIP =0.0000000000040e34
```

E_h

Definition at line 553 of file ccodata.h.

16.11.2.530 U_KILOGRAM_HERTZ_RELATIONSHIP

```
const double U_KILOGRAM_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 556 of file ccodata.h.

16.11.2.531 U_KILOGRAM_INVERSE_METER_RELATIONSHIP

```
const double U_KILOGRAM_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 559 of file ccodata.h.

16.11.2.532 U_KILOGRAM_JOULE_RELATIONSHIP

```
const double U_KILOGRAM_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 562 of file ccodata.h.

16.11.2.533 U_KILOGRAM_KELVIN_RELATIONSHIP

```
const double U_KILOGRAM_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 565 of file ccodata.h.

16.11.2.534 U_LATTICE_PARAMETER_OF_SILICON

```
const double U_LATTICE_PARAMETER_OF_SILICON =0.000000089e-10
```

m

Definition at line 568 of file ccodata.h.

16.11.2.535 U_LATTICE_SPACING_OF_IDEAL_SI__220

```
const double U_LATTICE_SPACING_OF_IDEAL_SI__220 =0.000000032e-10
```

m

Definition at line 571 of file ccodata.h.

16.11.2.536 U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA

```
const double U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA =0.0e0
```

m^-3

Definition at line 574 of file ccodata.h.

16.11.2.537 U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA

```
const double U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA =0.0e0
```

m^-3

Definition at line 577 of file ccodata.h.

16.11.2.538 U_LUMINOUS_EFFICACY

```
const double U_LUMINOUS_EFFICACY =0.0e0
```

lm W^-1

Definition at line 580 of file ccodata.h.

16.11.2.539 U_MAG__FLUX_QUANTUM

```
const double U_MAG__FLUX_QUANTUM =0.0e0
```

Wb

Definition at line 583 of file ccodata.h.

16.11.2.540 U_MOLAR_GAS_CONSTANT

```
const double U_MOLAR_GAS_CONSTANT =0.0e0
```

J mol^-1 K^-1

Definition at line 586 of file ccodata.h.

16.11.2.541 U_MOLAR_MASS_CONSTANT

```
const double U_MOLAR_MASS_CONSTANT =0.00000000030e-3
```

kg mol^-1

Definition at line 589 of file ccodata.h.

16.11.2.542 U_MOLAR_MASS_OF_CARBON_12

```
const double U_MOLAR_MASS_OF_CARBON_12 =0.0000000036e-3
```

kg mol^-1

Definition at line 592 of file ccodata.h.

16.11.2.543 U_MOLAR_PLANCK_CONSTANT

```
const double U_MOLAR_PLANCK_CONSTANT =0.0e0
```

J Hz^-1 mol^-1

Definition at line 595 of file ccodata.h.

16.11.2.544 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA

```
const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA =0.0e0
```

m^3 mol^-1

Definition at line 598 of file ccodata.h.

16.11.2.545 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA

```
const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA =0.0e0
```

m^3 mol^-1

Definition at line 601 of file ccodata.h.

16.11.2.546 U_MOLAR_VOLUME_OF_SILICON

```
const double U_MOLAR_VOLUME_OF_SILICON =0.000000060e-5
```

m^3 mol^-1

Definition at line 604 of file ccodata.h.

16.11.2.547 U_MOLYBDENUM_X_UNIT

```
const double U_MOLYBDENUM_X_UNIT =0.00000053e-13
```

m

Definition at line 607 of file ccodata.h.

16.11.2.548 U_MUON_COMPTON_WAVELENGTH

```
const double U_MUON_COMPTON_WAVELENGTH =0.000000026e-14
```

m

Definition at line 610 of file ccodata.h.

16.11.2.549 U_MUON_ELECTRON_MASS_RATIO

```
const double U_MUON_ELECTRON_MASS_RATIO =0.0000046e0
```

Definition at line 613 of file ccodata.h.

16.11.2.550 U_MUON_G_FACTOR

```
const double U_MUON_G_FACTOR =0.0000000013e0
```

Definition at line 616 of file ccodata.h.

16.11.2.551 U_MUON_MAG__MOM

```
const double U_MUON_MAG__MOM =0.00000010e-26
```

J T^-1

Definition at line 619 of file ccodata.h.

16.11.2.552 U_MUON_MAG__MOM__ANOMALY

```
const double U_MUON_MAG__MOM__ANOMALY =0.00000063e-3
```

Definition at line 622 of file ccodata.h.

16.11.2.553 U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000011e-3
```

Definition at line 625 of file ccodata.h.

16.11.2.554 U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000020e0
```

Definition at line 628 of file ccodata.h.

16.11.2.555 U_MUON_MASS

```
const double U_MUON_MASS =0.000000042e-28
```

kg

Definition at line 631 of file ccodata.h.

16.11.2.556 U_MUON_MASS_ENERGY_EQUIVALENT

```
const double U_MUON_MASS_ENERGY_EQUIVALENT =0.000000038e-11
```

J

Definition at line 634 of file ccodata.h.

16.11.2.557 U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.0000023e0
```

MeV

Definition at line 637 of file ccodata.h.

16.11.2.558 U_MUON_MASS_IN_U

```
const double U_MUON_MASS_IN_U =0.0000000025e0
```

u

Definition at line 640 of file ccodata.h.

16.11.2.559 U_MUON_MOLAR_MASS

```
const double U_MUON_MOLAR_MASS =0.000000025e-4
```

kg mol^-1

Definition at line 643 of file ccodata.h.

16.11.2.560 U_MUON_NEUTRON_MASS_RATIO

```
const double U_MUON_NEUTRON_MASS_RATIO =0.0000000025e0
```

Definition at line 646 of file ccodata.h.

16.11.2.561 U_MUON_PROTON_MAG__MOM__RATIO

```
const double U_MUON_PROTON_MAG__MOM__RATIO =0.000000071e0
```

Definition at line 649 of file ccodata.h.

16.11.2.562 U_MUON_PROTON_MASS_RATIO

```
const double U_MUON_PROTON_MASS_RATIO =0.0000000025e0
```

Definition at line 652 of file ccodata.h.

16.11.2.563 U_MUON_TAU_MASS_RATIO

```
const double U_MUON_TAU_MASS_RATIO =0.00040e-2
```

Definition at line 655 of file ccodata.h.

16.11.2.564 U_NATURAL_UNIT_OF_ACTION

```
const double U_NATURAL_UNIT_OF_ACTION =0.0e0
```

J s

Definition at line 658 of file ccodata.h.

16.11.2.565 U_NATURAL_UNIT_OF_ACTION_IN_EV_S

```
const double U_NATURAL_UNIT_OF_ACTION_IN_EV_S =0.0e0
```

eV s

Definition at line 661 of file ccodata.h.

16.11.2.566 U_NATURAL_UNIT_OF_ENERGY

```
const double U_NATURAL_UNIT_OF_ENERGY =0.0000000025e-14
```

J

Definition at line 664 of file ccodata.h.

16.11.2.567 U_NATURAL_UNIT_OF_ENERGY_IN_MEV

```
const double U_NATURAL_UNIT_OF_ENERGY_IN_MEV =0.00000000015e0
```

MeV

Definition at line 667 of file ccodata.h.

16.11.2.568 U_NATURAL_UNIT_OF_LENGTH

```
const double U_NATURAL_UNIT_OF_LENGTH =0.0000000012e-13
```

m

Definition at line 670 of file ccodata.h.

16.11.2.569 U_NATURAL_UNIT_OF_MASS

```
const double U_NATURAL_UNIT_OF_MASS =0.0000000028e-31
```

kg

Definition at line 673 of file ccodata.h.

16.11.2.570 U_NATURAL_UNIT_OF_MOMENTUM

```
const double U_NATURAL_UNIT_OF_MOMENTUM =0.00000000082e-22
```

kg m s^-1

Definition at line 676 of file ccodata.h.

16.11.2.571 U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C

```
const double U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C =0.00000000015e0
```

MeV/c

Definition at line 679 of file ccodata.h.

16.11.2.572 U_NATURAL_UNIT_OF_TIME

```
const double U_NATURAL_UNIT_OF_TIME =0.00000000039e-21
```

s

Definition at line 682 of file ccodata.h.

16.11.2.573 U_NATURAL_UNIT_OF_VELOCITY

```
const double U_NATURAL_UNIT_OF_VELOCITY =0.0e0
```

m s^-1

Definition at line 685 of file ccodata.h.

16.11.2.574 U_NEUTRON_COMPTON_WAVELENGTH

```
const double U_NEUTRON_COMPTON_WAVELENGTH =0.00000000075e-15
```

m

Definition at line 688 of file ccodata.h.

16.11.2.575 U_NEUTRON_ELECTRON_MAG__MOM__RATIO

```
const double U_NEUTRON_ELECTRON_MAG__MOM__RATIO =0.00000025e-3
```

Definition at line 691 of file ccodata.h.

16.11.2.576 U_NEUTRON_ELECTRON_MASS_RATIO

```
const double U_NEUTRON_ELECTRON_MASS_RATIO =0.00000089e0
```

Definition at line 694 of file ccodata.h.

16.11.2.577 U_NEUTRON_G_FACTOR

```
const double U_NEUTRON_G_FACTOR =0.00000090e0
```

Definition at line 697 of file ccodata.h.

16.11.2.578 U_NEUTRON_GYROMAG__RATIO

```
const double U_NEUTRON_GYROMAG__RATIO =0.00000043e8
```

s^-1 T^-1

Definition at line 700 of file ccodata.h.

16.11.2.579 U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T

```
const double U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T =0.0000069e0
```

MHz T^-1

Definition at line 703 of file ccodata.h.

16.11.2.580 U_NEUTRON_MAG__MOM

```
const double U_NEUTRON_MAG__MOM =0.0000023e-27
```

J T^-1

Definition at line 706 of file ccodata.h.

16.11.2.581 U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000025e-3
```

Definition at line 709 of file ccodata.h.

16.11.2.582 U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000045e0
```

Definition at line 712 of file ccodata.h.

16.11.2.583 U_NEUTRON_MASS

```
const double U_NEUTRON_MASS =0.00000000095e-27
```

kg

Definition at line 715 of file ccodata.h.

16.11.2.584 U_NEUTRON_MASS_ENERGY_EQUIVALENT

```
const double U_NEUTRON_MASS_ENERGY_EQUIVALENT =0.00000000086e-10
```

J

Definition at line 718 of file ccodata.h.

16.11.2.585 U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000054e0
```

MeV

Definition at line 721 of file ccodata.h.

16.11.2.586 U_NEUTRON_MASS_IN_U

```
const double U_NEUTRON_MASS_IN_U =0.00000000049e0
```

u

Definition at line 724 of file ccodata.h.

16.11.2.587 U_NEUTRON_MOLAR_MASS

```
const double U_NEUTRON_MOLAR_MASS =0.00000000057e-3
```

kg mol^-1

Definition at line 727 of file ccodata.h.

16.11.2.588 U_NEUTRON_MUON_MASS_RATIO

```
const double U_NEUTRON_MUON_MASS_RATIO =0.00000020e0
```

Definition at line 730 of file ccodata.h.

16.11.2.589 U_NEUTRON_PROTON_MAG__MOM__RATIO

```
const double U_NEUTRON_PROTON_MAG__MOM__RATIO =0.00000016e0
```

Definition at line 733 of file ccodata.h.

16.11.2.590 U_NEUTRON_PROTON_MASS_DIFFERENCE

```
const double U_NEUTRON_PROTON_MASS_DIFFERENCE =0.00000082e-30
```

kg

Definition at line 736 of file ccodata.h.

16.11.2.591 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT

```
const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT =0.00000074e-13
```

J

Definition at line 739 of file ccodata.h.

16.11.2.592 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV

```
const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV =0.00000046e0
```

MeV

Definition at line 742 of file ccodata.h.

16.11.2.593 U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U

```
const double U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U =0.00000049e-3
```

u

Definition at line 745 of file ccodata.h.

16.11.2.594 U_NEUTRON_PROTON_MASS_RATIO

```
const double U_NEUTRON_PROTON_MASS_RATIO =0.00000000049e0
```

Definition at line 748 of file ccodata.h.

16.11.2.595 U_NEUTRON_RELATIVE_ATOMIC_MASS

```
const double U_NEUTRON_RELATIVE_ATOMIC_MASS =0.00000000049e0
```

Definition at line 751 of file ccodata.h.

16.11.2.596 U_NEUTRON_TAU_MASS_RATIO

```
const double U_NEUTRON_TAU_MASS_RATIO =0.000036e0
```

Definition at line 754 of file ccodata.h.

16.11.2.597 U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.00000016e0
```

Definition at line 757 of file ccodata.h.

16.11.2.598 U_NEWTONIAN_CONSTANT_OF_GRAVITATION

```
const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION =0.00015e-11
```

m^3 kg^-1 s^-2

Definition at line 760 of file ccodata.h.

16.11.2.599 U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C

```
const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C =0.00015e-39
```

(GeV/c^2)^-2

Definition at line 763 of file ccodata.h.

16.11.2.600 U_NUCLEAR_MAGNETON

```
const double U_NUCLEAR_MAGNETON =0.0000000015e-27
```

J T^-1

Definition at line 766 of file ccodata.h.

16.11.2.601 U_NUCLEAR_MAGNETON_IN_EV_T

```
const double U_NUCLEAR_MAGNETON_IN_EV_T =0.00000000096e-8
```

eV T^-1

Definition at line 769 of file ccodata.h.

16.11.2.602 U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA

```
const double U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA =0.00000000078e-2
```

m^-1 T^-1

Definition at line 772 of file ccodata.h.

16.11.2.603 U_NUCLEAR_MAGNETON_IN_K_T

```
const double U_NUCLEAR_MAGNETON_IN_K_T =0.0000000011e-4
```

K T^-1

Definition at line 775 of file ccodata.h.

16.11.2.604 U_NUCLEAR_MAGNETON_IN_MHZ_T

```
const double U_NUCLEAR_MAGNETON_IN_MHZ_T =0.0000000023e0
```

MHz T^-1

Definition at line 778 of file ccodata.h.

16.11.2.605 U_PLANCK_CONSTANT

```
const double U_PLANCK_CONSTANT =0.0e0
```

J Hz^-1

Definition at line 781 of file ccodata.h.

16.11.2.606 U_PLANCK_CONSTANT_IN_EV_HZ

```
const double U_PLANCK_CONSTANT_IN_EV_HZ =0.0e0
```

eV Hz^-1

Definition at line 784 of file ccodata.h.

16.11.2.607 U_PLANCK_LENGTH

```
const double U_PLANCK_LENGTH =0.000018e-35
```

m

Definition at line 787 of file ccodata.h.

16.11.2.608 U_PLANCK_MASS

```
const double U_PLANCK_MASS =0.000024e-8
```

kg

Definition at line 790 of file ccodata.h.

16.11.2.609 U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV

```
const double U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV =0.000014e19
```

GeV

Definition at line 793 of file ccodata.h.

16.11.2.610 U_PLANCK_TEMPERATURE

```
const double U_PLANCK_TEMPERATURE =0.000016e32
```

K

Definition at line 796 of file ccodata.h.

16.11.2.611 U_PLANCK_TIME

```
const double U_PLANCK_TIME =0.000060e-44
```

s

Definition at line 799 of file ccodata.h.

16.11.2.612 U_PROTON_CHARGE_TO_MASS_QUOTIENT

```
const double U_PROTON_CHARGE_TO_MASS_QUOTIENT =0.0000000029e7
```

C kg^-1

Definition at line 802 of file ccodata.h.

16.11.2.613 U_PROTON_COMPTON_WAVELENGTH

```
const double U_PROTON_COMPTON_WAVELENGTH =0.00000000040e-15
```

m

Definition at line 805 of file ccodata.h.

16.11.2.614 U_PROTON_ELECTRON_MASS_RATIO

```
const double U_PROTON_ELECTRON_MASS_RATIO =0.00000011e0
```

Definition at line 808 of file ccodata.h.

16.11.2.615 U_PROTON_G_FACTOR

```
const double U_PROTON_G_FACTOR =0.0000000016e0
```

Definition at line 811 of file ccodata.h.

16.11.2.616 U_PROTON_GYROMAG__RATIO

```
const double U_PROTON_GYROMAG__RATIO =0.0000000011e8
```

s^-1 T^-1

Definition at line 814 of file ccodata.h.

16.11.2.617 U_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
const double U_PROTON_GYROMAG__RATIO_IN_MHZ_T =0.000000018e0
```

MHz T^-1

Definition at line 817 of file ccodata.h.

16.11.2.618 U_PROTON_MAG__MOM

```
const double U_PROTON_MAG__MOM =0.00000000060e-26
```

J T^-1

Definition at line 820 of file ccodata.h.

16.11.2.619 U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.00000000046e-3
```

Definition at line 823 of file ccodata.h.

16.11.2.620 U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.00000000082e0
```

Definition at line 826 of file ccodata.h.

16.11.2.621 U_PROTON_MAG__SHIELDING_CORRECTION

```
const double U_PROTON_MAG__SHIELDING_CORRECTION =0.0011e-5
```

Definition at line 829 of file ccodata.h.

16.11.2.622 U_PROTON_MASS

```
const double U_PROTON_MASS =0.00000000051e-27
```

kg

Definition at line 832 of file ccodata.h.

16.11.2.623 U_PROTON_MASS_ENERGY_EQUIVALENT

```
const double U_PROTON_MASS_ENERGY_EQUIVALENT =0.00000000046e-10
```

J

Definition at line 835 of file ccodata.h.

16.11.2.624 U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000029e0
```

MeV

Definition at line 838 of file ccodata.h.

16.11.2.625 U_PROTON_MASS_IN_U

```
const double U_PROTON_MASS_IN_U =0.000000000053e0
```

u

Definition at line 841 of file ccodata.h.

16.11.2.626 U_PROTON_MOLAR_MASS

```
const double U_PROTON_MOLAR_MASS =0.00000000031e-3
```

kg mol^-1

Definition at line 844 of file ccodata.h.

16.11.2.627 U_PROTON_MUON_MASS_RATIO

```
const double U_PROTON_MUON_MASS_RATIO =0.00000020e0
```

Definition at line 847 of file ccodata.h.

16.11.2.628 U_PROTON_NEUTRON_MAG__MOM__RATIO

```
const double U_PROTON_NEUTRON_MAG__MOM__RATIO =0.00000034e0
```

Definition at line 850 of file ccodata.h.

16.11.2.629 U_PROTON_NEUTRON_MASS_RATIO

```
const double U_PROTON_NEUTRON_MASS_RATIO =0.00000000049e0
```

Definition at line 853 of file ccodata.h.

16.11.2.630 U_PROTON_RELATIVE_ATOMIC_MASS

```
const double U_PROTON_RELATIVE_ATOMIC_MASS =0.000000000053e0
```

Definition at line 856 of file ccodata.h.

16.11.2.631 U_PROTON_RMS_CHARGE_RADIUS

```
const double U_PROTON_RMS_CHARGE_RADIUS =0.019e-16
```

m

Definition at line 859 of file ccodata.h.

16.11.2.632 U_PROTON_TAU_MASS_RATIO

```
const double U_PROTON_TAU_MASS_RATIO =0.000036e0
```

Definition at line 862 of file ccodata.h.

16.11.2.633 U_QUANTUM_OF_CIRCULATION

```
const double U_QUANTUM_OF_CIRCULATION =0.0000000011e-4
```

m^2 s^-1

Definition at line 865 of file ccodata.h.

16.11.2.634 U_QUANTUM_OF_CIRCULATION_TIMES_2

```
const double U_QUANTUM_OF_CIRCULATION_TIMES_2 =0.0000000022e-4
```

m^2 s^-1

Definition at line 868 of file ccodata.h.

16.11.2.635 U_REDUCED_COMPTON_WAVELENGTH

```
const double U_REDUCED_COMPTON_WAVELENGTH =0.0000000012e-13
```

m

Definition at line 871 of file ccodata.h.

16.11.2.636 U_REDUCED_MUON_COMPTON_WAVELENGTH

```
const double U_REDUCED_MUON_COMPTON_WAVELENGTH =0.000000042e-15
```

m

Definition at line 874 of file ccodata.h.

16.11.2.637 U_REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
const double U_REDUCED_NEUTRON_COMPTON_WAVELENGTH =0.0000000012e-16
```

m

Definition at line 877 of file ccodata.h.

16.11.2.638 U_REDUCED_PLANCK_CONSTANT

```
const double U_REDUCED_PLANCK_CONSTANT =0.0e0
```

J s

Definition at line 880 of file ccodata.h.

16.11.2.639 U_REDUCED_PLANCK_CONSTANT_IN_EV_S

```
const double U_REDUCED_PLANCK_CONSTANT_IN_EV_S =0.0e0
```

eV s

Definition at line 883 of file ccodata.h.

16.11.2.640 U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM

```
const double U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM =0.0e0
```

MeV fm

Definition at line 886 of file ccodata.h.

16.11.2.641 U_REDUCED_PROTON_COMPTON_WAVELENGTH

```
const double U_REDUCED_PROTON_COMPTON_WAVELENGTH =0.00000000064e-16
```

m

Definition at line 889 of file ccodata.h.

16.11.2.642 U_REDUCED_TAU_COMPTON_WAVELENGTH

```
const double U_REDUCED_TAU_COMPTON_WAVELENGTH =0.000075e-16
```

m

Definition at line 892 of file ccodata.h.

16.11.2.643 U_RYDBERG_CONSTANT

```
const double U_RYDBERG_CONSTANT =0.000021e0
```

m^-1

Definition at line 895 of file ccodata.h.

16.11.2.644 U_RYDBERG_CONSTANT_TIMES_C_IN_HZ

```
const double U_RYDBERG_CONSTANT_TIMES_C_IN_HZ =0.0000000000064e15
```

Hz

Definition at line 898 of file ccodata.h.

16.11.2.645 U_RYDBERG_CONSTANT_TIMES_HC_IN_EV

```
const double U_RYDBERG_CONSTANT_TIMES_HC_IN_EV =0.000000000026e0
```

eV

Definition at line 901 of file ccodata.h.

16.11.2.646 U_RYDBERG_CONSTANT_TIMES_HC_IN_J

```
const double U_RYDBERG_CONSTANT_TIMES_HC_IN_J =0.0000000000042e-18
```

J

Definition at line 904 of file ccodata.h.

16.11.2.647 U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA

```
const double U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA =0.00000000045e0
```

Definition at line 907 of file ccodata.h.

16.11.2.648 U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA

```
const double U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA =0.00000000045e0
```

Definition at line 910 of file ccodata.h.

16.11.2.649 U_SECOND_RADIATION_CONSTANT

```
const double U_SECOND_RADIATION_CONSTANT =0.0e0
```

m K

Definition at line 913 of file ccodata.h.

16.11.2.650 U_SHIELDED_HELION_GYROMAG__RATIO

```
const double U_SHIELDED_HELION_GYROMAG__RATIO =0.000000024e8
```

s^-1 T^-1

Definition at line 916 of file ccodata.h.

16.11.2.651 U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T

```
const double U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T =0.00000038e0
```

MHz T^-1

Definition at line 919 of file ccodata.h.

16.11.2.652 U_SHIELDED_HELION_MAG__MOM

```
const double U_SHIELDED_HELION_MAG__MOM =0.000000013e-26
```

J T^-1

Definition at line 922 of file ccodata.h.

16.11.2.653 U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000014e-3
```

Definition at line 925 of file ccodata.h.

16.11.2.654 U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000025e0
```

Definition at line 928 of file ccodata.h.

16.11.2.655 U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO

```
const double U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO =0.0000000089e0
```

Definition at line 931 of file ccodata.h.

16.11.2.656 U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO

```
const double U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO =0.0000000033e0
```

Definition at line 934 of file ccodata.h.

16.11.2.657 U_SHIELDED_PROTON_GYROMAG__RATIO

```
const double U_SHIELDED_PROTON_GYROMAG__RATIO =0.000000029e8
```

s^-1 T^-1

Definition at line 937 of file ccodata.h.

16.11.2.658 U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T

```
const double U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T =0.00000046e0
```

MHz T^-1

Definition at line 940 of file ccodata.h.

16.11.2.659 U_SHIELDED_PROTON_MAG__MOM

```
const double U_SHIELDED_PROTON_MAG__MOM =0.000000015e-26
```

J T^-1

Definition at line 943 of file ccodata.h.

16.11.2.660 U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.000000017e-3
```

Definition at line 946 of file ccodata.h.

16.11.2.661 U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.000000030e0
```

Definition at line 949 of file ccodata.h.

16.11.2.662 U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD

```
const double U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD =0.0020e-8
```

Definition at line 952 of file ccodata.h.

16.11.2.663 U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT

```
const double U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT =0.0020e-8
```

Definition at line 955 of file ccodata.h.

16.11.2.664 U_SPEED_OF_LIGHT_IN_VACUUM

```
const double U_SPEED_OF_LIGHT_IN_VACUUM =0.0e0
```

m s^-1

Definition at line 958 of file ccodata.h.

16.11.2.665 U_STANDARD_ACCELERATION_OF_GRAVITY

```
const double U_STANDARD_ACCELERATION_OF_GRAVITY =0.0e0
```

m s^-2

Definition at line 961 of file ccodata.h.

16.11.2.666 U_STANDARD_ATMOSPHERE

```
const double U_STANDARD_ATMOSPHERE =0.0e0
```

Pa

Definition at line 964 of file ccodata.h.

16.11.2.667 U_STANDARD_STATE_PRESSURE

```
const double U_STANDARD_STATE_PRESSURE =0.0e0
```

Pa

Definition at line 967 of file ccodata.h.

16.11.2.668 U_STEFAN_BOLTZMANN_CONSTANT

```
const double U_STEFAN_BOLTZMANN_CONSTANT =0.0e0
```

W m^-2 K^-4

Definition at line 970 of file ccodata.h.

16.11.2.669 U_TAU_COMPTON_WAVELENGTH

```
const double U_TAU_COMPTON_WAVELENGTH =0.00047e-16
```

m

Definition at line 973 of file ccodata.h.

16.11.2.670 U_TAU_ELECTRON_MASS_RATIO

```
const double U_TAU_ELECTRON_MASS_RATIO =0.23e0
```

Definition at line 976 of file ccodata.h.

16.11.2.671 U_TAU_ENERGY_EQUIVALENT

```
const double U_TAU_ENERGY_EQUIVALENT =0.12e0
```

MeV

Definition at line 979 of file ccodata.h.

16.11.2.672 U_TAU_MASS

```
const double U_TAU_MASS =0.00021e-27
```

kg

Definition at line 982 of file ccodata.h.

16.11.2.673 U_TAU_MASS_ENERGY_EQUIVALENT

```
const double U_TAU_MASS_ENERGY_EQUIVALENT =0.00019e-10
```

J

Definition at line 985 of file ccodata.h.

16.11.2.674 U_TAU_MASS_IN_U

```
const double U_TAU_MASS_IN_U =0.00013e0
```

u

Definition at line 988 of file ccodata.h.

16.11.2.675 U_TAU_MOLAR_MASS

```
const double U_TAU_MOLAR_MASS =0.00013e-3
```

kg mol^-1

Definition at line 991 of file ccodata.h.

16.11.2.676 U_TAU_MUON_MASS_RATIO

```
const double U_TAU_MUON_MASS_RATIO =0.0011e0
```

Definition at line 994 of file ccodata.h.

16.11.2.677 U_TAU_NEUTRON_MASS_RATIO

```
const double U_TAU_NEUTRON_MASS_RATIO =0.00013e0
```

Definition at line 997 of file ccodata.h.

16.11.2.678 U_TAU_PROTON_MASS_RATIO

```
const double U_TAU_PROTON_MASS_RATIO =0.00013e0
```

Definition at line 1000 of file ccodata.h.

16.11.2.679 U_THOMSON_CROSS_SECTION

```
const double U_THOMSON_CROSS_SECTION =0.0000000060e-29
```

m^2

Definition at line 1003 of file ccodata.h.

16.11.2.680 U_TRITON_ELECTRON_MASS_RATIO

```
const double U_TRITON_ELECTRON_MASS_RATIO =0.00000027e0
```

Definition at line 1006 of file ccodata.h.

16.11.2.681 U_TRITON_G_FACTOR

```
const double U_TRITON_G_FACTOR =0.000000012e0
```

Definition at line 1009 of file ccodata.h.

16.11.2.682 U_TRITON_MAG__MOM

```
const double U_TRITON_MAG__MOM =0.0000000030e-26
```

J T^-1

Definition at line 1012 of file ccodata.h.

16.11.2.683 U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO

```
const double U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO =0.0000000032e-3
```

Definition at line 1015 of file ccodata.h.

16.11.2.684 U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO

```
const double U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO =0.0000000059e0
```

Definition at line 1018 of file ccodata.h.

16.11.2.685 U_TRITON_MASS

```
const double U_TRITON_MASS =0.0000000015e-27
```

kg

Definition at line 1021 of file ccodata.h.

16.11.2.686 U_TRITON_MASS_ENERGY_EQUIVALENT

```
const double U_TRITON_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
```

J

Definition at line 1024 of file ccodata.h.

16.11.2.687 U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
const double U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV =0.00000085e0
```

MeV

Definition at line 1027 of file ccodata.h.

16.11.2.688 U_TRITON_MASS_IN_U

```
const double U_TRITON_MASS_IN_U =0.00000000012e0
```

u

Definition at line 1030 of file ccodata.h.

16.11.2.689 U_TRITON_MOLAR_MASS

```
const double U_TRITON_MOLAR_MASS =0.00000000092e-3
```

kg mol^-1

Definition at line 1033 of file ccodata.h.

16.11.2.690 U_TRITON_PROTON_MASS_RATIO

```
const double U_TRITON_PROTON_MASS_RATIO =0.00000000015e0
```

Definition at line 1036 of file ccodata.h.

16.11.2.691 U_TRITON_RELATIVE_ATOMIC_MASS

```
const double U_TRITON_RELATIVE_ATOMIC_MASS =0.00000000012e0
```

Definition at line 1039 of file ccodata.h.

16.11.2.692 U_TRITON_TO_PROTON_MAG__MOM__RATIO

```
const double U_TRITON_TO_PROTON_MAG__MOM__RATIO =0.0000000021e0
```

Definition at line 1042 of file ccodata.h.

16.11.2.693 U_UNIFIED_ATOMIC_MASS_UNIT

```
const double U_UNIFIED_ATOMIC_MASS_UNIT =0.00000000050e-27
```

kg

Definition at line 1045 of file ccodata.h.

16.11.2.694 U_VACUUM_ELECTRIC_PERMITTIVITY

```
const double U_VACUUM_ELECTRIC_PERMITTIVITY =0.0000000013e-12
```

F m^-1

Definition at line 1048 of file ccodata.h.

16.11.2.695 U_VACUUM_MAG__PERMEABILITY

```
const double U_VACUUM_MAG__PERMEABILITY =0.00000000019e-6
```

N A^-2

Definition at line 1051 of file ccodata.h.

16.11.2.696 U_VON_KLITZING_CONSTANT

```
const double U_VON_KLITZING_CONSTANT =0.0e0
```

ohm

Definition at line 1054 of file ccodata.h.

16.11.2.697 U_W_TO_Z_MASS_RATIO

```
const double U_W_TO_Z_MASS_RATIO =0.00017e0
```

Definition at line 1066 of file ccodata.h.

16.11.2.698 U_WEAK_MIXING_ANGLE

```
const double U_WEAK_MIXING_ANGLE =0.00030e0
```

Definition at line 1057 of file ccodata.h.

16.11.2.699 U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
const double U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT =0.0e0
```

Hz K^-1

Definition at line 1060 of file ccodata.h.

16.11.2.700 U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
const double U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT =0.0e0
```

m K

Definition at line 1063 of file ccodata.h.

16.11.2.701 UNIFIED_ATOMIC_MASS_UNIT

```
const double UNIFIED_ATOMIC_MASS_UNIT =1.66053906660e-27
```

kg

Definition at line 1044 of file ccodata.h.

16.11.2.702 VACUUM_ELECTRIC_PERMITTIVITY

```
const double VACUUM_ELECTRIC_PERMITTIVITY =8.8541878128e-12
```

F m^-1

Definition at line 1047 of file ccodata.h.

16.11.2.703 VACUUM_MAG__PERMEABILITY

```
const double VACUUM_MAG__PERMEABILITY =1.25663706212e-6
```

N A^-2

Definition at line 1050 of file ccodata.h.

16.11.2.704 VON_KLITZING_CONSTANT

```
const double VON_KLITZING_CONSTANT =25812.80745e0
```

ohm

Definition at line 1053 of file ccodata.h.

16.11.2.705 W_TO_Z_MASS_RATIO

```
const double W_TO_Z_MASS_RATIO =0.88153e0
```

Definition at line 1065 of file ccodata.h.

16.11.2.706 WEAK_MIXING_ANGLE

```
const double WEAK_MIXING_ANGLE =0.22290e0
```

Definition at line 1056 of file ccodata.h.

16.11.2.707 WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
const double WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT =5.878925757e10
```

Hz K^-1

Definition at line 1059 of file ccodata.h.

16.11.2.708 WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
const double WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT =2.897771955e-3
```

m K

Definition at line 1062 of file ccodata.h.

16.12 ccodata.h

Go to the documentation of this file.

```
00001
00006 const double ALPHA_PARTICLE_ELECTRON_MASS_RATIO=7294.29954142e0;
00007 const double U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO=0.00000024e0;
00009 const double ALPHA_PARTICLE_MASS=6.6446573357e-27;
00010 const double U_ALPHA_PARTICLE_MASS=0.0000000020e-27;
00012 const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=5.9719201914e-10;
00013 const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=0.0000000018e-10;
00015 const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=3727.3794066e0;
00016 const double U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000011e0;
00018 const double ALPHA_PARTICLE_MASS_IN_U=4.001506179127e0;
00019 const double U_ALPHA_PARTICLE_MASS_IN_U=0.000000000063e0;
00021 const double ALPHA_PARTICLE_MOLAR_MASS=4.0015061777e-3;
00022 const double U_ALPHA_PARTICLE_MOLAR_MASS=0.0000000012e-3;
00024 const double ALPHA_PARTICLE_PROTON_MASS_RATIO=3.97259969009e0;
00025 const double U_ALPHA_PARTICLE_PROTON_MASS_RATIO=0.00000000022e0;
00027 const double ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=4.001506179127e0;
00028 const double U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=0.000000000063e0;
00030 const double ANGSTROM_STAR=1.00001495e-10;
00031 const double U_ANGSTROM_STAR=0.00000090e-10;
00033 const double ATOMIC_MASS_CONSTANT=1.66053906660e-27;
00034 const double U_ATOMIC_MASS_CONSTANT=0.00000000050e-27;
00036 const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=1.49241808560e-10;
00037 const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=0.00000000045e-10;
00039 const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=931.49410242e0;
00040 const double U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=0.00000028e0;
00042 const double ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=9.3149410242e8;
00043 const double U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=0.0000000028e8;
00045 const double ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=3.4231776874e7;
00046 const double U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=0.0000000010e7;
00048 const double ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=2.25234271871e23;
00049 const double U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=0.00000000068e23;
00051 const double ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=7.5130066104e14;
00052 const double U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=0.0000000023e14;
00054 const double ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=1.49241808560e-10;
00055 const double U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=0.00000000045e-10;
```

```
00057 const double ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=1.08095401916e13;
00058 const double U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=0.00000000033e13;
00060 const double ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=1.66053906660e-27;
00061 const double U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=0.00000000050e-27;
00063 const double ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=3.2063613061e-53;
00064 const double U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=0.0000000015e-53;
00066 const double ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=6.2353799905e-65;
00067 const double U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=0.0000000038e-65;
00069 const double ATOMIC_UNIT_OF_ACTION=1.054571817e-34;
00070 const double U_ATOMIC_UNIT_OF_ACTION=0.0e0;
00072 const double ATOMIC_UNIT_OF_CHARGE=1.602176634e-19;
00073 const double U_ATOMIC_UNIT_OF_CHARGE=0.0e0;
00075 const double ATOMIC_UNIT_OF_CHARGE_DENSITY=1.08120238457e12;
00076 const double U_ATOMIC_UNIT_OF_CHARGE_DENSITY=0.00000000049e12;
00078 const double ATOMIC_UNIT_OF_CURRENT=6.623618237510e-3;
00079 const double U_ATOMIC_UNIT_OF_CURRENT=0.000000000013e-3;
00081 const double ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=8.4783536255e-30;
00082 const double U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=0.0000000013e-30;
00084 const double ATOMIC_UNIT_OF_ELECTRIC_FIELD=5.14220674763e11;
00085 const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD=0.00000000078e11;
00087 const double ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=9.7173624292e21;
00088 const double U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=0.0000000029e21;
00090 const double ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=1.64877727436e-41;
00091 const double U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=0.00000000050e-41;
00093 const double ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=27.211386245988e0;
00094 const double U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=0.000000000053e0;
00096 const double ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=4.4865515246e-40;
00097 const double U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=0.0000000014e-40;
00099 const double ATOMIC_UNIT_OF_ENERGY=4.3597447222071e-18;
00100 const double U_ATOMIC_UNIT_OF_ENERGY=0.0000000000085e-18;
00102 const double ATOMIC_UNIT_OF_FORCE=8.2387234983e-8;
00103 const double U_ATOMIC_UNIT_OF_FORCE=0.0000000012e-8;
00105 const double ATOMIC_UNIT_OF_LENGTH=5.29177210903e-11;
00106 const double U_ATOMIC_UNIT_OF_LENGTH=0.00000000080e-11;
00108 const double ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=1.85480201566e-23;
00109 const double U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=0.00000000056e-23;
00111 const double ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=2.35051756758e5;
00112 const double U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=0.00000000071e5;
00114 const double ATOMIC_UNIT_OF_MAGNETIZABILITY=7.8910366008e-29;
00115 const double U_ATOMIC_UNIT_OF_MAGNETIZABILITY=0.0000000048e-29;
00117 const double ATOMIC_UNIT_OF_MASS=9.1093837015e-31;
00118 const double U_ATOMIC_UNIT_OF_MASS=0.0000000028e-31;
00120 const double ATOMIC_UNIT_OF_MOMENTUM=1.99285191410e-24;
00121 const double U_ATOMIC_UNIT_OF_MOMENTUM=0.00000000030e-24;
00123 const double ATOMIC_UNIT_OF_PERMITTIVITY=1.11265005545e-10;
00124 const double U_ATOMIC_UNIT_OF_PERMITTIVITY=0.00000000017e-10;
00126 const double ATOMIC_UNIT_OF_TIME=2.4188843265857e-17;
00127 const double U_ATOMIC_UNIT_OF_TIME=0.0000000000047e-17;
00129 const double ATOMIC_UNIT_OF_VELOCITY=2.18769126364e6;
00130 const double U_ATOMIC_UNIT_OF_VELOCITY=0.00000000033e6;
00132 const double AVOGADRO_CONSTANT=6.02214076e23;
00133 const double U_AVOGADRO_CONSTANT=0.0e0;
00135 const double BOHR_MAGNETON=9.2740100783e-24;
00136 const double U_BOHR_MAGNETON=0.0000000028e-24;
00138 const double BOHR_MAGNETON_IN_EV_T=5.7883818060e-5;
00139 const double U_BOHR_MAGNETON_IN_EV_T=0.0000000017e-5;
00141 const double BOHR_MAGNETON_IN_HZ_T=1.39962449361e10;
00142 const double U_BOHR_MAGNETON_IN_HZ_T=0.00000000042e10;
00144 const double BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=46.686447783e0;
00145 const double U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.000000014e0;
00147 const double BOHR_MAGNETON_IN_K_T=0.67171381563e0;
00148 const double U_BOHR_MAGNETON_IN_K_T=0.00000000020e0;
00150 const double BOHR_RADIUS=5.29177210903e-11;
00151 const double U_BOHR_RADIUS=0.00000000080e-11;
00153 const double BOLTZMANN_CONSTANT=1.380649e-23;
00154 const double U_BOLTZMANN_CONSTANT=0.0e0;
00156 const double BOLTZMANN_CONSTANT_IN_EV_K=8.617333262e-5;
00157 const double U_BOLTZMANN_CONSTANT_IN_EV_K=0.0e0;
00159 const double BOLTZMANN_CONSTANT_IN_HZ_K=2.083661912e10;
00160 const double U_BOLTZMANN_CONSTANT_IN_HZ_K=0.0e0;
00162 const double BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=69.50348004e0;
00163 const double U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=0.0e0;
00165 const double CHARACTERISTIC_IMPEDANCE_OF_VACUUM=376.730313668e0;
00166 const double U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM=0.000000057e0;
00168 const double CLASSICAL_ELECTRON_RADIUS=2.8179403262e-15;
00169 const double U_CLASSICAL_ELECTRON_RADIUS=0.0000000013e-15;
00171 const double COMPTON_WAVELENGTH=2.42631023867e-12;
00172 const double U_COMPTON_WAVELENGTH=0.00000000073e-12;
00174 const double CONDUCTANCE_QUANTUM=7.748091729e-5;
00175 const double U_CONDUCTANCE_QUANTUM=0.0e0;
00177 const double CONVENTIONAL_VALUE_OF_AMPERE_90=1.00000008887e0;
00178 const double U_CONVENTIONAL_VALUE_OF_AMPERE_90=0.0e0;
00180 const double CONVENTIONAL_VALUE_OF_COULOMB_90=1.00000008887e0;
00181 const double U_CONVENTIONAL_VALUE_OF_COULOMB_90=0.0e0;
00183 const double CONVENTIONAL_VALUE_OF_FARAD_90=0.99999998220e0;
00184 const double U_CONVENTIONAL_VALUE_OF_FARAD_90=0.0e0;
00186 const double CONVENTIONAL_VALUE_OF_HENRY_90=1.00000001779e0;
```

```
00187 const double U_CONVENTIONAL_VALUE_OF_HENRY_90=0.0e0;
00189 const double CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=483597.9e9;
00190 const double U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=0.0e0;
00192 const double CONVENTIONAL_VALUE_OF_OHM_90=1.00000001779e0;
00193 const double U_CONVENTIONAL_VALUE_OF_OHM_90=0.0e0;
00195 const double CONVENTIONAL_VALUE_OF_VOLT_90=1.00000010666e0;
00196 const double U_CONVENTIONAL_VALUE_OF_VOLT_90=0.0e0;
00198 const double CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=25812.807e0;
00199 const double U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=0.0e0;
00201 const double CONVENTIONAL_VALUE_OF_WATT_90=1.00000019553e0;
00202 const double U_CONVENTIONAL_VALUE_OF_WATT_90=0.0e0;
00204 const double COPPER_X_UNIT=1.00207697e-13;
00205 const double U_COPPER_X_UNIT=0.00000028e-13;
00207 const double DEUTERON_ELECTRON_MAG__MOM__RATIO=-4.664345551e-4;
00208 const double U_DEUTERON_ELECTRON_MAG__MOM__RATIO=0.000000012e-4;
00210 const double DEUTERON_ELECTRON_MASS_RATIO=3670.48296788e0;
00211 const double U_DEUTERON_ELECTRON_MASS_RATIO=0.00000013e0;
00213 const double DEUTERON_G_FACTOR=0.8574382338e0;
00214 const double U_DEUTERON_G_FACTOR=0.0000000022e0;
00216 const double DEUTERON_MAG__MOM=4.330735094e-27;
00217 const double U_DEUTERON_MAG__MOM=0.000000011e-27;
00219 const double DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=4.669754570e-4;
00220 const double U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000012e-4;
00222 const double DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.8574382338e0;
00223 const double U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000022e0;
00225 const double DEUTERON_MASS=3.3435837724e-27;
00226 const double U_DEUTERON_MASS=0.0000000010e-27;
00228 const double DEUTERON_MASS_ENERGY_EQUIVALENT=3.00506323102e-10;
00229 const double U_DEUTERON_MASS_ENERGY_EQUIVALENT=0.00000000091e-10;
00231 const double DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=1875.61294257e0;
00232 const double U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000057e0;
00234 const double DEUTERON_MASS_IN_U=2.013553212745e0;
00235 const double U_DEUTERON_MASS_IN_U=0.000000000040e0;
00237 const double DEUTERON_MOLAR_MASS=2.01355321205e-3;
00238 const double U_DEUTERON_MOLAR_MASS=0.00000000061e-3;
00240 const double DEUTERON_NEUTRON_MAG__MOM__RATIO=-0.44820653e0;
00241 const double U_DEUTERON_NEUTRON_MAG__MOM__RATIO=0.00000011e0;
00243 const double DEUTERON_PROTON_MAG__MOM__RATIO=0.30701220939e0;
00244 const double U_DEUTERON_PROTON_MAG__MOM__RATIO=0.00000000079e0;
00246 const double DEUTERON_PROTON_MASS_RATIO=1.99900750139e0;
00247 const double U_DEUTERON_PROTON_MASS_RATIO=0.00000000011e0;
00249 const double DEUTERON_RELATIVE_ATOMIC_MASS=2.013553212745e0;
00250 const double U_DEUTERON_RELATIVE_ATOMIC_MASS=0.000000000040e0;
00252 const double DEUTERON_RMS_CHARGE_RADIUS=2.12799e-15;
00253 const double U_DEUTERON_RMS_CHARGE_RADIUS=0.00074e-15;
00255 const double ELECTRON_CHARGE_TO_MASS_QUOTIENT=-1.75882001076e11;
00256 const double U_ELECTRON_CHARGE_TO_MASS_QUOTIENT=0.00000000053e11;
00258 const double ELECTRON_DEUTERON_MAG__MOM__RATIO=-2143.9234915e0;
00259 const double U_ELECTRON_DEUTERON_MAG__MOM__RATIO=0.0000056e0;
00261 const double ELECTRON_DEUTERON_MASS_RATIO=2.724437107462e-4;
00262 const double U_ELECTRON_DEUTERON_MASS_RATIO=0.000000000096e-4;
00264 const double ELECTRON_G_FACTOR=-2.00231930436256e0;
00265 const double U_ELECTRON_G_FACTOR=0.00000000000035e0;
00267 const double ELECTRON_GYROMAG__RATIO=1.76085963023e11;
00268 const double U_ELECTRON_GYROMAG__RATIO=0.00000000053e11;
00270 const double ELECTRON_GYROMAG__RATIO_IN_MHZ_T=28024.9514242e0;
00271 const double U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000085e0;
00273 const double ELECTRON_HELION_MASS_RATIO=1.819543074573e-4;
00274 const double U_ELECTRON_HELION_MASS_RATIO=0.000000000079e-4;
00276 const double ELECTRON_MAG__MOM=-9.2847647043e-24;
00277 const double U_ELECTRON_MAG__MOM=0.0000000028e-24;
00279 const double ELECTRON_MAG__MOM__ANOMALY=1.15965218128e-3;
00280 const double U_ELECTRON_MAG__MOM__ANOMALY=0.00000000018e-3;
00282 const double ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.00115965218128e0;
00283 const double U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000000018e0;
00285 const double ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1838.28197188e0;
00286 const double U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000011e0;
00288 const double ELECTRON_MASS=9.1093837015e-31;
00289 const double U_ELECTRON_MASS=0.0000000028e-31;
00291 const double ELECTRON_MASS_ENERGY_EQUIVALENT=8.1871057769e-14;
00292 const double U_ELECTRON_MASS_ENERGY_EQUIVALENT=0.0000000025e-14;
00294 const double ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.51099895000e0;
00295 const double U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000000015e0;
00297 const double ELECTRON_MASS_IN_U=5.48579909065e-4;
00298 const double U_ELECTRON_MASS_IN_U=0.00000000016e-4;
00300 const double ELECTRON_MOLAR_MASS=5.4857990888e-7;
00301 const double U_ELECTRON_MOLAR_MASS=0.0000000017e-7;
00303 const double ELECTRON_MUON_MAG__MOM__RATIO=206.7669883e0;
00304 const double U_ELECTRON_MUON_MAG__MOM__RATIO=0.0000046e0;
00306 const double ELECTRON_MUON_MASS_RATIO=4.83633169e-3;
00307 const double U_ELECTRON_MUON_MASS_RATIO=0.00000011e-3;
00309 const double ELECTRON_NEUTRON_MAG__MOM__RATIO=960.92050e0;
00310 const double U_ELECTRON_NEUTRON_MAG__MOM__RATIO=0.00023e0;
00312 const double ELECTRON_NEUTRON_MASS_RATIO=5.4386734424e-4;
00313 const double U_ELECTRON_NEUTRON_MASS_RATIO=0.0000000026e-4;
00315 const double ELECTRON_PROTON_MAG__MOM__RATIO=-658.21068789e0;
00316 const double U_ELECTRON_PROTON_MAG__MOM__RATIO=0.00000020e0;
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00318 const double ELECTRON_PROTON_MASS_RATIO=5.44617021487e-4;
00319 const double U_ELECTRON_PROTON_MASS_RATIO=0.00000000033e-4;
00321 const double ELECTRON_RELATIVE_ATOMIC_MASS=5.48579909065e-4;
00322 const double U_ELECTRON_RELATIVE_ATOMIC_MASS=0.00000000016e-4;
00324 const double ELECTRON_TAU_MASS_RATIO=2.87585e-4;
00325 const double U_ELECTRON_TAU_MASS_RATIO=0.00019e-4;
00327 const double ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=1.370933554787e-4;
00328 const double U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=0.000000000045e-4;
00330 const double ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=864.058257e0;
00331 const double U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=0.000010e0;
00333 const double ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-658.2275971e0;
00334 const double U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000072e0;
00336 const double ELECTRON_TRITON_MASS_RATIO=1.819200062251e-4;
00337 const double U_ELECTRON_TRITON_MASS_RATIO=0.000000000090e-4;
00339 const double ELECTRON_VOLT=1.602176634e-19;
00340 const double U_ELECTRON_VOLT=0.0e0;
00342 const double ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=1.07354410233e-9;
00343 const double U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000032e-9;
00345 const double ELECTRON_VOLT_HARTREE_RELATIONSHIP=3.6749322175655e-2;
00346 const double U_ELECTRON_VOLT_HARTREE_RELATIONSHIP=0.0000000000071e-2;
00348 const double ELECTRON_VOLT_HERTZ_RELATIONSHIP=2.417989242e14;
00349 const double U_ELECTRON_VOLT_HERTZ_RELATIONSHIP=0.0e0;
00351 const double ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=8.065543937e5;
00352 const double U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=0.0e0;
00354 const double ELECTRON_VOLT_JOULE_RELATIONSHIP=1.602176634e-19;
00355 const double U_ELECTRON_VOLT_JOULE_RELATIONSHIP=0.0e0;
00357 const double ELECTRON_VOLT_KELVIN_RELATIONSHIP=1.160451812e4;
00358 const double U_ELECTRON_VOLT_KELVIN_RELATIONSHIP=0.0e0;
00360 const double ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=1.782661921e-36;
00361 const double U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=0.0e0;
00363 const double ELEMENTARY_CHARGE=1.602176634e-19;
00364 const double U_ELEMENTARY_CHARGE=0.0e0;
00366 const double ELEMENTARY_CHARGE_OVER_H_BAR=1.519267447e15;
00367 const double U_ELEMENTARY_CHARGE_OVER_H_BAR=0.0e0;
00369 const double FARADAY_CONSTANT=96485.33212e0;
00370 const double U_FARADAY_CONSTANT=0.0e0;
00372 const double FERMI_COUPLING_CONSTANT=1.1663787e-5;
00373 const double U_FERMI_COUPLING_CONSTANT=0.0000006e-5;
00375 const double FINE_STRUCTURE_CONSTANT=7.2973525693e-3;
00376 const double U_FINE_STRUCTURE_CONSTANT=0.0000000011e-3;
00378 const double FIRST_RADIATION_CONSTANT=3.741771852e-16;
00379 const double U_FIRST_RADIATION_CONSTANT=0.0e0;
00381 const double FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=1.191042972e-16;
00382 const double U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=0.0e0;
00384 const double HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=2.92126232205e-8;
00385 const double U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000088e-8;
00387 const double HARTREE_ELECTRON_VOLT_RELATIONSHIP=27.211386245988e0;
00388 const double U_HARTREE_ELECTRON_VOLT_RELATIONSHIP=0.000000000053e0;
00390 const double HARTREE_ENERGY=4.3597447222071e-18;
00391 const double U_HARTREE_ENERGY=0.0000000000085e-18;
00393 const double HARTREE_ENERGY_IN_EV=27.211386245988e0;
00394 const double U_HARTREE_ENERGY_IN_EV=0.000000000053e0;
00396 const double HARTREE_HERTZ_RELATIONSHIP=6.579683920502e15;
00397 const double U_HARTREE_HERTZ_RELATIONSHIP=0.000000000013e15;
00399 const double HARTREE_INVERSE_METER_RELATIONSHIP=2.1947463136320e7;
00400 const double U_HARTREE_INVERSE_METER_RELATIONSHIP=0.0000000000043e7;
00402 const double HARTREE_JOULE_RELATIONSHIP=4.3597447222071e-18;
00403 const double U_HARTREE_JOULE_RELATIONSHIP=0.0000000000085e-18;
00405 const double HARTREE_KELVIN_RELATIONSHIP=3.1577502480407e5;
00406 const double U_HARTREE_KELVIN_RELATIONSHIP=0.0000000000061e5;
00408 const double HARTREE_KILOGRAM_RELATIONSHIP=4.8508702095432e-35;
00409 const double U_HARTREE_KILOGRAM_RELATIONSHIP=0.0000000000094e-35;
00411 const double HELION_ELECTRON_MASS_RATIO=5495.88528007e0;
00412 const double U_HELION_ELECTRON_MASS_RATIO=0.00000024e0;
00414 const double HELION_G_FACTOR=-4.255250615e0;
00415 const double U_HELION_G_FACTOR=0.000000050e0;
00417 const double HELION_MAG__MOM=-1.074617532e-26;
00418 const double U_HELION_MAG__MOM=0.000000013e-26;
00420 const double HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158740958e-3;
00421 const double U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3;
00423 const double HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127625307e0;
00424 const double U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0;
00426 const double HELION_MASS=5.0064127796e-27;
00427 const double U_HELION_MASS=0.0000000015e-27;
00429 const double HELION_MASS_ENERGY_EQUIVALENT=4.4995394125e-10;
00430 const double U_HELION_MASS_ENERGY_EQUIVALENT=0.0000000014e-10;
00432 const double HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.39160743e0;
00433 const double U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0;
00435 const double HELION_MASS_IN_U=3.014932247175e0;
00436 const double U_HELION_MASS_IN_U=0.000000000097e0;
00438 const double HELION_MOLAR_MASS=3.01493224613e-3;
00439 const double U_HELION_MOLAR_MASS=0.00000000091e-3;
00441 const double HELION_PROTON_MASS_RATIO=2.99315267167e0;
00442 const double U_HELION_PROTON_MASS_RATIO=0.00000000013e0;
00444 const double HELION_RELATIVE_ATOMIC_MASS=3.014932247175e0;
00445 const double U_HELION_RELATIVE_ATOMIC_MASS=0.000000000097e0;
00447 const double HELION_SHIELDING_SHIFT=5.996743e-5;
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00448 const double U_HELION_SHIELDING_SHIFT=0.000010e-5;
00450 const double HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=4.4398216652e-24;
00451 const double U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000013e-24;
00453 const double HERTZ_ELECTRON_VOLT_RELATIONSHIP=4.135667696e-15;
00454 const double U_HERTZ_ELECTRON_VOLT_RELATIONSHIP=0.0e0;
00456 const double HERTZ_HARTREE_RELATIONSHIP=1.5198298460570e-16;
00457 const double U_HERTZ_HARTREE_RELATIONSHIP=0.0000000000029e-16;
00459 const double HERTZ_INVERSE_METER_RELATIONSHIP=3.335640951e-9;
00460 const double U_HERTZ_INVERSE_METER_RELATIONSHIP=0.0e0;
00462 const double HERTZ_JOULE_RELATIONSHIP=6.62607015e-34;
00463 const double U_HERTZ_JOULE_RELATIONSHIP=0.0e0;
00465 const double HERTZ_KELVIN_RELATIONSHIP=4.799243073e-11;
00466 const double U_HERTZ_KELVIN_RELATIONSHIP=0.0e0;
00468 const double HERTZ_KILOGRAM_RELATIONSHIP=7.372497323e-51;
00469 const double U_HERTZ_KILOGRAM_RELATIONSHIP=0.0e0;
00471 const double HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=9192631770.0e0;
00472 const double U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=0.0e0;
00474 const double INVERSE_FINE_STRUCTURE_CONSTANT=137.035999084e0;
00475 const double U_INVERSE_FINE_STRUCTURE_CONSTANT=0.000000021e0;
00477 const double INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=1.33102505010e-15;
00478 const double U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000040e-15;
00480 const double INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=1.239841984e-6;
00481 const double U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=0.0e0;
00483 const double INVERSE_METER_HARTREE_RELATIONSHIP=4.5563352529120e-8;
00484 const double U_INVERSE_METER_HARTREE_RELATIONSHIP=0.0000000000088e-8;
00486 const double INVERSE_METER_HERTZ_RELATIONSHIP=299792458.0e0;
00487 const double U_INVERSE_METER_HERTZ_RELATIONSHIP=0.0e0;
00489 const double INVERSE_METER_JOULE_RELATIONSHIP=1.986445857e-25;
00490 const double U_INVERSE_METER_JOULE_RELATIONSHIP=0.0e0;
00492 const double INVERSE_METER_KELVIN_RELATIONSHIP=1.438776877e-2;
00493 const double U_INVERSE_METER_KELVIN_RELATIONSHIP=0.0e0;
00495 const double INVERSE_METER_KILOGRAM_RELATIONSHIP=2.210219094e-42;
00496 const double U_INVERSE_METER_KILOGRAM_RELATIONSHIP=0.0e0;
00498 const double INVERSE_OF_CONDUCTANCE_QUANTUM=12906.40372e0;
00499 const double U_INVERSE_OF_CONDUCTANCE_QUANTUM=0.0e0;
00501 const double JOSEPHSON_CONSTANT=483597.8484e9;
00502 const double U_JOSEPHSON_CONSTANT=0.0e0;
00504 const double JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=6.7005352565e9;
00505 const double U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000020e9;
00507 const double JOULE_ELECTRON_VOLT_RELATIONSHIP=6.241509074e18;
00508 const double U_JOULE_ELECTRON_VOLT_RELATIONSHIP=0.0e0;
00510 const double JOULE_HARTREE_RELATIONSHIP=2.2937122783963e17;
00511 const double U_JOULE_HARTREE_RELATIONSHIP=0.0000000000045e17;
00513 const double JOULE_HERTZ_RELATIONSHIP=1.509190179e33;
00514 const double U_JOULE_HERTZ_RELATIONSHIP=0.0e0;
00516 const double JOULE_INVERSE_METER_RELATIONSHIP=5.034116567e24;
00517 const double U_JOULE_INVERSE_METER_RELATIONSHIP=0.0e0;
00519 const double JOULE_KELVIN_RELATIONSHIP=7.242970516e22;
00520 const double U_JOULE_KELVIN_RELATIONSHIP=0.0e0;
00522 const double JOULE_KILOGRAM_RELATIONSHIP=1.112650056e-17;
00523 const double U_JOULE_KILOGRAM_RELATIONSHIP=0.0e0;
00525 const double KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=9.2510873014e-14;
00526 const double U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000028e-14;
00528 const double KELVIN_ELECTRON_VOLT_RELATIONSHIP=8.617333262e-5;
00529 const double U_KELVIN_ELECTRON_VOLT_RELATIONSHIP=0.0e0;
00531 const double KELVIN_HARTREE_RELATIONSHIP=3.1668115634556e-6;
00532 const double U_KELVIN_HARTREE_RELATIONSHIP=0.0000000000061e-6;
00534 const double KELVIN_HERTZ_RELATIONSHIP=2.083661912e10;
00535 const double U_KELVIN_HERTZ_RELATIONSHIP=0.0e0;
00537 const double KELVIN_INVERSE_METER_RELATIONSHIP=69.50348004e0;
00538 const double U_KELVIN_INVERSE_METER_RELATIONSHIP=0.0e0;
00540 const double KELVIN_JOULE_RELATIONSHIP=1.380649e-23;
00541 const double U_KELVIN_JOULE_RELATIONSHIP=0.0e0;
00543 const double KELVIN_KILOGRAM_RELATIONSHIP=1.536179187e-40;
00544 const double U_KELVIN_KILOGRAM_RELATIONSHIP=0.0e0;
00546 const double KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=6.0221407621e26;
00547 const double U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000018e26;
00549 const double KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=5.609588603e35;
00550 const double U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=0.0e0;
00552 const double KILOGRAM_HARTREE_RELATIONSHIP=2.0614857887409e34;
00553 const double U_KILOGRAM_HARTREE_RELATIONSHIP=0.0000000000040e34;
00555 const double KILOGRAM_HERTZ_RELATIONSHIP=1.356392489e50;
00556 const double U_KILOGRAM_HERTZ_RELATIONSHIP=0.0e0;
00558 const double KILOGRAM_INVERSE_METER_RELATIONSHIP=4.524438335e41;
00559 const double U_KILOGRAM_INVERSE_METER_RELATIONSHIP=0.0e0;
00561 const double KILOGRAM_JOULE_RELATIONSHIP=8.987551787e16;
00562 const double U_KILOGRAM_JOULE_RELATIONSHIP=0.0e0;
00564 const double KILOGRAM_KELVIN_RELATIONSHIP=6.509657260e39;
00565 const double U_KILOGRAM_KELVIN_RELATIONSHIP=0.0e0;
00567 const double LATTICE_PARAMETER_OF_SILICON=5.431020511e-10;
00568 const double U_LATTICE_PARAMETER_OF_SILICON=0.000000089e-10;
00570 const double LATTICE_SPACING_OF_IDEAL_SI__220=1.920155716e-10;
00571 const double U_LATTICE_SPACING_OF_IDEAL_SI__220=0.000000032e-10;
00573 const double LOSCHMIDT_CONSTANT__273_15_K__100_KPA=2.651645804e25;
00574 const double U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA=0.0e0;
00576 const double LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=2.686780111e25;
00577 const double U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=0.0e0;
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00579 const double LUMINOUS_EFFICACY=683.0e0;
00580 const double U_LUMINOUS_EFFICACY=0.0e0;
00582 const double MAG__FLUX_QUANTUM=2.067833848e-15;
00583 const double U_MAG__FLUX_QUANTUM=0.0e0;
00585 const double MOLAR_GAS_CONSTANT=8.314462618e0;
00586 const double U_MOLAR_GAS_CONSTANT=0.0e0;
00588 const double MOLAR_MASS_CONSTANT=0.99999999965e-3;
00589 const double U_MOLAR_MASS_CONSTANT=0.00000000030e-3;
00591 const double MOLAR_MASS_OF_CARBON_12=11.9999999958e-3;
00592 const double U_MOLAR_MASS_OF_CARBON_12=0.0000000036e-3;
00594 const double MOLAR_PLANCK_CONSTANT=3.990312712e-10;
00595 const double U_MOLAR_PLANCK_CONSTANT=0.0e0;
00597 const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=22.71095464e-3;
00598 const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=0.0e0;
00600 const double MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=22.41396954e-3;
00601 const double U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=0.0e0;
00603 const double MOLAR_VOLUME_OF_SILICON=1.205883199e-5;
00604 const double U_MOLAR_VOLUME_OF_SILICON=0.000000060e-5;
00606 const double MOLYBDENUM_X_UNIT=1.00209952e-13;
00607 const double U_MOLYBDENUM_X_UNIT=0.00000053e-13;
00609 const double MUON_COMPTON_WAVELENGTH=1.173444110e-14;
00610 const double U_MUON_COMPTON_WAVELENGTH=0.000000026e-14;
00612 const double MUON_ELECTRON_MASS_RATIO=206.7682830e0;
00613 const double U_MUON_ELECTRON_MASS_RATIO=0.0000046e0;
00615 const double MUON_G_FACTOR=-2.0023318418e0;
00616 const double U_MUON_G_FACTOR=0.0000000013e0;
00618 const double MUON_MAG__MOM=-4.49044830e-26;
00619 const double U_MUON_MAG__MOM=0.00000010e-26;
00621 const double MUON_MAG__MOM__ANOMALY=1.16592089e-3;
00622 const double U_MUON_MAG__MOM__ANOMALY=0.00000063e-3;
00624 const double MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-4.84197047e-3;
00625 const double U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000011e-3;
00627 const double MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-8.89059703e0;
00628 const double U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000020e0;
00630 const double MUON_MASS=1.883531627e-28;
00631 const double U_MUON_MASS=0.000000042e-28;
00633 const double MUON_MASS_ENERGY_EQUIVALENT=1.692833804e-11;
00634 const double U_MUON_MASS_ENERGY_EQUIVALENT=0.000000038e-11;
00636 const double MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=105.6583755e0;
00637 const double U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000023e0;
00639 const double MUON_MASS_IN_U=0.1134289259e0;
00640 const double U_MUON_MASS_IN_U=0.0000000025e0;
00642 const double MUON_MOLAR_MASS=1.134289259e-4;
00643 const double U_MUON_MOLAR_MASS=0.000000025e-4;
00645 const double MUON_NEUTRON_MASS_RATIO=0.1124545170e0;
00646 const double U_MUON_NEUTRON_MASS_RATIO=0.0000000025e0;
00648 const double MUON_PROTON_MAG__MOM__RATIO=-3.183345142e0;
00649 const double U_MUON_PROTON_MAG__MOM__RATIO=0.000000071e0;
00651 const double MUON_PROTON_MASS_RATIO=0.1126095264e0;
00652 const double U_MUON_PROTON_MASS_RATIO=0.0000000025e0;
00654 const double MUON_TAU_MASS_RATIO=5.94635e-2;
00655 const double U_MUON_TAU_MASS_RATIO=0.00040e-2;
00657 const double NATURAL_UNIT_OF_ACTION=1.054571817e-34;
00658 const double U_NATURAL_UNIT_OF_ACTION=0.0e0;
00660 const double NATURAL_UNIT_OF_ACTION_IN_EV_S=6.582119569e-16;
00661 const double U_NATURAL_UNIT_OF_ACTION_IN_EV_S=0.0e0;
00663 const double NATURAL_UNIT_OF_ENERGY=8.1871057769e-14;
00664 const double U_NATURAL_UNIT_OF_ENERGY=0.0000000025e-14;
00666 const double NATURAL_UNIT_OF_ENERGY_IN_MEV=0.51099895000e0;
00667 const double U_NATURAL_UNIT_OF_ENERGY_IN_MEV=0.00000000015e0;
00669 const double NATURAL_UNIT_OF_LENGTH=3.8615926796e-13;
00670 const double U_NATURAL_UNIT_OF_LENGTH=0.0000000012e-13;
00672 const double NATURAL_UNIT_OF_MASS=9.1093837015e-31;
00673 const double U_NATURAL_UNIT_OF_MASS=0.0000000028e-31;
00675 const double NATURAL_UNIT_OF_MOMENTUM=2.73092453075e-22;
00676 const double U_NATURAL_UNIT_OF_MOMENTUM=0.00000000082e-22;
00678 const double NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.51099895000e0;
00679 const double U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.00000000015e0;
00681 const double NATURAL_UNIT_OF_TIME=1.28808866819e-21;
00682 const double U_NATURAL_UNIT_OF_TIME=0.00000000039e-21;
00684 const double NATURAL_UNIT_OF_VELOCITY=299792458.0e0;
00685 const double U_NATURAL_UNIT_OF_VELOCITY=0.0e0;
00687 const double NEUTRON_COMPTON_WAVELENGTH=1.31959090581e-15;
00688 const double U_NEUTRON_COMPTON_WAVELENGTH=0.00000000075e-15;
00690 const double NEUTRON_ELECTRON_MAG__MOM__RATIO=1.04066882e-3;
00691 const double U_NEUTRON_ELECTRON_MAG__MOM__RATIO=0.00000025e-3;
00693 const double NEUTRON_ELECTRON_MASS_RATIO=1838.68366173e0;
00694 const double U_NEUTRON_ELECTRON_MASS_RATIO=0.00000089e0;
00696 const double NEUTRON_G_FACTOR=-3.82608545e0;
00697 const double U_NEUTRON_G_FACTOR=0.00000090e0;
00699 const double NEUTRON_GYROMAG__RATIO=1.83247171e8;
00700 const double U_NEUTRON_GYROMAG__RATIO=0.00000043e8;
00702 const double NEUTRON_GYROMAG__RATIO_IN_MHZ_T=29.1646931e0;
00703 const double U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000069e0;
00705 const double NEUTRON_MAG__MOM=-9.6623651e-27;
00706 const double U_NEUTRON_MAG__MOM=0.0000023e-27;
00708 const double NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.04187563e-3;
```

```
00709 const double U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000025e-3;
00711 const double NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1.91304273e0;
00712 const double U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000045e0;
00714 const double NEUTRON_MASS=1.67492749804e-27;
00715 const double U_NEUTRON_MASS=0.00000000095e-27;
00717 const double NEUTRON_MASS_ENERGY_EQUIVALENT=1.50534976287e-10;
00718 const double U_NEUTRON_MASS_ENERGY_EQUIVALENT=0.00000000086e-10;
00720 const double NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=939.56542052e0;
00721 const double U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000054e0;
00723 const double NEUTRON_MASS_IN_U=1.00866491595e0;
00724 const double U_NEUTRON_MASS_IN_U=0.00000000049e0;
00726 const double NEUTRON_MOLAR_MASS=1.00866491560e-3;
00727 const double U_NEUTRON_MOLAR_MASS=0.00000000057e-3;
00729 const double NEUTRON_MUON_MASS_RATIO=8.89248406e0;
00730 const double U_NEUTRON_MUON_MASS_RATIO=0.00000020e0;
00732 const double NEUTRON_PROTON_MAG__MOM__RATIO=-0.68497934e0;
00733 const double U_NEUTRON_PROTON_MAG__MOM__RATIO=0.00000016e0;
00735 const double NEUTRON_PROTON_MASS_DIFFERENCE=2.30557435e-30;
00736 const double U_NEUTRON_PROTON_MASS_DIFFERENCE=0.00000082e-30;
00738 const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=2.07214689e-13;
00739 const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=0.00000074e-13;
00741 const double NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=1.29333236e0;
00742 const double U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=0.00000046e0;
00744 const double NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=1.38844933e-3;
00745 const double U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=0.00000049e-3;
00747 const double NEUTRON_PROTON_MASS_RATIO=1.00137841931e0;
00748 const double U_NEUTRON_PROTON_MASS_RATIO=0.00000000049e0;
00750 const double NEUTRON_RELATIVE_ATOMIC_MASS=1.00866491595e0;
00751 const double U_NEUTRON_RELATIVE_ATOMIC_MASS=0.00000000049e0;
00753 const double NEUTRON_TAU_MASS_RATIO=0.528779e0;
00754 const double U_NEUTRON_TAU_MASS_RATIO=0.000036e0;
00756 const double NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.68499694e0;
00757 const double U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.00000016e0;
00759 const double NEWTONIAN_CONSTANT_OF_GRAVITATION=6.67430e-11;
00760 const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION=0.00015e-11;
00762 const double NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=6.70883e-39;
00763 const double U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=0.00015e-39;
00765 const double NUCLEAR_MAGNETON=5.0507837461e-27;
00766 const double U_NUCLEAR_MAGNETON=0.0000000015e-27;
00768 const double NUCLEAR_MAGNETON_IN_EV_T=3.15245125844e-8;
00769 const double U_NUCLEAR_MAGNETON_IN_EV_T=0.00000000096e-8;
00771 const double NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=2.54262341353e-2;
00772 const double U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.00000000078e-2;
00774 const double NUCLEAR_MAGNETON_IN_K_T=3.6582677756e-4;
00775 const double U_NUCLEAR_MAGNETON_IN_K_T=0.0000000011e-4;
00777 const double NUCLEAR_MAGNETON_IN_MHZ_T=7.6225932291e0;
00778 const double U_NUCLEAR_MAGNETON_IN_MHZ_T=0.0000000023e0;
00780 const double PLANCK_CONSTANT=6.62607015e-34;
00781 const double U_PLANCK_CONSTANT=0.0e0;
00783 const double PLANCK_CONSTANT_IN_EV_HZ=4.135667696e-15;
00784 const double U_PLANCK_CONSTANT_IN_EV_HZ=0.0e0;
00786 const double PLANCK_LENGTH=1.616255e-35;
00787 const double U_PLANCK_LENGTH=0.000018e-35;
00789 const double PLANCK_MASS=2.176434e-8;
00790 const double U_PLANCK_MASS=0.000024e-8;
00792 const double PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=1.220890e19;
00793 const double U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=0.000014e19;
00795 const double PLANCK_TEMPERATURE=1.416784e32;
00796 const double U_PLANCK_TEMPERATURE=0.000016e32;
00798 const double PLANCK_TIME=5.391247e-44;
00799 const double U_PLANCK_TIME=0.000060e-44;
00801 const double PROTON_CHARGE_TO_MASS_QUOTIENT=9.5788331560e7;
00802 const double U_PROTON_CHARGE_TO_MASS_QUOTIENT=0.0000000029e7;
00804 const double PROTON_COMPTON_WAVELENGTH=1.32140985539e-15;
00805 const double U_PROTON_COMPTON_WAVELENGTH=0.00000000040e-15;
00807 const double PROTON_ELECTRON_MASS_RATIO=1836.15267343e0;
00808 const double U_PROTON_ELECTRON_MASS_RATIO=0.00000011e0;
00810 const double PROTON_G_FACTOR=5.5856946893e0;
00811 const double U_PROTON_G_FACTOR=0.0000000016e0;
00813 const double PROTON_GYROMAG__RATIO=2.6752218744e8;
00814 const double U_PROTON_GYROMAG__RATIO=0.0000000011e8;
00816 const double PROTON_GYROMAG__RATIO_IN_MHZ_T=42.577478518e0;
00817 const double U_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.000000018e0;
00819 const double PROTON_MAG__MOM=1.41060679736e-26;
00820 const double U_PROTON_MAG__MOM=0.00000000060e-26;
00822 const double PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.52103220230e-3;
00823 const double U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000046e-3;
00825 const double PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.79284734463e0;
00826 const double U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000000082e0;
00828 const double PROTON_MAG__SHIELDING_CORRECTION=2.5689e-5;
00829 const double U_PROTON_MAG__SHIELDING_CORRECTION=0.0011e-5;
00831 const double PROTON_MASS=1.67262192369e-27;
00832 const double U_PROTON_MASS=0.00000000051e-27;
00834 const double PROTON_MASS_ENERGY_EQUIVALENT=1.50327761598e-10;
00835 const double U_PROTON_MASS_ENERGY_EQUIVALENT=0.00000000046e-10;
00837 const double PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=938.27208816e0;
00838 const double U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000029e0;
```

```
00840 const double PROTON_MASS_IN_U=1.007276466621e0;
00841 const double U_PROTON_MASS_IN_U=0.000000000053e0;
00843 const double PROTON_MOLAR_MASS=1.00727646627e-3;
00844 const double U_PROTON_MOLAR_MASS=0.00000000031e-3;
00846 const double PROTON_MUON_MASS_RATIO=8.88024337e0;
00847 const double U_PROTON_MUON_MASS_RATIO=0.00000020e0;
00849 const double PROTON_NEUTRON_MAG__MOM__RATIO=-1.45989805e0;
00850 const double U_PROTON_NEUTRON_MAG__MOM__RATIO=0.00000034e0;
00852 const double PROTON_NEUTRON_MASS_RATIO=0.99862347812e0;
00853 const double U_PROTON_NEUTRON_MASS_RATIO=0.00000000049e0;
00855 const double PROTON_RELATIVE_ATOMIC_MASS=1.007276466621e0;
00856 const double U_PROTON_RELATIVE_ATOMIC_MASS=0.000000000053e0;
00858 const double PROTON_RMS_CHARGE_RADIUS=8.414e-16;
00859 const double U_PROTON_RMS_CHARGE_RADIUS=0.019e-16;
00861 const double PROTON_TAU_MASS_RATIO=0.528051e0;
00862 const double U_PROTON_TAU_MASS_RATIO=0.000036e0;
00864 const double QUANTUM_OF_CIRCULATION=3.6369475516e-4;
00865 const double U_QUANTUM_OF_CIRCULATION=0.0000000011e-4;
00867 const double QUANTUM_OF_CIRCULATION_TIMES_2=7.2738951032e-4;
00868 const double U_QUANTUM_OF_CIRCULATION_TIMES_2=0.0000000022e-4;
00870 const double REDUCED_COMPTON_WAVELENGTH=3.8615926796e-13;
00871 const double U_REDUCED_COMPTON_WAVELENGTH=0.0000000012e-13;
00873 const double REDUCED_MUON_COMPTON_WAVELENGTH=1.867594306e-15;
00874 const double U_REDUCED_MUON_COMPTON_WAVELENGTH=0.000000042e-15;
00876 const double REDUCED_NEUTRON_COMPTON_WAVELENGTH=2.1001941552e-16;
00877 const double U_REDUCED_NEUTRON_COMPTON_WAVELENGTH=0.0000000012e-16;
00879 const double REDUCED_PLANCK_CONSTANT=1.054571817e-34;
00880 const double U_REDUCED_PLANCK_CONSTANT=0.0e0;
00882 const double REDUCED_PLANCK_CONSTANT_IN_EV_S=6.582119569e-16;
00883 const double U_REDUCED_PLANCK_CONSTANT_IN_EV_S=0.0e0;
00885 const double REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=197.3269804e0;
00886 const double U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=0.0e0;
00888 const double REDUCED_PROTON_COMPTON_WAVELENGTH=2.10308910336e-16;
00889 const double U_REDUCED_PROTON_COMPTON_WAVELENGTH=0.00000000064e-16;
00891 const double REDUCED_TAU_COMPTON_WAVELENGTH=1.110538e-16;
00892 const double U_REDUCED_TAU_COMPTON_WAVELENGTH=0.000075e-16;
00894 const double RYDBERG_CONSTANT=10973731.568160e0;
00895 const double U_RYDBERG_CONSTANT=0.000021e0;
00897 const double RYDBERG_CONSTANT_TIMES_C_IN_HZ=3.2898419602508e15;
00898 const double U_RYDBERG_CONSTANT_TIMES_C_IN_HZ=0.0000000000064e15;
00900 const double RYDBERG_CONSTANT_TIMES_HC_IN_EV=13.605693122994e0;
00901 const double U_RYDBERG_CONSTANT_TIMES_HC_IN_EV=0.000000000026e0;
00903 const double RYDBERG_CONSTANT_TIMES_HC_IN_J=2.1798723611035e-18;
00904 const double U_RYDBERG_CONSTANT_TIMES_HC_IN_J=0.0000000000042e-18;
00906 const double SACKUR_TETRODE_CONSTANT__1_K__100_KPA=-1.15170753706e0;
00907 const double U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA=0.00000000045e0;
00909 const double SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=-1.16487052358e0;
00910 const double U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=0.00000000045e0;
00912 const double SECOND_RADIATION_CONSTANT=1.438776877e-2;
00913 const double U_SECOND_RADIATION_CONSTANT=0.0e0;
00915 const double SHIELDED_HELION_GYROMAG__RATIO=2.037894569e8;
00916 const double U_SHIELDED_HELION_GYROMAG__RATIO=0.000000024e8;
00918 const double SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=32.43409942e0;
00919 const double U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=0.00000038e0;
00921 const double SHIELDED_HELION_MAG__MOM=-1.074553090e-26;
00922 const double U_SHIELDED_HELION_MAG__MOM=0.000000013e-26;
00924 const double SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158671471e-3;
00925 const double U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3;
00927 const double SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127497719e0;
00928 const double U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0;
00930 const double SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=-0.7617665618e0;
00931 const double U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=0.0000000089e0;
00933 const double SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.7617861313e0;
00934 const double U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000000033e0;
00936 const double SHIELDED_PROTON_GYROMAG__RATIO=2.675153151e8;
00937 const double U_SHIELDED_PROTON_GYROMAG__RATIO=0.000000029e8;
00939 const double SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=42.57638474e0;
00940 const double U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.00000046e0;
00942 const double SHIELDED_PROTON_MAG__MOM=1.410570560e-26;
00943 const double U_SHIELDED_PROTON_MAG__MOM=0.000000015e-26;
00945 const double SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.520993128e-3;
00946 const double U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000017e-3;
00948 const double SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.792775599e0;
00949 const double U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000030e0;
00951 const double SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=2.0200e-8;
00952 const double U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=0.0020e-8;
00954 const double SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=2.4140e-8;
00955 const double U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=0.0020e-8;
00957 const double SPEED_OF_LIGHT_IN_VACUUM=299792458.0e0;
00958 const double U_SPEED_OF_LIGHT_IN_VACUUM=0.0e0;
00960 const double STANDARD_ACCELERATION_OF_GRAVITY=9.80665e0;
00961 const double U_STANDARD_ACCELERATION_OF_GRAVITY=0.0e0;
00963 const double STANDARD_ATMOSPHERE=101325.0e0;
00964 const double U_STANDARD_ATMOSPHERE=0.0e0;
00966 const double STANDARD_STATE_PRESSURE=100000.0e0;
00967 const double U_STANDARD_STATE_PRESSURE=0.0e0;
00969 const double STEFAN_BOLTZMANN_CONSTANT=5.670374419e-8;
```

```
00970 const double U_STEFAN_BOLTZMANN_CONSTANT=0.0e0;
00972 const double TAU_COMPTON_WAVELENGTH=6.97771e-16;
00973 const double U_TAU_COMPTON_WAVELENGTH=0.00047e-16;
00975 const double TAU_ELECTRON_MASS_RATIO=3477.23e0;
00976 const double U_TAU_ELECTRON_MASS_RATIO=0.23e0;
00978 const double TAU_ENERGY_EQUIVALENT=1776.86e0;
00979 const double U_TAU_ENERGY_EQUIVALENT=0.12e0;
00981 const double TAU_MASS=3.16754e-27;
00982 const double U_TAU_MASS=0.00021e-27;
00984 const double TAU_MASS_ENERGY_EQUIVALENT=2.84684e-10;
00985 const double U_TAU_MASS_ENERGY_EQUIVALENT=0.00019e-10;
00987 const double TAU_MASS_IN_U=1.90754e0;
00988 const double U_TAU_MASS_IN_U=0.00013e0;
00990 const double TAU_MOLAR_MASS=1.90754e-3;
00991 const double U_TAU_MOLAR_MASS=0.00013e-3;
00993 const double TAU_MUON_MASS_RATIO=16.8170e0;
00994 const double U_TAU_MUON_MASS_RATIO=0.0011e0;
00996 const double TAU_NEUTRON_MASS_RATIO=1.89115e0;
00997 const double U_TAU_NEUTRON_MASS_RATIO=0.00013e0;
00999 const double TAU_PROTON_MASS_RATIO=1.89376e0;
01000 const double U_TAU_PROTON_MASS_RATIO=0.00013e0;
01002 const double THOMSON_CROSS_SECTION=6.6524587321e-29;
01003 const double U_THOMSON_CROSS_SECTION=0.0000000060e-29;
01005 const double TRITON_ELECTRON_MASS_RATIO=5496.92153573e0;
01006 const double U_TRITON_ELECTRON_MASS_RATIO=0.00000027e0;
01008 const double TRITON_G_FACTOR=5.957924931e0;
01009 const double U_TRITON_G_FACTOR=0.000000012e0;
01011 const double TRITON_MAG__MOM=1.5046095202e-26;
01012 const double U_TRITON_MAG__MOM=0.0000000030e-26;
01014 const double TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.6223936651e-3;
01015 const double U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.0000000032e-3;
01017 const double TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.9789624656e0;
01018 const double U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000059e0;
01020 const double TRITON_MASS=5.0073567446e-27;
01021 const double U_TRITON_MASS=0.0000000015e-27;
01023 const double TRITON_MASS_ENERGY_EQUIVALENT=4.5003878060e-10;
01024 const double U_TRITON_MASS_ENERGY_EQUIVALENT=0.0000000014e-10;
01026 const double TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.92113298e0;
01027 const double U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0;
01029 const double TRITON_MASS_IN_U=3.01550071621e0;
01030 const double U_TRITON_MASS_IN_U=0.00000000012e0;
01032 const double TRITON_MOLAR_MASS=3.01550071517e-3;
01033 const double U_TRITON_MOLAR_MASS=0.00000000092e-3;
01035 const double TRITON_PROTON_MASS_RATIO=2.99371703414e0;
01036 const double U_TRITON_PROTON_MASS_RATIO=0.00000000015e0;
01038 const double TRITON_RELATIVE_ATOMIC_MASS=3.01550071621e0;
01039 const double U_TRITON_RELATIVE_ATOMIC_MASS=0.00000000012e0;
01041 const double TRITON_TO_PROTON_MAG__MOM__RATIO=1.0666399191e0;
01042 const double U_TRITON_TO_PROTON_MAG__MOM__RATIO=0.0000000021e0;
01044 const double UNIFIED_ATOMIC_MASS_UNIT=1.66053906660e-27;
01045 const double U_UNIFIED_ATOMIC_MASS_UNIT=0.00000000050e-27;
01047 const double VACUUM_ELECTRIC_PERMITTIVITY=8.8541878128e-12;
01048 const double U_VACUUM_ELECTRIC_PERMITTIVITY=0.0000000013e-12;
01050 const double VACUUM_MAG__PERMEABILITY=1.25663706212e-6;
01051 const double U_VACUUM_MAG__PERMEABILITY=0.00000000019e-6;
01053 const double VON_KLITZING_CONSTANT=25812.80745e0;
01054 const double U_VON_KLITZING_CONSTANT=0.0e0;
01056 const double WEAK_MIXING_ANGLE=0.22290e0;
01057 const double U_WEAK_MIXING_ANGLE=0.00030e0;
01059 const double WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=5.878925757e10;
01060 const double U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=0.0e0;
01062 const double WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=2.897771955e-3;
01063 const double U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=0.0e0;
01065 const double W_TO_Z_MASS_RATIO=0.88153e0;
01066 const double U_W_TO_Z_MASS_RATIO=0.00017e0;
```

16.13 /Users/milan/programs/codata/src/cpycodata.c File Reference

```
#include <Python.h>
#include "codata.h"
```

Macros

- #define PY_SSIZE_T_CLEAN

Functions

- PyDoc_STRVAR (module_docstring, "C extension for codata constants.")
- PyMODINIT_FUNC PyInit_codata (void)

16.13.1 Macro Definition Documentation

16.13.1.1 PY_SSIZE_T_CLEAN

```
#define PY_SSIZE_T_CLEAN
```

Definition at line 1 of file cpycodata.c.

16.13.2 Function Documentation

16.13.2.1 PyDoc_STRVAR()

```
PyDoc_STRVAR (
             module_docstring ,
             "C extension for codata constants."  )
```

16.13.2.2 PyInit_codata()

```
PyMODINIT_FUNC PyInit_codata (
             void  )
```

Definition at line 12 of file cpycodata.c.

16.14 cpycodata.c

Go to the documentation of this file.

```
00001 #define PY_SSIZE_T_CLEAN
00002 #include <Python.h>
00003 #include "codata.h"
00004
00005
00006 PyDoc_STRVAR(module_docstring, "C extension for codata constants.");
00007
00008 static PyMethodDef myMethods[] = {{ NULL, NULL, 0, NULL }};
00009
00010 static struct PyModuleDef codata = {PyModuleDef_HEAD_INIT, "codata", module_docstring, -1, myMethods};
00011
00012 PyMODINIT_FUNC PyInit_codata(void){
00013     PyObject *m;
00014     PyObject *d;
00015     PyObject *v;
00016     m = PyModule_Create(&codata);
00017     d = PyModule_GetDict(m);
00018
00019     v = PyFloat_FromDouble(ALPHA_PARTICLE_ELECTRON_MASS_RATIO);
00020     PyDict_SetItemString(d, "ALPHA_PARTICLE_ELECTRON_MASS_RATIO", v);
00021     Py_INCREF(v);
00022     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO);
00023     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO", v);
00024     Py_INCREF(v);
00025
00026     v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS);
00027     PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS", v);
00028     Py_INCREF(v);
00029     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS);
00030     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS", v);
00031     Py_INCREF(v);
00032
00033     v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT);
00034     PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT", v);
00035     Py_INCREF(v);
00036     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT);
00037     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT", v);
00038     Py_INCREF(v);
00039
00040     v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV);
00041     PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00042     Py_INCREF(v);
00043     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV);
00044     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00045     Py_INCREF(v);
00046
00047     v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_IN_U);
00048     PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_IN_U", v);
00049     Py_INCREF(v);
00050     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_IN_U);
00051     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_IN_U", v);
00052     Py_INCREF(v);
00053
00054     v = PyFloat_FromDouble(ALPHA_PARTICLE_MOLAR_MASS);
00055     PyDict_SetItemString(d, "ALPHA_PARTICLE_MOLAR_MASS", v);
00056     Py_INCREF(v);
00057     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MOLAR_MASS);
00058     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MOLAR_MASS", v);
00059     Py_INCREF(v);
00060
00061     v = PyFloat_FromDouble(ALPHA_PARTICLE_PROTON_MASS_RATIO);
00062     PyDict_SetItemString(d, "ALPHA_PARTICLE_PROTON_MASS_RATIO", v);
00063     Py_INCREF(v);
00064     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_PROTON_MASS_RATIO);
00065     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_PROTON_MASS_RATIO", v);
00066     Py_INCREF(v);
00067
00068     v = PyFloat_FromDouble(ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS);
00069     PyDict_SetItemString(d, "ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS", v);
00070     Py_INCREF(v);
00071     v = PyFloat_FromDouble(U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS);
00072     PyDict_SetItemString(d, "U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS", v);
00073     Py_INCREF(v);
00074
00075     v = PyFloat_FromDouble(ANGSTROM_STAR);
00076     PyDict_SetItemString(d, "ANGSTROM_STAR", v);
00077     Py_INCREF(v);
00078     v = PyFloat_FromDouble(U_ANGSTROM_STAR);
00079     PyDict_SetItemString(d, "U_ANGSTROM_STAR", v);
00080     Py_INCREF(v);
00081
00082     v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT);
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00083     PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT", v);
00084     Py_INCREF(v);
00085     v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT);
00086     PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT", v);
00087     Py_INCREF(v);
00088
00089     v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT);
00090     PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT", v);
00091     Py_INCREF(v);
00092     v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT);
00093     PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT", v);
00094     Py_INCREF(v);
00095
00096     v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV);
00097     PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV", v);
00098     Py_INCREF(v);
00099     v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV);
00100     PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV", v);
00101     Py_INCREF(v);
00102
00103     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP);
00104     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP", v);
00105     Py_INCREF(v);
00106     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP);
00107     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP", v);
00108     Py_INCREF(v);
00109
00110     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP);
00111     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP", v);
00112     Py_INCREF(v);
00113     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP);
00114     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP", v);
00115     Py_INCREF(v);
00116
00117     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP);
00118     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP", v);
00119     Py_INCREF(v);
00120     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP);
00121     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP", v);
00122     Py_INCREF(v);
00123
00124     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP);
00125     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP", v);
00126     Py_INCREF(v);
00127     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP);
00128     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP", v);
00129     Py_INCREF(v);
00130
00131     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP);
00132     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP", v);
00133     Py_INCREF(v);
00134     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP);
00135     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP", v);
00136     Py_INCREF(v);
00137
00138     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP);
00139     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP", v);
00140     Py_INCREF(v);
00141     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP);
00142     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP", v);
00143     Py_INCREF(v);
00144
00145     v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP);
00146     PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP", v);
00147     Py_INCREF(v);
00148     v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP);
00149     PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP", v);
00150     Py_INCREF(v);
00151
00152     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY);
00153     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY", v);
00154     Py_INCREF(v);
00155     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY);
00156     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY", v);
00157     Py_INCREF(v);
00158
00159     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY);
00160     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY", v);
00161     Py_INCREF(v);
00162     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY);
00163     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY", v);
00164     Py_INCREF(v);
00165
00166     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ACTION);
00167     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ACTION", v);
00168     Py_INCREF(v);
00169     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ACTION);
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00170     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ACTION", v);
00171     Py_INCREF(v);
00172
00173     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CHARGE);
00174     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CHARGE", v);
00175     Py_INCREF(v);
00176     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CHARGE);
00177     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CHARGE", v);
00178     Py_INCREF(v);
00179
00180     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CHARGE_DENSITY);
00181     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CHARGE_DENSITY", v);
00182     Py_INCREF(v);
00183     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CHARGE_DENSITY);
00184     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CHARGE_DENSITY", v);
00185     Py_INCREF(v);
00186
00187     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CURRENT);
00188     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CURRENT", v);
00189     Py_INCREF(v);
00190     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CURRENT);
00191     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CURRENT", v);
00192     Py_INCREF(v);
00193
00194     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM);
00195     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM", v);
00196     Py_INCREF(v);
00197     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM);
00198     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM", v);
00199     Py_INCREF(v);
00200
00201     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_FIELD);
00202     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_FIELD", v);
00203     Py_INCREF(v);
00204     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_FIELD);
00205     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_FIELD", v);
00206     Py_INCREF(v);
00207
00208     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT);
00209     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT", v);
00210     Py_INCREF(v);
00211     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT);
00212     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT", v);
00213     Py_INCREF(v);
00214
00215     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY);
00216     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY", v);
00217     Py_INCREF(v);
00218     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY);
00219     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY", v);
00220     Py_INCREF(v);
00221
00222     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL);
00223     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL", v);
00224     Py_INCREF(v);
00225     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL);
00226     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL", v);
00227     Py_INCREF(v);
00228
00229     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM);
00230     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM", v);
00231     Py_INCREF(v);
00232     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM);
00233     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM", v);
00234     Py_INCREF(v);
00235
00236     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ENERGY);
00237     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ENERGY", v);
00238     Py_INCREF(v);
00239     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ENERGY);
00240     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ENERGY", v);
00241     Py_INCREF(v);
00242
00243     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_FORCE);
00244     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_FORCE", v);
00245     Py_INCREF(v);
00246     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_FORCE);
00247     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_FORCE", v);
00248     Py_INCREF(v);
00249
00250     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_LENGTH);
00251     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_LENGTH", v);
00252     Py_INCREF(v);
00253     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_LENGTH);
00254     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_LENGTH", v);
00255     Py_INCREF(v);
00256
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```
00257     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAG__DIPOLE_MOM);
00258     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAG__DIPOLE_MOM", v);
00259     Py_INCREF(v);
00260     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM);
00261     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM", v);
00262     Py_INCREF(v);
00263
00264     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAG__FLUX_DENSITY);
00265     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAG__FLUX_DENSITY", v);
00266     Py_INCREF(v);
00267     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY);
00268     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY", v);
00269     Py_INCREF(v);
00270
00271     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAGNETIZABILITY);
00272     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAGNETIZABILITY", v);
00273     Py_INCREF(v);
00274     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAGNETIZABILITY);
00275     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAGNETIZABILITY", v);
00276     Py_INCREF(v);
00277
00278     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MASS);
00279     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MASS", v);
00280     Py_INCREF(v);
00281     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MASS);
00282     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MASS", v);
00283     Py_INCREF(v);
00284
00285     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MOMENTUM);
00286     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MOMENTUM", v);
00287     Py_INCREF(v);
00288     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MOMENTUM);
00289     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MOMENTUM", v);
00290     Py_INCREF(v);
00291
00292     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_PERMITTIVITY);
00293     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_PERMITTIVITY", v);
00294     Py_INCREF(v);
00295     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_PERMITTIVITY);
00296     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_PERMITTIVITY", v);
00297     Py_INCREF(v);
00298
00299     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_TIME);
00300     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_TIME", v);
00301     Py_INCREF(v);
00302     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_TIME);
00303     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_TIME", v);
00304     Py_INCREF(v);
00305
00306     v = PyFloat_FromDouble(ATOMIC_UNIT_OF_VELOCITY);
00307     PyDict_SetItemString(d, "ATOMIC_UNIT_OF_VELOCITY", v);
00308     Py_INCREF(v);
00309     v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_VELOCITY);
00310     PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_VELOCITY", v);
00311     Py_INCREF(v);
00312
00313     v = PyFloat_FromDouble(AVOGADRO_CONSTANT);
00314     PyDict_SetItemString(d, "AVOGADRO_CONSTANT", v);
00315     Py_INCREF(v);
00316     v = PyFloat_FromDouble(U_AVOGADRO_CONSTANT);
00317     PyDict_SetItemString(d, "U_AVOGADRO_CONSTANT", v);
00318     Py_INCREF(v);
00319
00320     v = PyFloat_FromDouble(BOHR_MAGNETON);
00321     PyDict_SetItemString(d, "BOHR_MAGNETON", v);
00322     Py_INCREF(v);
00323     v = PyFloat_FromDouble(U_BOHR_MAGNETON);
00324     PyDict_SetItemString(d, "U_BOHR_MAGNETON", v);
00325     Py_INCREF(v);
00326
00327     v = PyFloat_FromDouble(BOHR_MAGNETON_IN_EV_T);
00328     PyDict_SetItemString(d, "BOHR_MAGNETON_IN_EV_T", v);
00329     Py_INCREF(v);
00330     v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_EV_T);
00331     PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_EV_T", v);
00332     Py_INCREF(v);
00333
00334     v = PyFloat_FromDouble(BOHR_MAGNETON_IN_HZ_T);
00335     PyDict_SetItemString(d, "BOHR_MAGNETON_IN_HZ_T", v);
00336     Py_INCREF(v);
00337     v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_HZ_T);
00338     PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_HZ_T", v);
00339     Py_INCREF(v);
00340
00341     v = PyFloat_FromDouble(BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
00342     PyDict_SetItemString(d, "BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
00343     Py_INCREF(v);
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00344     v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
00345     PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
00346     Py_INCREF(v);
00347
00348     v = PyFloat_FromDouble(BOHR_MAGNETON_IN_K_T);
00349     PyDict_SetItemString(d, "BOHR_MAGNETON_IN_K_T", v);
00350     Py_INCREF(v);
00351     v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_K_T);
00352     PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_K_T", v);
00353     Py_INCREF(v);
00354
00355     v = PyFloat_FromDouble(BOHR_RADIUS);
00356     PyDict_SetItemString(d, "BOHR_RADIUS", v);
00357     Py_INCREF(v);
00358     v = PyFloat_FromDouble(U_BOHR_RADIUS);
00359     PyDict_SetItemString(d, "U_BOHR_RADIUS", v);
00360     Py_INCREF(v);
00361
00362     v = PyFloat_FromDouble(BOLTZMANN_CONSTANT);
00363     PyDict_SetItemString(d, "BOLTZMANN_CONSTANT", v);
00364     Py_INCREF(v);
00365     v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT);
00366     PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT", v);
00367     Py_INCREF(v);
00368
00369     v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_EV_K);
00370     PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_EV_K", v);
00371     Py_INCREF(v);
00372     v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_EV_K);
00373     PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_EV_K", v);
00374     Py_INCREF(v);
00375
00376     v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_HZ_K);
00377     PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_HZ_K", v);
00378     Py_INCREF(v);
00379     v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_HZ_K);
00380     PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_HZ_K", v);
00381     Py_INCREF(v);
00382
00383     v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN);
00384     PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN", v);
00385     Py_INCREF(v);
00386     v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN);
00387     PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN", v);
00388     Py_INCREF(v);
00389
00390     v = PyFloat_FromDouble(CHARACTERISTIC_IMPEDANCE_OF_VACUUM);
00391     PyDict_SetItemString(d, "CHARACTERISTIC_IMPEDANCE_OF_VACUUM", v);
00392     Py_INCREF(v);
00393     v = PyFloat_FromDouble(U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM);
00394     PyDict_SetItemString(d, "U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM", v);
00395     Py_INCREF(v);
00396
00397     v = PyFloat_FromDouble(CLASSICAL_ELECTRON_RADIUS);
00398     PyDict_SetItemString(d, "CLASSICAL_ELECTRON_RADIUS", v);
00399     Py_INCREF(v);
00400     v = PyFloat_FromDouble(U_CLASSICAL_ELECTRON_RADIUS);
00401     PyDict_SetItemString(d, "U_CLASSICAL_ELECTRON_RADIUS", v);
00402     Py_INCREF(v);
00403
00404     v = PyFloat_FromDouble(COMPTON_WAVELENGTH);
00405     PyDict_SetItemString(d, "COMPTON_WAVELENGTH", v);
00406     Py_INCREF(v);
00407     v = PyFloat_FromDouble(U_COMPTON_WAVELENGTH);
00408     PyDict_SetItemString(d, "U_COMPTON_WAVELENGTH", v);
00409     Py_INCREF(v);
00410
00411     v = PyFloat_FromDouble(CONDUCTANCE_QUANTUM);
00412     PyDict_SetItemString(d, "CONDUCTANCE_QUANTUM", v);
00413     Py_INCREF(v);
00414     v = PyFloat_FromDouble(U_CONDUCTANCE_QUANTUM);
00415     PyDict_SetItemString(d, "U_CONDUCTANCE_QUANTUM", v);
00416     Py_INCREF(v);
00417
00418     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_AMPERE_90);
00419     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_AMPERE_90", v);
00420     Py_INCREF(v);
00421     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_AMPERE_90);
00422     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_AMPERE_90", v);
00423     Py_INCREF(v);
00424
00425     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_COULOMB_90);
00426     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_COULOMB_90", v);
00427     Py_INCREF(v);
00428     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_COULOMB_90);
00429     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_COULOMB_90", v);
00430     Py_INCREF(v);
```

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00431
00432     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_FARAD_90);
00433     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_FARAD_90", v);
00434     Py_INCREF(v);
00435     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_FARAD_90);
00436     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_FARAD_90", v);
00437     Py_INCREF(v);
00438
00439     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_HENRY_90);
00440     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_HENRY_90", v);
00441     Py_INCREF(v);
00442     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_HENRY_90);
00443     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_HENRY_90", v);
00444     Py_INCREF(v);
00445
00446     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT);
00447     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT", v);
00448     Py_INCREF(v);
00449     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT);
00450     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT", v);
00451     Py_INCREF(v);
00452
00453     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_OHM_90);
00454     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_OHM_90", v);
00455     Py_INCREF(v);
00456     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_OHM_90);
00457     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_OHM_90", v);
00458     Py_INCREF(v);
00459
00460     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_VOLT_90);
00461     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_VOLT_90", v);
00462     Py_INCREF(v);
00463     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_VOLT_90);
00464     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_VOLT_90", v);
00465     Py_INCREF(v);
00466
00467     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT);
00468     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT", v);
00469     Py_INCREF(v);
00470     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT);
00471     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT", v);
00472     Py_INCREF(v);
00473
00474     v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_WATT_90);
00475     PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_WATT_90", v);
00476     Py_INCREF(v);
00477     v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_WATT_90);
00478     PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_WATT_90", v);
00479     Py_INCREF(v);
00480
00481     v = PyFloat_FromDouble(COPPER_X_UNIT);
00482     PyDict_SetItemString(d, "COPPER_X_UNIT", v);
00483     Py_INCREF(v);
00484     v = PyFloat_FromDouble(U_COPPER_X_UNIT);
00485     PyDict_SetItemString(d, "U_COPPER_X_UNIT", v);
00486     Py_INCREF(v);
00487
00488     v = PyFloat_FromDouble(DEUTERON_ELECTRON_MAG__MOM__RATIO);
00489     PyDict_SetItemString(d, "DEUTERON_ELECTRON_MAG__MOM__RATIO", v);
00490     Py_INCREF(v);
00491     v = PyFloat_FromDouble(U_DEUTERON_ELECTRON_MAG__MOM__RATIO);
00492     PyDict_SetItemString(d, "U_DEUTERON_ELECTRON_MAG__MOM__RATIO", v);
00493     Py_INCREF(v);
00494
00495     v = PyFloat_FromDouble(DEUTERON_ELECTRON_MASS_RATIO);
00496     PyDict_SetItemString(d, "DEUTERON_ELECTRON_MASS_RATIO", v);
00497     Py_INCREF(v);
00498     v = PyFloat_FromDouble(U_DEUTERON_ELECTRON_MASS_RATIO);
00499     PyDict_SetItemString(d, "U_DEUTERON_ELECTRON_MASS_RATIO", v);
00500     Py_INCREF(v);
00501
00502     v = PyFloat_FromDouble(DEUTERON_G_FACTOR);
00503     PyDict_SetItemString(d, "DEUTERON_G_FACTOR", v);
00504     Py_INCREF(v);
00505     v = PyFloat_FromDouble(U_DEUTERON_G_FACTOR);
00506     PyDict_SetItemString(d, "U_DEUTERON_G_FACTOR", v);
00507     Py_INCREF(v);
00508
00509     v = PyFloat_FromDouble(DEUTERON_MAG__MOM);
00510     PyDict_SetItemString(d, "DEUTERON_MAG__MOM", v);
00511     Py_INCREF(v);
00512     v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM);
00513     PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM", v);
00514     Py_INCREF(v);
00515
00516     v = PyFloat_FromDouble(DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00517     PyDict_SetItemString(d, "DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
```

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00518     Py_INCREF(v);
00519     v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00520     PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
00521     Py_INCREF(v);
00522
00523     v = PyFloat_FromDouble(DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00524     PyDict_SetItemString(d, "DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00525     Py_INCREF(v);
00526     v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00527     PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00528     Py_INCREF(v);
00529
00530     v = PyFloat_FromDouble(DEUTERON_MASS);
00531     PyDict_SetItemString(d, "DEUTERON_MASS", v);
00532     Py_INCREF(v);
00533     v = PyFloat_FromDouble(U_DEUTERON_MASS);
00534     PyDict_SetItemString(d, "U_DEUTERON_MASS", v);
00535     Py_INCREF(v);
00536
00537     v = PyFloat_FromDouble(DEUTERON_MASS_ENERGY_EQUIVALENT);
00538     PyDict_SetItemString(d, "DEUTERON_MASS_ENERGY_EQUIVALENT", v);
00539     Py_INCREF(v);
00540     v = PyFloat_FromDouble(U_DEUTERON_MASS_ENERGY_EQUIVALENT);
00541     PyDict_SetItemString(d, "U_DEUTERON_MASS_ENERGY_EQUIVALENT", v);
00542     Py_INCREF(v);
00543
00544     v = PyFloat_FromDouble(DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV);
00545     PyDict_SetItemString(d, "DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00546     Py_INCREF(v);
00547     v = PyFloat_FromDouble(U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV);
00548     PyDict_SetItemString(d, "U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00549     Py_INCREF(v);
00550
00551     v = PyFloat_FromDouble(DEUTERON_MASS_IN_U);
00552     PyDict_SetItemString(d, "DEUTERON_MASS_IN_U", v);
00553     Py_INCREF(v);
00554     v = PyFloat_FromDouble(U_DEUTERON_MASS_IN_U);
00555     PyDict_SetItemString(d, "U_DEUTERON_MASS_IN_U", v);
00556     Py_INCREF(v);
00557
00558     v = PyFloat_FromDouble(DEUTERON_MOLAR_MASS);
00559     PyDict_SetItemString(d, "DEUTERON_MOLAR_MASS", v);
00560     Py_INCREF(v);
00561     v = PyFloat_FromDouble(U_DEUTERON_MOLAR_MASS);
00562     PyDict_SetItemString(d, "U_DEUTERON_MOLAR_MASS", v);
00563     Py_INCREF(v);
00564
00565     v = PyFloat_FromDouble(DEUTERON_NEUTRON_MAG__MOM__RATIO);
00566     PyDict_SetItemString(d, "DEUTERON_NEUTRON_MAG__MOM__RATIO", v);
00567     Py_INCREF(v);
00568     v = PyFloat_FromDouble(U_DEUTERON_NEUTRON_MAG__MOM__RATIO);
00569     PyDict_SetItemString(d, "U_DEUTERON_NEUTRON_MAG__MOM__RATIO", v);
00570     Py_INCREF(v);
00571
00572     v = PyFloat_FromDouble(DEUTERON_PROTON_MAG__MOM__RATIO);
00573     PyDict_SetItemString(d, "DEUTERON_PROTON_MAG__MOM__RATIO", v);
00574     Py_INCREF(v);
00575     v = PyFloat_FromDouble(U_DEUTERON_PROTON_MAG__MOM__RATIO);
00576     PyDict_SetItemString(d, "U_DEUTERON_PROTON_MAG__MOM__RATIO", v);
00577     Py_INCREF(v);
00578
00579     v = PyFloat_FromDouble(DEUTERON_PROTON_MASS_RATIO);
00580     PyDict_SetItemString(d, "DEUTERON_PROTON_MASS_RATIO", v);
00581     Py_INCREF(v);
00582     v = PyFloat_FromDouble(U_DEUTERON_PROTON_MASS_RATIO);
00583     PyDict_SetItemString(d, "U_DEUTERON_PROTON_MASS_RATIO", v);
00584     Py_INCREF(v);
00585
00586     v = PyFloat_FromDouble(DEUTERON_RELATIVE_ATOMIC_MASS);
00587     PyDict_SetItemString(d, "DEUTERON_RELATIVE_ATOMIC_MASS", v);
00588     Py_INCREF(v);
00589     v = PyFloat_FromDouble(U_DEUTERON_RELATIVE_ATOMIC_MASS);
00590     PyDict_SetItemString(d, "U_DEUTERON_RELATIVE_ATOMIC_MASS", v);
00591     Py_INCREF(v);
00592
00593     v = PyFloat_FromDouble(DEUTERON_RMS_CHARGE_RADIUS);
00594     PyDict_SetItemString(d, "DEUTERON_RMS_CHARGE_RADIUS", v);
00595     Py_INCREF(v);
00596     v = PyFloat_FromDouble(U_DEUTERON_RMS_CHARGE_RADIUS);
00597     PyDict_SetItemString(d, "U_DEUTERON_RMS_CHARGE_RADIUS", v);
00598     Py_INCREF(v);
00599
00600     v = PyFloat_FromDouble(ELECTRON_CHARGE_TO_MASS_QUOTIENT);
00601     PyDict_SetItemString(d, "ELECTRON_CHARGE_TO_MASS_QUOTIENT", v);
00602     Py_INCREF(v);
00603     v = PyFloat_FromDouble(U_ELECTRON_CHARGE_TO_MASS_QUOTIENT);
00604     PyDict_SetItemString(d, "U_ELECTRON_CHARGE_TO_MASS_QUOTIENT", v);
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00605     Py_INCREF(v);
00606
00607     v = PyFloat_FromDouble(ELECTRON_DEUTERON_MAG__MOM__RATIO);
00608     PyDict_SetItemString(d, "ELECTRON_DEUTERON_MAG__MOM__RATIO", v);
00609     Py_INCREF(v);
00610     v = PyFloat_FromDouble(U_ELECTRON_DEUTERON_MAG__MOM__RATIO);
00611     PyDict_SetItemString(d, "U_ELECTRON_DEUTERON_MAG__MOM__RATIO", v);
00612     Py_INCREF(v);
00613
00614     v = PyFloat_FromDouble(ELECTRON_DEUTERON_MASS_RATIO);
00615     PyDict_SetItemString(d, "ELECTRON_DEUTERON_MASS_RATIO", v);
00616     Py_INCREF(v);
00617     v = PyFloat_FromDouble(U_ELECTRON_DEUTERON_MASS_RATIO);
00618     PyDict_SetItemString(d, "U_ELECTRON_DEUTERON_MASS_RATIO", v);
00619     Py_INCREF(v);
00620
00621     v = PyFloat_FromDouble(ELECTRON_G_FACTOR);
00622     PyDict_SetItemString(d, "ELECTRON_G_FACTOR", v);
00623     Py_INCREF(v);
00624     v = PyFloat_FromDouble(U_ELECTRON_G_FACTOR);
00625     PyDict_SetItemString(d, "U_ELECTRON_G_FACTOR", v);
00626     Py_INCREF(v);
00627
00628     v = PyFloat_FromDouble(ELECTRON_GYROMAG__RATIO);
00629     PyDict_SetItemString(d, "ELECTRON_GYROMAG__RATIO", v);
00630     Py_INCREF(v);
00631     v = PyFloat_FromDouble(U_ELECTRON_GYROMAG__RATIO);
00632     PyDict_SetItemString(d, "U_ELECTRON_GYROMAG__RATIO", v);
00633     Py_INCREF(v);
00634
00635     v = PyFloat_FromDouble(ELECTRON_GYROMAG__RATIO_IN_MHZ_T);
00636     PyDict_SetItemString(d, "ELECTRON_GYROMAG__RATIO_IN_MHZ_T", v);
00637     Py_INCREF(v);
00638     v = PyFloat_FromDouble(U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T);
00639     PyDict_SetItemString(d, "U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T", v);
00640     Py_INCREF(v);
00641
00642     v = PyFloat_FromDouble(ELECTRON_HELION_MASS_RATIO);
00643     PyDict_SetItemString(d, "ELECTRON_HELION_MASS_RATIO", v);
00644     Py_INCREF(v);
00645     v = PyFloat_FromDouble(U_ELECTRON_HELION_MASS_RATIO);
00646     PyDict_SetItemString(d, "U_ELECTRON_HELION_MASS_RATIO", v);
00647     Py_INCREF(v);
00648
00649     v = PyFloat_FromDouble(ELECTRON_MAG__MOM);
00650     PyDict_SetItemString(d, "ELECTRON_MAG__MOM", v);
00651     Py_INCREF(v);
00652     v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM);
00653     PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM", v);
00654     Py_INCREF(v);
00655
00656     v = PyFloat_FromDouble(ELECTRON_MAG__MOM__ANOMALY);
00657     PyDict_SetItemString(d, "ELECTRON_MAG__MOM__ANOMALY", v);
00658     Py_INCREF(v);
00659     v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__ANOMALY);
00660     PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__ANOMALY", v);
00661     Py_INCREF(v);
00662
00663     v = PyFloat_FromDouble(ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00664     PyDict_SetItemString(d, "ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
00665     Py_INCREF(v);
00666     v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00667     PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
00668     Py_INCREF(v);
00669
00670     v = PyFloat_FromDouble(ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00671     PyDict_SetItemString(d, "ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00672     Py_INCREF(v);
00673     v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00674     PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00675     Py_INCREF(v);
00676
00677     v = PyFloat_FromDouble(ELECTRON_MASS);
00678     PyDict_SetItemString(d, "ELECTRON_MASS", v);
00679     Py_INCREF(v);
00680     v = PyFloat_FromDouble(U_ELECTRON_MASS);
00681     PyDict_SetItemString(d, "U_ELECTRON_MASS", v);
00682     Py_INCREF(v);
00683
00684     v = PyFloat_FromDouble(ELECTRON_MASS_ENERGY_EQUIVALENT);
00685     PyDict_SetItemString(d, "ELECTRON_MASS_ENERGY_EQUIVALENT", v);
00686     Py_INCREF(v);
00687     v = PyFloat_FromDouble(U_ELECTRON_MASS_ENERGY_EQUIVALENT);
00688     PyDict_SetItemString(d, "U_ELECTRON_MASS_ENERGY_EQUIVALENT", v);
00689     Py_INCREF(v);
00690
00691     v = PyFloat_FromDouble(ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
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00692     PyDict_SetItemString(d, "ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00693     Py_INCREF(v);
00694     v = PyFloat_FromDouble(U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
00695     PyDict_SetItemString(d, "U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
00696     Py_INCREF(v);
00697
00698     v = PyFloat_FromDouble(ELECTRON_MASS_IN_U);
00699     PyDict_SetItemString(d, "ELECTRON_MASS_IN_U", v);
00700     Py_INCREF(v);
00701     v = PyFloat_FromDouble(U_ELECTRON_MASS_IN_U);
00702     PyDict_SetItemString(d, "U_ELECTRON_MASS_IN_U", v);
00703     Py_INCREF(v);
00704
00705     v = PyFloat_FromDouble(ELECTRON_MOLAR_MASS);
00706     PyDict_SetItemString(d, "ELECTRON_MOLAR_MASS", v);
00707     Py_INCREF(v);
00708     v = PyFloat_FromDouble(U_ELECTRON_MOLAR_MASS);
00709     PyDict_SetItemString(d, "U_ELECTRON_MOLAR_MASS", v);
00710     Py_INCREF(v);
00711
00712     v = PyFloat_FromDouble(ELECTRON_MUON_MAG__MOM__RATIO);
00713     PyDict_SetItemString(d, "ELECTRON_MUON_MAG__MOM__RATIO", v);
00714     Py_INCREF(v);
00715     v = PyFloat_FromDouble(U_ELECTRON_MUON_MAG__MOM__RATIO);
00716     PyDict_SetItemString(d, "U_ELECTRON_MUON_MAG__MOM__RATIO", v);
00717     Py_INCREF(v);
00718
00719     v = PyFloat_FromDouble(ELECTRON_MUON_MASS_RATIO);
00720     PyDict_SetItemString(d, "ELECTRON_MUON_MASS_RATIO", v);
00721     Py_INCREF(v);
00722     v = PyFloat_FromDouble(U_ELECTRON_MUON_MASS_RATIO);
00723     PyDict_SetItemString(d, "U_ELECTRON_MUON_MASS_RATIO", v);
00724     Py_INCREF(v);
00725
00726     v = PyFloat_FromDouble(ELECTRON_NEUTRON_MAG__MOM__RATIO);
00727     PyDict_SetItemString(d, "ELECTRON_NEUTRON_MAG__MOM__RATIO", v);
00728     Py_INCREF(v);
00729     v = PyFloat_FromDouble(U_ELECTRON_NEUTRON_MAG__MOM__RATIO);
00730     PyDict_SetItemString(d, "U_ELECTRON_NEUTRON_MAG__MOM__RATIO", v);
00731     Py_INCREF(v);
00732
00733     v = PyFloat_FromDouble(ELECTRON_NEUTRON_MASS_RATIO);
00734     PyDict_SetItemString(d, "ELECTRON_NEUTRON_MASS_RATIO", v);
00735     Py_INCREF(v);
00736     v = PyFloat_FromDouble(U_ELECTRON_NEUTRON_MASS_RATIO);
00737     PyDict_SetItemString(d, "U_ELECTRON_NEUTRON_MASS_RATIO", v);
00738     Py_INCREF(v);
00739
00740     v = PyFloat_FromDouble(ELECTRON_PROTON_MAG__MOM__RATIO);
00741     PyDict_SetItemString(d, "ELECTRON_PROTON_MAG__MOM__RATIO", v);
00742     Py_INCREF(v);
00743     v = PyFloat_FromDouble(U_ELECTRON_PROTON_MAG__MOM__RATIO);
00744     PyDict_SetItemString(d, "U_ELECTRON_PROTON_MAG__MOM__RATIO", v);
00745     Py_INCREF(v);
00746
00747     v = PyFloat_FromDouble(ELECTRON_PROTON_MASS_RATIO);
00748     PyDict_SetItemString(d, "ELECTRON_PROTON_MASS_RATIO", v);
00749     Py_INCREF(v);
00750     v = PyFloat_FromDouble(U_ELECTRON_PROTON_MASS_RATIO);
00751     PyDict_SetItemString(d, "U_ELECTRON_PROTON_MASS_RATIO", v);
00752     Py_INCREF(v);
00753
00754     v = PyFloat_FromDouble(ELECTRON_RELATIVE_ATOMIC_MASS);
00755     PyDict_SetItemString(d, "ELECTRON_RELATIVE_ATOMIC_MASS", v);
00756     Py_INCREF(v);
00757     v = PyFloat_FromDouble(U_ELECTRON_RELATIVE_ATOMIC_MASS);
00758     PyDict_SetItemString(d, "U_ELECTRON_RELATIVE_ATOMIC_MASS", v);
00759     Py_INCREF(v);
00760
00761     v = PyFloat_FromDouble(ELECTRON_TAU_MASS_RATIO);
00762     PyDict_SetItemString(d, "ELECTRON_TAU_MASS_RATIO", v);
00763     Py_INCREF(v);
00764     v = PyFloat_FromDouble(U_ELECTRON_TAU_MASS_RATIO);
00765     PyDict_SetItemString(d, "U_ELECTRON_TAU_MASS_RATIO", v);
00766     Py_INCREF(v);
00767
00768     v = PyFloat_FromDouble(ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO);
00769     PyDict_SetItemString(d, "ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO", v);
00770     Py_INCREF(v);
00771     v = PyFloat_FromDouble(U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO);
00772     PyDict_SetItemString(d, "U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO", v);
00773     Py_INCREF(v);
00774
00775     v = PyFloat_FromDouble(ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO);
00776     PyDict_SetItemString(d, "ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO", v);
00777     Py_INCREF(v);
00778     v = PyFloat_FromDouble(U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO);
```

```
00779     PyDict_SetItemString(d, "U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO", v);
00780     Py_INCREF(v);
00781
00782     v = PyFloat_FromDouble(ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
00783     PyDict_SetItemString(d, "ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
00784     Py_INCREF(v);
00785     v = PyFloat_FromDouble(U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
00786     PyDict_SetItemString(d, "U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
00787     Py_INCREF(v);
00788
00789     v = PyFloat_FromDouble(ELECTRON_TRITON_MASS_RATIO);
00790     PyDict_SetItemString(d, "ELECTRON_TRITON_MASS_RATIO", v);
00791     Py_INCREF(v);
00792     v = PyFloat_FromDouble(U_ELECTRON_TRITON_MASS_RATIO);
00793     PyDict_SetItemString(d, "U_ELECTRON_TRITON_MASS_RATIO", v);
00794     Py_INCREF(v);
00795
00796     v = PyFloat_FromDouble(ELECTRON_VOLT);
00797     PyDict_SetItemString(d, "ELECTRON_VOLT", v);
00798     Py_INCREF(v);
00799     v = PyFloat_FromDouble(U_ELECTRON_VOLT);
00800     PyDict_SetItemString(d, "U_ELECTRON_VOLT", v);
00801     Py_INCREF(v);
00802
00803     v = PyFloat_FromDouble(ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP);
00804     PyDict_SetItemString(d, "ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
00805     Py_INCREF(v);
00806     v = PyFloat_FromDouble(U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP);
00807     PyDict_SetItemString(d, "U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
00808     Py_INCREF(v);
00809
00810     v = PyFloat_FromDouble(ELECTRON_VOLT_HARTREE_RELATIONSHIP);
00811     PyDict_SetItemString(d, "ELECTRON_VOLT_HARTREE_RELATIONSHIP", v);
00812     Py_INCREF(v);
00813     v = PyFloat_FromDouble(U_ELECTRON_VOLT_HARTREE_RELATIONSHIP);
00814     PyDict_SetItemString(d, "U_ELECTRON_VOLT_HARTREE_RELATIONSHIP", v);
00815     Py_INCREF(v);
00816
00817     v = PyFloat_FromDouble(ELECTRON_VOLT_HERTZ_RELATIONSHIP);
00818     PyDict_SetItemString(d, "ELECTRON_VOLT_HERTZ_RELATIONSHIP", v);
00819     Py_INCREF(v);
00820     v = PyFloat_FromDouble(U_ELECTRON_VOLT_HERTZ_RELATIONSHIP);
00821     PyDict_SetItemString(d, "U_ELECTRON_VOLT_HERTZ_RELATIONSHIP", v);
00822     Py_INCREF(v);
00823
00824     v = PyFloat_FromDouble(ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP);
00825     PyDict_SetItemString(d, "ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP", v);
00826     Py_INCREF(v);
00827     v = PyFloat_FromDouble(U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP);
00828     PyDict_SetItemString(d, "U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP", v);
00829     Py_INCREF(v);
00830
00831     v = PyFloat_FromDouble(ELECTRON_VOLT_JOULE_RELATIONSHIP);
00832     PyDict_SetItemString(d, "ELECTRON_VOLT_JOULE_RELATIONSHIP", v);
00833     Py_INCREF(v);
00834     v = PyFloat_FromDouble(U_ELECTRON_VOLT_JOULE_RELATIONSHIP);
00835     PyDict_SetItemString(d, "U_ELECTRON_VOLT_JOULE_RELATIONSHIP", v);
00836     Py_INCREF(v);
00837
00838     v = PyFloat_FromDouble(ELECTRON_VOLT_KELVIN_RELATIONSHIP);
00839     PyDict_SetItemString(d, "ELECTRON_VOLT_KELVIN_RELATIONSHIP", v);
00840     Py_INCREF(v);
00841     v = PyFloat_FromDouble(U_ELECTRON_VOLT_KELVIN_RELATIONSHIP);
00842     PyDict_SetItemString(d, "U_ELECTRON_VOLT_KELVIN_RELATIONSHIP", v);
00843     Py_INCREF(v);
00844
00845     v = PyFloat_FromDouble(ELECTRON_VOLT_KILOGRAM_RELATIONSHIP);
00846     PyDict_SetItemString(d, "ELECTRON_VOLT_KILOGRAM_RELATIONSHIP", v);
00847     Py_INCREF(v);
00848     v = PyFloat_FromDouble(U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP);
00849     PyDict_SetItemString(d, "U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP", v);
00850     Py_INCREF(v);
00851
00852     v = PyFloat_FromDouble(ELEMENTARY_CHARGE);
00853     PyDict_SetItemString(d, "ELEMENTARY_CHARGE", v);
00854     Py_INCREF(v);
00855     v = PyFloat_FromDouble(U_ELEMENTARY_CHARGE);
00856     PyDict_SetItemString(d, "U_ELEMENTARY_CHARGE", v);
00857     Py_INCREF(v);
00858
00859     v = PyFloat_FromDouble(ELEMENTARY_CHARGE_OVER_H_BAR);
00860     PyDict_SetItemString(d, "ELEMENTARY_CHARGE_OVER_H_BAR", v);
00861     Py_INCREF(v);
00862     v = PyFloat_FromDouble(U_ELEMENTARY_CHARGE_OVER_H_BAR);
00863     PyDict_SetItemString(d, "U_ELEMENTARY_CHARGE_OVER_H_BAR", v);
00864     Py_INCREF(v);
00865
```

```
00866     v = PyFloat_FromDouble(FARADAY_CONSTANT);
00867     PyDict_SetItemString(d, "FARADAY_CONSTANT", v);
00868     Py_INCREF(v);
00869     v = PyFloat_FromDouble(U_FARADAY_CONSTANT);
00870     PyDict_SetItemString(d, "U_FARADAY_CONSTANT", v);
00871     Py_INCREF(v);
00872
00873     v = PyFloat_FromDouble(FERMI_COUPLING_CONSTANT);
00874     PyDict_SetItemString(d, "FERMI_COUPLING_CONSTANT", v);
00875     Py_INCREF(v);
00876     v = PyFloat_FromDouble(U_FERMI_COUPLING_CONSTANT);
00877     PyDict_SetItemString(d, "U_FERMI_COUPLING_CONSTANT", v);
00878     Py_INCREF(v);
00879
00880     v = PyFloat_FromDouble(FINE_STRUCTURE_CONSTANT);
00881     PyDict_SetItemString(d, "FINE_STRUCTURE_CONSTANT", v);
00882     Py_INCREF(v);
00883     v = PyFloat_FromDouble(U_FINE_STRUCTURE_CONSTANT);
00884     PyDict_SetItemString(d, "U_FINE_STRUCTURE_CONSTANT", v);
00885     Py_INCREF(v);
00886
00887     v = PyFloat_FromDouble(FIRST_RADIATION_CONSTANT);
00888     PyDict_SetItemString(d, "FIRST_RADIATION_CONSTANT", v);
00889     Py_INCREF(v);
00890     v = PyFloat_FromDouble(U_FIRST_RADIATION_CONSTANT);
00891     PyDict_SetItemString(d, "U_FIRST_RADIATION_CONSTANT", v);
00892     Py_INCREF(v);
00893
00894     v = PyFloat_FromDouble(FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE);
00895     PyDict_SetItemString(d, "FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE", v);
00896     Py_INCREF(v);
00897     v = PyFloat_FromDouble(U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE);
00898     PyDict_SetItemString(d, "U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE", v);
00899     Py_INCREF(v);
00900
00901     v = PyFloat_FromDouble(HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP);
00902     PyDict_SetItemString(d, "HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
00903     Py_INCREF(v);
00904     v = PyFloat_FromDouble(U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP);
00905     PyDict_SetItemString(d, "U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
00906     Py_INCREF(v);
00907
00908     v = PyFloat_FromDouble(HARTREE_ELECTRON_VOLT_RELATIONSHIP);
00909     PyDict_SetItemString(d, "HARTREE_ELECTRON_VOLT_RELATIONSHIP", v);
00910     Py_INCREF(v);
00911     v = PyFloat_FromDouble(U_HARTREE_ELECTRON_VOLT_RELATIONSHIP);
00912     PyDict_SetItemString(d, "U_HARTREE_ELECTRON_VOLT_RELATIONSHIP", v);
00913     Py_INCREF(v);
00914
00915     v = PyFloat_FromDouble(HARTREE_ENERGY);
00916     PyDict_SetItemString(d, "HARTREE_ENERGY", v);
00917     Py_INCREF(v);
00918     v = PyFloat_FromDouble(U_HARTREE_ENERGY);
00919     PyDict_SetItemString(d, "U_HARTREE_ENERGY", v);
00920     Py_INCREF(v);
00921
00922     v = PyFloat_FromDouble(HARTREE_ENERGY_IN_EV);
00923     PyDict_SetItemString(d, "HARTREE_ENERGY_IN_EV", v);
00924     Py_INCREF(v);
00925     v = PyFloat_FromDouble(U_HARTREE_ENERGY_IN_EV);
00926     PyDict_SetItemString(d, "U_HARTREE_ENERGY_IN_EV", v);
00927     Py_INCREF(v);
00928
00929     v = PyFloat_FromDouble(HARTREE_HERTZ_RELATIONSHIP);
00930     PyDict_SetItemString(d, "HARTREE_HERTZ_RELATIONSHIP", v);
00931     Py_INCREF(v);
00932     v = PyFloat_FromDouble(U_HARTREE_HERTZ_RELATIONSHIP);
00933     PyDict_SetItemString(d, "U_HARTREE_HERTZ_RELATIONSHIP", v);
00934     Py_INCREF(v);
00935
00936     v = PyFloat_FromDouble(HARTREE_INVERSE_METER_RELATIONSHIP);
00937     PyDict_SetItemString(d, "HARTREE_INVERSE_METER_RELATIONSHIP", v);
00938     Py_INCREF(v);
00939     v = PyFloat_FromDouble(U_HARTREE_INVERSE_METER_RELATIONSHIP);
00940     PyDict_SetItemString(d, "U_HARTREE_INVERSE_METER_RELATIONSHIP", v);
00941     Py_INCREF(v);
00942
00943     v = PyFloat_FromDouble(HARTREE_JOULE_RELATIONSHIP);
00944     PyDict_SetItemString(d, "HARTREE_JOULE_RELATIONSHIP", v);
00945     Py_INCREF(v);
00946     v = PyFloat_FromDouble(U_HARTREE_JOULE_RELATIONSHIP);
00947     PyDict_SetItemString(d, "U_HARTREE_JOULE_RELATIONSHIP", v);
00948     Py_INCREF(v);
00949
00950     v = PyFloat_FromDouble(HARTREE_KELVIN_RELATIONSHIP);
00951     PyDict_SetItemString(d, "HARTREE_KELVIN_RELATIONSHIP", v);
00952     Py_INCREF(v);
```

```
00953     v = PyFloat_FromDouble(U_HARTREE_KELVIN_RELATIONSHIP);
00954     PyDict_SetItemString(d, "U_HARTREE_KELVIN_RELATIONSHIP", v);
00955     Py_INCREF(v);
00956
00957     v = PyFloat_FromDouble(HARTREE_KILOGRAM_RELATIONSHIP);
00958     PyDict_SetItemString(d, "HARTREE_KILOGRAM_RELATIONSHIP", v);
00959     Py_INCREF(v);
00960     v = PyFloat_FromDouble(U_HARTREE_KILOGRAM_RELATIONSHIP);
00961     PyDict_SetItemString(d, "U_HARTREE_KILOGRAM_RELATIONSHIP", v);
00962     Py_INCREF(v);
00963
00964     v = PyFloat_FromDouble(HELION_ELECTRON_MASS_RATIO);
00965     PyDict_SetItemString(d, "HELION_ELECTRON_MASS_RATIO", v);
00966     Py_INCREF(v);
00967     v = PyFloat_FromDouble(U_HELION_ELECTRON_MASS_RATIO);
00968     PyDict_SetItemString(d, "U_HELION_ELECTRON_MASS_RATIO", v);
00969     Py_INCREF(v);
00970
00971     v = PyFloat_FromDouble(HELION_G_FACTOR);
00972     PyDict_SetItemString(d, "HELION_G_FACTOR", v);
00973     Py_INCREF(v);
00974     v = PyFloat_FromDouble(U_HELION_G_FACTOR);
00975     PyDict_SetItemString(d, "U_HELION_G_FACTOR", v);
00976     Py_INCREF(v);
00977
00978     v = PyFloat_FromDouble(HELION_MAG__MOM);
00979     PyDict_SetItemString(d, "HELION_MAG__MOM", v);
00980     Py_INCREF(v);
00981     v = PyFloat_FromDouble(U_HELION_MAG__MOM);
00982     PyDict_SetItemString(d, "U_HELION_MAG__MOM", v);
00983     Py_INCREF(v);
00984
00985     v = PyFloat_FromDouble(HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00986     PyDict_SetItemString(d, "HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
00987     Py_INCREF(v);
00988     v = PyFloat_FromDouble(U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
00989     PyDict_SetItemString(d, "U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
00990     Py_INCREF(v);
00991
00992     v = PyFloat_FromDouble(HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00993     PyDict_SetItemString(d, "HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00994     Py_INCREF(v);
00995     v = PyFloat_FromDouble(U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
00996     PyDict_SetItemString(d, "U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
00997     Py_INCREF(v);
00998
00999     v = PyFloat_FromDouble(HELION_MASS);
01000     PyDict_SetItemString(d, "HELION_MASS", v);
01001     Py_INCREF(v);
01002     v = PyFloat_FromDouble(U_HELION_MASS);
01003     PyDict_SetItemString(d, "U_HELION_MASS", v);
01004     Py_INCREF(v);
01005
01006     v = PyFloat_FromDouble(HELION_MASS_ENERGY_EQUIVALENT);
01007     PyDict_SetItemString(d, "HELION_MASS_ENERGY_EQUIVALENT", v);
01008     Py_INCREF(v);
01009     v = PyFloat_FromDouble(U_HELION_MASS_ENERGY_EQUIVALENT);
01010     PyDict_SetItemString(d, "U_HELION_MASS_ENERGY_EQUIVALENT", v);
01011     Py_INCREF(v);
01012
01013     v = PyFloat_FromDouble(HELION_MASS_ENERGY_EQUIVALENT_IN_MEV);
01014     PyDict_SetItemString(d, "HELION_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01015     Py_INCREF(v);
01016     v = PyFloat_FromDouble(U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV);
01017     PyDict_SetItemString(d, "U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01018     Py_INCREF(v);
01019
01020     v = PyFloat_FromDouble(HELION_MASS_IN_U);
01021     PyDict_SetItemString(d, "HELION_MASS_IN_U", v);
01022     Py_INCREF(v);
01023     v = PyFloat_FromDouble(U_HELION_MASS_IN_U);
01024     PyDict_SetItemString(d, "U_HELION_MASS_IN_U", v);
01025     Py_INCREF(v);
01026
01027     v = PyFloat_FromDouble(HELION_MOLAR_MASS);
01028     PyDict_SetItemString(d, "HELION_MOLAR_MASS", v);
01029     Py_INCREF(v);
01030     v = PyFloat_FromDouble(U_HELION_MOLAR_MASS);
01031     PyDict_SetItemString(d, "U_HELION_MOLAR_MASS", v);
01032     Py_INCREF(v);
01033
01034     v = PyFloat_FromDouble(HELION_PROTON_MASS_RATIO);
01035     PyDict_SetItemString(d, "HELION_PROTON_MASS_RATIO", v);
01036     Py_INCREF(v);
01037     v = PyFloat_FromDouble(U_HELION_PROTON_MASS_RATIO);
01038     PyDict_SetItemString(d, "U_HELION_PROTON_MASS_RATIO", v);
01039     Py_INCREF(v);
```

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01040
01041     v = PyFloat_FromDouble(HELION_RELATIVE_ATOMIC_MASS);
01042     PyDict_SetItemString(d, "HELION_RELATIVE_ATOMIC_MASS", v);
01043     Py_INCREF(v);
01044     v = PyFloat_FromDouble(U_HELION_RELATIVE_ATOMIC_MASS);
01045     PyDict_SetItemString(d, "U_HELION_RELATIVE_ATOMIC_MASS", v);
01046     Py_INCREF(v);
01047
01048     v = PyFloat_FromDouble(HELION_SHIELDING_SHIFT);
01049     PyDict_SetItemString(d, "HELION_SHIELDING_SHIFT", v);
01050     Py_INCREF(v);
01051     v = PyFloat_FromDouble(U_HELION_SHIELDING_SHIFT);
01052     PyDict_SetItemString(d, "U_HELION_SHIELDING_SHIFT", v);
01053     Py_INCREF(v);
01054
01055     v = PyFloat_FromDouble(HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP);
01056     PyDict_SetItemString(d, "HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01057     Py_INCREF(v);
01058     v = PyFloat_FromDouble(U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP);
01059     PyDict_SetItemString(d, "U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01060     Py_INCREF(v);
01061
01062     v = PyFloat_FromDouble(HERTZ_ELECTRON_VOLT_RELATIONSHIP);
01063     PyDict_SetItemString(d, "HERTZ_ELECTRON_VOLT_RELATIONSHIP", v);
01064     Py_INCREF(v);
01065     v = PyFloat_FromDouble(U_HERTZ_ELECTRON_VOLT_RELATIONSHIP);
01066     PyDict_SetItemString(d, "U_HERTZ_ELECTRON_VOLT_RELATIONSHIP", v);
01067     Py_INCREF(v);
01068
01069     v = PyFloat_FromDouble(HERTZ_HARTREE_RELATIONSHIP);
01070     PyDict_SetItemString(d, "HERTZ_HARTREE_RELATIONSHIP", v);
01071     Py_INCREF(v);
01072     v = PyFloat_FromDouble(U_HERTZ_HARTREE_RELATIONSHIP);
01073     PyDict_SetItemString(d, "U_HERTZ_HARTREE_RELATIONSHIP", v);
01074     Py_INCREF(v);
01075
01076     v = PyFloat_FromDouble(HERTZ_INVERSE_METER_RELATIONSHIP);
01077     PyDict_SetItemString(d, "HERTZ_INVERSE_METER_RELATIONSHIP", v);
01078     Py_INCREF(v);
01079     v = PyFloat_FromDouble(U_HERTZ_INVERSE_METER_RELATIONSHIP);
01080     PyDict_SetItemString(d, "U_HERTZ_INVERSE_METER_RELATIONSHIP", v);
01081     Py_INCREF(v);
01082
01083     v = PyFloat_FromDouble(HERTZ_JOULE_RELATIONSHIP);
01084     PyDict_SetItemString(d, "HERTZ_JOULE_RELATIONSHIP", v);
01085     Py_INCREF(v);
01086     v = PyFloat_FromDouble(U_HERTZ_JOULE_RELATIONSHIP);
01087     PyDict_SetItemString(d, "U_HERTZ_JOULE_RELATIONSHIP", v);
01088     Py_INCREF(v);
01089
01090     v = PyFloat_FromDouble(HERTZ_KELVIN_RELATIONSHIP);
01091     PyDict_SetItemString(d, "HERTZ_KELVIN_RELATIONSHIP", v);
01092     Py_INCREF(v);
01093     v = PyFloat_FromDouble(U_HERTZ_KELVIN_RELATIONSHIP);
01094     PyDict_SetItemString(d, "U_HERTZ_KELVIN_RELATIONSHIP", v);
01095     Py_INCREF(v);
01096
01097     v = PyFloat_FromDouble(HERTZ_KILOGRAM_RELATIONSHIP);
01098     PyDict_SetItemString(d, "HERTZ_KILOGRAM_RELATIONSHIP", v);
01099     Py_INCREF(v);
01100     v = PyFloat_FromDouble(U_HERTZ_KILOGRAM_RELATIONSHIP);
01101     PyDict_SetItemString(d, "U_HERTZ_KILOGRAM_RELATIONSHIP", v);
01102     Py_INCREF(v);
01103
01104     v = PyFloat_FromDouble(HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133);
01105     PyDict_SetItemString(d, "HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133", v);
01106     Py_INCREF(v);
01107     v = PyFloat_FromDouble(U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133);
01108     PyDict_SetItemString(d, "U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133", v);
01109     Py_INCREF(v);
01110
01111     v = PyFloat_FromDouble(INVERSE_FINE_STRUCTURE_CONSTANT);
01112     PyDict_SetItemString(d, "INVERSE_FINE_STRUCTURE_CONSTANT", v);
01113     Py_INCREF(v);
01114     v = PyFloat_FromDouble(U_INVERSE_FINE_STRUCTURE_CONSTANT);
01115     PyDict_SetItemString(d, "U_INVERSE_FINE_STRUCTURE_CONSTANT", v);
01116     Py_INCREF(v);
01117
01118     v = PyFloat_FromDouble(INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP);
01119     PyDict_SetItemString(d, "INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01120     Py_INCREF(v);
01121     v = PyFloat_FromDouble(U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP);
01122     PyDict_SetItemString(d, "U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01123     Py_INCREF(v);
01124
01125     v = PyFloat_FromDouble(INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP);
01126     PyDict_SetItemString(d, "INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP", v);
```

```
01127     Py_INCREF(v);
01128     v = PyFloat_FromDouble(U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP);
01129     PyDict_SetItemString(d, "U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP", v);
01130     Py_INCREF(v);
01131
01132     v = PyFloat_FromDouble(INVERSE_METER_HARTREE_RELATIONSHIP);
01133     PyDict_SetItemString(d, "INVERSE_METER_HARTREE_RELATIONSHIP", v);
01134     Py_INCREF(v);
01135     v = PyFloat_FromDouble(U_INVERSE_METER_HARTREE_RELATIONSHIP);
01136     PyDict_SetItemString(d, "U_INVERSE_METER_HARTREE_RELATIONSHIP", v);
01137     Py_INCREF(v);
01138
01139     v = PyFloat_FromDouble(INVERSE_METER_HERTZ_RELATIONSHIP);
01140     PyDict_SetItemString(d, "INVERSE_METER_HERTZ_RELATIONSHIP", v);
01141     Py_INCREF(v);
01142     v = PyFloat_FromDouble(U_INVERSE_METER_HERTZ_RELATIONSHIP);
01143     PyDict_SetItemString(d, "U_INVERSE_METER_HERTZ_RELATIONSHIP", v);
01144     Py_INCREF(v);
01145
01146     v = PyFloat_FromDouble(INVERSE_METER_JOULE_RELATIONSHIP);
01147     PyDict_SetItemString(d, "INVERSE_METER_JOULE_RELATIONSHIP", v);
01148     Py_INCREF(v);
01149     v = PyFloat_FromDouble(U_INVERSE_METER_JOULE_RELATIONSHIP);
01150     PyDict_SetItemString(d, "U_INVERSE_METER_JOULE_RELATIONSHIP", v);
01151     Py_INCREF(v);
01152
01153     v = PyFloat_FromDouble(INVERSE_METER_KELVIN_RELATIONSHIP);
01154     PyDict_SetItemString(d, "INVERSE_METER_KELVIN_RELATIONSHIP", v);
01155     Py_INCREF(v);
01156     v = PyFloat_FromDouble(U_INVERSE_METER_KELVIN_RELATIONSHIP);
01157     PyDict_SetItemString(d, "U_INVERSE_METER_KELVIN_RELATIONSHIP", v);
01158     Py_INCREF(v);
01159
01160     v = PyFloat_FromDouble(INVERSE_METER_KILOGRAM_RELATIONSHIP);
01161     PyDict_SetItemString(d, "INVERSE_METER_KILOGRAM_RELATIONSHIP", v);
01162     Py_INCREF(v);
01163     v = PyFloat_FromDouble(U_INVERSE_METER_KILOGRAM_RELATIONSHIP);
01164     PyDict_SetItemString(d, "U_INVERSE_METER_KILOGRAM_RELATIONSHIP", v);
01165     Py_INCREF(v);
01166
01167     v = PyFloat_FromDouble(INVERSE_OF_CONDUCTANCE_QUANTUM);
01168     PyDict_SetItemString(d, "INVERSE_OF_CONDUCTANCE_QUANTUM", v);
01169     Py_INCREF(v);
01170     v = PyFloat_FromDouble(U_INVERSE_OF_CONDUCTANCE_QUANTUM);
01171     PyDict_SetItemString(d, "U_INVERSE_OF_CONDUCTANCE_QUANTUM", v);
01172     Py_INCREF(v);
01173
01174     v = PyFloat_FromDouble(JOSEPHSON_CONSTANT);
01175     PyDict_SetItemString(d, "JOSEPHSON_CONSTANT", v);
01176     Py_INCREF(v);
01177     v = PyFloat_FromDouble(U_JOSEPHSON_CONSTANT);
01178     PyDict_SetItemString(d, "U_JOSEPHSON_CONSTANT", v);
01179     Py_INCREF(v);
01180
01181     v = PyFloat_FromDouble(JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP);
01182     PyDict_SetItemString(d, "JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01183     Py_INCREF(v);
01184     v = PyFloat_FromDouble(U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP);
01185     PyDict_SetItemString(d, "U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01186     Py_INCREF(v);
01187
01188     v = PyFloat_FromDouble(JOULE_ELECTRON_VOLT_RELATIONSHIP);
01189     PyDict_SetItemString(d, "JOULE_ELECTRON_VOLT_RELATIONSHIP", v);
01190     Py_INCREF(v);
01191     v = PyFloat_FromDouble(U_JOULE_ELECTRON_VOLT_RELATIONSHIP);
01192     PyDict_SetItemString(d, "U_JOULE_ELECTRON_VOLT_RELATIONSHIP", v);
01193     Py_INCREF(v);
01194
01195     v = PyFloat_FromDouble(JOULE_HARTREE_RELATIONSHIP);
01196     PyDict_SetItemString(d, "JOULE_HARTREE_RELATIONSHIP", v);
01197     Py_INCREF(v);
01198     v = PyFloat_FromDouble(U_JOULE_HARTREE_RELATIONSHIP);
01199     PyDict_SetItemString(d, "U_JOULE_HARTREE_RELATIONSHIP", v);
01200     Py_INCREF(v);
01201
01202     v = PyFloat_FromDouble(JOULE_HERTZ_RELATIONSHIP);
01203     PyDict_SetItemString(d, "JOULE_HERTZ_RELATIONSHIP", v);
01204     Py_INCREF(v);
01205     v = PyFloat_FromDouble(U_JOULE_HERTZ_RELATIONSHIP);
01206     PyDict_SetItemString(d, "U_JOULE_HERTZ_RELATIONSHIP", v);
01207     Py_INCREF(v);
01208
01209     v = PyFloat_FromDouble(JOULE_INVERSE_METER_RELATIONSHIP);
01210     PyDict_SetItemString(d, "JOULE_INVERSE_METER_RELATIONSHIP", v);
01211     Py_INCREF(v);
01212     v = PyFloat_FromDouble(U_JOULE_INVERSE_METER_RELATIONSHIP);
01213     PyDict_SetItemString(d, "U_JOULE_INVERSE_METER_RELATIONSHIP", v);
```

```
01214     Py_INCREF(v);
01215
01216     v = PyFloat_FromDouble(JOULE_KELVIN_RELATIONSHIP);
01217     PyDict_SetItemString(d, "JOULE_KELVIN_RELATIONSHIP", v);
01218     Py_INCREF(v);
01219     v = PyFloat_FromDouble(U_JOULE_KELVIN_RELATIONSHIP);
01220     PyDict_SetItemString(d, "U_JOULE_KELVIN_RELATIONSHIP", v);
01221     Py_INCREF(v);
01222
01223     v = PyFloat_FromDouble(JOULE_KILOGRAM_RELATIONSHIP);
01224     PyDict_SetItemString(d, "JOULE_KILOGRAM_RELATIONSHIP", v);
01225     Py_INCREF(v);
01226     v = PyFloat_FromDouble(U_JOULE_KILOGRAM_RELATIONSHIP);
01227     PyDict_SetItemString(d, "U_JOULE_KILOGRAM_RELATIONSHIP", v);
01228     Py_INCREF(v);
01229
01230     v = PyFloat_FromDouble(KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP);
01231     PyDict_SetItemString(d, "KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01232     Py_INCREF(v);
01233     v = PyFloat_FromDouble(U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP);
01234     PyDict_SetItemString(d, "U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01235     Py_INCREF(v);
01236
01237     v = PyFloat_FromDouble(KELVIN_ELECTRON_VOLT_RELATIONSHIP);
01238     PyDict_SetItemString(d, "KELVIN_ELECTRON_VOLT_RELATIONSHIP", v);
01239     Py_INCREF(v);
01240     v = PyFloat_FromDouble(U_KELVIN_ELECTRON_VOLT_RELATIONSHIP);
01241     PyDict_SetItemString(d, "U_KELVIN_ELECTRON_VOLT_RELATIONSHIP", v);
01242     Py_INCREF(v);
01243
01244     v = PyFloat_FromDouble(KELVIN_HARTREE_RELATIONSHIP);
01245     PyDict_SetItemString(d, "KELVIN_HARTREE_RELATIONSHIP", v);
01246     Py_INCREF(v);
01247     v = PyFloat_FromDouble(U_KELVIN_HARTREE_RELATIONSHIP);
01248     PyDict_SetItemString(d, "U_KELVIN_HARTREE_RELATIONSHIP", v);
01249     Py_INCREF(v);
01250
01251     v = PyFloat_FromDouble(KELVIN_HERTZ_RELATIONSHIP);
01252     PyDict_SetItemString(d, "KELVIN_HERTZ_RELATIONSHIP", v);
01253     Py_INCREF(v);
01254     v = PyFloat_FromDouble(U_KELVIN_HERTZ_RELATIONSHIP);
01255     PyDict_SetItemString(d, "U_KELVIN_HERTZ_RELATIONSHIP", v);
01256     Py_INCREF(v);
01257
01258     v = PyFloat_FromDouble(KELVIN_INVERSE_METER_RELATIONSHIP);
01259     PyDict_SetItemString(d, "KELVIN_INVERSE_METER_RELATIONSHIP", v);
01260     Py_INCREF(v);
01261     v = PyFloat_FromDouble(U_KELVIN_INVERSE_METER_RELATIONSHIP);
01262     PyDict_SetItemString(d, "U_KELVIN_INVERSE_METER_RELATIONSHIP", v);
01263     Py_INCREF(v);
01264
01265     v = PyFloat_FromDouble(KELVIN_JOULE_RELATIONSHIP);
01266     PyDict_SetItemString(d, "KELVIN_JOULE_RELATIONSHIP", v);
01267     Py_INCREF(v);
01268     v = PyFloat_FromDouble(U_KELVIN_JOULE_RELATIONSHIP);
01269     PyDict_SetItemString(d, "U_KELVIN_JOULE_RELATIONSHIP", v);
01270     Py_INCREF(v);
01271
01272     v = PyFloat_FromDouble(KELVIN_KILOGRAM_RELATIONSHIP);
01273     PyDict_SetItemString(d, "KELVIN_KILOGRAM_RELATIONSHIP", v);
01274     Py_INCREF(v);
01275     v = PyFloat_FromDouble(U_KELVIN_KILOGRAM_RELATIONSHIP);
01276     PyDict_SetItemString(d, "U_KELVIN_KILOGRAM_RELATIONSHIP", v);
01277     Py_INCREF(v);
01278
01279     v = PyFloat_FromDouble(KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP);
01280     PyDict_SetItemString(d, "KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01281     Py_INCREF(v);
01282     v = PyFloat_FromDouble(U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP);
01283     PyDict_SetItemString(d, "U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
01284     Py_INCREF(v);
01285
01286     v = PyFloat_FromDouble(KILOGRAM_ELECTRON_VOLT_RELATIONSHIP);
01287     PyDict_SetItemString(d, "KILOGRAM_ELECTRON_VOLT_RELATIONSHIP", v);
01288     Py_INCREF(v);
01289     v = PyFloat_FromDouble(U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP);
01290     PyDict_SetItemString(d, "U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP", v);
01291     Py_INCREF(v);
01292
01293     v = PyFloat_FromDouble(KILOGRAM_HARTREE_RELATIONSHIP);
01294     PyDict_SetItemString(d, "KILOGRAM_HARTREE_RELATIONSHIP", v);
01295     Py_INCREF(v);
01296     v = PyFloat_FromDouble(U_KILOGRAM_HARTREE_RELATIONSHIP);
01297     PyDict_SetItemString(d, "U_KILOGRAM_HARTREE_RELATIONSHIP", v);
01298     Py_INCREF(v);
01299
01300     v = PyFloat_FromDouble(KILOGRAM_HERTZ_RELATIONSHIP);
```

```
01301     PyDict_SetItemString(d, "KILOGRAM_HERTZ_RELATIONSHIP", v);
01302     Py_INCREF(v);
01303     v = PyFloat_FromDouble(U_KILOGRAM_HERTZ_RELATIONSHIP);
01304     PyDict_SetItemString(d, "U_KILOGRAM_HERTZ_RELATIONSHIP", v);
01305     Py_INCREF(v);
01306
01307     v = PyFloat_FromDouble(KILOGRAM_INVERSE_METER_RELATIONSHIP);
01308     PyDict_SetItemString(d, "KILOGRAM_INVERSE_METER_RELATIONSHIP", v);
01309     Py_INCREF(v);
01310     v = PyFloat_FromDouble(U_KILOGRAM_INVERSE_METER_RELATIONSHIP);
01311     PyDict_SetItemString(d, "U_KILOGRAM_INVERSE_METER_RELATIONSHIP", v);
01312     Py_INCREF(v);
01313
01314     v = PyFloat_FromDouble(KILOGRAM_JOULE_RELATIONSHIP);
01315     PyDict_SetItemString(d, "KILOGRAM_JOULE_RELATIONSHIP", v);
01316     Py_INCREF(v);
01317     v = PyFloat_FromDouble(U_KILOGRAM_JOULE_RELATIONSHIP);
01318     PyDict_SetItemString(d, "U_KILOGRAM_JOULE_RELATIONSHIP", v);
01319     Py_INCREF(v);
01320
01321     v = PyFloat_FromDouble(KILOGRAM_KELVIN_RELATIONSHIP);
01322     PyDict_SetItemString(d, "KILOGRAM_KELVIN_RELATIONSHIP", v);
01323     Py_INCREF(v);
01324     v = PyFloat_FromDouble(U_KILOGRAM_KELVIN_RELATIONSHIP);
01325     PyDict_SetItemString(d, "U_KILOGRAM_KELVIN_RELATIONSHIP", v);
01326     Py_INCREF(v);
01327
01328     v = PyFloat_FromDouble(LATTICE_PARAMETER_OF_SILICON);
01329     PyDict_SetItemString(d, "LATTICE_PARAMETER_OF_SILICON", v);
01330     Py_INCREF(v);
01331     v = PyFloat_FromDouble(U_LATTICE_PARAMETER_OF_SILICON);
01332     PyDict_SetItemString(d, "U_LATTICE_PARAMETER_OF_SILICON", v);
01333     Py_INCREF(v);
01334
01335     v = PyFloat_FromDouble(LATTICE_SPACING_OF_IDEAL_SI__220);
01336     PyDict_SetItemString(d, "LATTICE_SPACING_OF_IDEAL_SI__220", v);
01337     Py_INCREF(v);
01338     v = PyFloat_FromDouble(U_LATTICE_SPACING_OF_IDEAL_SI__220);
01339     PyDict_SetItemString(d, "U_LATTICE_SPACING_OF_IDEAL_SI__220", v);
01340     Py_INCREF(v);
01341
01342     v = PyFloat_FromDouble(LOSCHMIDT_CONSTANT__273_15_K__100_KPA);
01343     PyDict_SetItemString(d, "LOSCHMIDT_CONSTANT__273_15_K__100_KPA", v);
01344     Py_INCREF(v);
01345     v = PyFloat_FromDouble(U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA);
01346     PyDict_SetItemString(d, "U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA", v);
01347     Py_INCREF(v);
01348
01349     v = PyFloat_FromDouble(LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA);
01350     PyDict_SetItemString(d, "LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA", v);
01351     Py_INCREF(v);
01352     v = PyFloat_FromDouble(U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA);
01353     PyDict_SetItemString(d, "U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA", v);
01354     Py_INCREF(v);
01355
01356     v = PyFloat_FromDouble(LUMINOUS_EFFICACY);
01357     PyDict_SetItemString(d, "LUMINOUS_EFFICACY", v);
01358     Py_INCREF(v);
01359     v = PyFloat_FromDouble(U_LUMINOUS_EFFICACY);
01360     PyDict_SetItemString(d, "U_LUMINOUS_EFFICACY", v);
01361     Py_INCREF(v);
01362
01363     v = PyFloat_FromDouble(MAG__FLUX_QUANTUM);
01364     PyDict_SetItemString(d, "MAG__FLUX_QUANTUM", v);
01365     Py_INCREF(v);
01366     v = PyFloat_FromDouble(U_MAG__FLUX_QUANTUM);
01367     PyDict_SetItemString(d, "U_MAG__FLUX_QUANTUM", v);
01368     Py_INCREF(v);
01369
01370     v = PyFloat_FromDouble(MOLAR_GAS_CONSTANT);
01371     PyDict_SetItemString(d, "MOLAR_GAS_CONSTANT", v);
01372     Py_INCREF(v);
01373     v = PyFloat_FromDouble(U_MOLAR_GAS_CONSTANT);
01374     PyDict_SetItemString(d, "U_MOLAR_GAS_CONSTANT", v);
01375     Py_INCREF(v);
01376
01377     v = PyFloat_FromDouble(MOLAR_MASS_CONSTANT);
01378     PyDict_SetItemString(d, "MOLAR_MASS_CONSTANT", v);
01379     Py_INCREF(v);
01380     v = PyFloat_FromDouble(U_MOLAR_MASS_CONSTANT);
01381     PyDict_SetItemString(d, "U_MOLAR_MASS_CONSTANT", v);
01382     Py_INCREF(v);
01383
01384     v = PyFloat_FromDouble(MOLAR_MASS_OF_CARBON_12);
01385     PyDict_SetItemString(d, "MOLAR_MASS_OF_CARBON_12", v);
01386     Py_INCREF(v);
01387     v = PyFloat_FromDouble(U_MOLAR_MASS_OF_CARBON_12);
```

```
01388     PyDict_SetItemString(d, "U_MOLAR_MASS_OF_CARBON_12", v);
01389     Py_INCREF(v);
01390
01391     v = PyFloat_FromDouble(MOLAR_PLANCK_CONSTANT);
01392     PyDict_SetItemString(d, "MOLAR_PLANCK_CONSTANT", v);
01393     Py_INCREF(v);
01394     v = PyFloat_FromDouble(U_MOLAR_PLANCK_CONSTANT);
01395     PyDict_SetItemString(d, "U_MOLAR_PLANCK_CONSTANT", v);
01396     Py_INCREF(v);
01397
01398     v = PyFloat_FromDouble(MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA);
01399     PyDict_SetItemString(d, "MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA", v);
01400     Py_INCREF(v);
01401     v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA);
01402     PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA", v);
01403     Py_INCREF(v);
01404
01405     v = PyFloat_FromDouble(MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA);
01406     PyDict_SetItemString(d, "MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA", v);
01407     Py_INCREF(v);
01408     v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA);
01409     PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA", v);
01410     Py_INCREF(v);
01411
01412     v = PyFloat_FromDouble(MOLAR_VOLUME_OF_SILICON);
01413     PyDict_SetItemString(d, "MOLAR_VOLUME_OF_SILICON", v);
01414     Py_INCREF(v);
01415     v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_SILICON);
01416     PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_SILICON", v);
01417     Py_INCREF(v);
01418
01419     v = PyFloat_FromDouble(MOLYBDENUM_X_UNIT);
01420     PyDict_SetItemString(d, "MOLYBDENUM_X_UNIT", v);
01421     Py_INCREF(v);
01422     v = PyFloat_FromDouble(U_MOLYBDENUM_X_UNIT);
01423     PyDict_SetItemString(d, "U_MOLYBDENUM_X_UNIT", v);
01424     Py_INCREF(v);
01425
01426     v = PyFloat_FromDouble(MUON_COMPTON_WAVELENGTH);
01427     PyDict_SetItemString(d, "MUON_COMPTON_WAVELENGTH", v);
01428     Py_INCREF(v);
01429     v = PyFloat_FromDouble(U_MUON_COMPTON_WAVELENGTH);
01430     PyDict_SetItemString(d, "U_MUON_COMPTON_WAVELENGTH", v);
01431     Py_INCREF(v);
01432
01433     v = PyFloat_FromDouble(MUON_ELECTRON_MASS_RATIO);
01434     PyDict_SetItemString(d, "MUON_ELECTRON_MASS_RATIO", v);
01435     Py_INCREF(v);
01436     v = PyFloat_FromDouble(U_MUON_ELECTRON_MASS_RATIO);
01437     PyDict_SetItemString(d, "U_MUON_ELECTRON_MASS_RATIO", v);
01438     Py_INCREF(v);
01439
01440     v = PyFloat_FromDouble(MUON_G_FACTOR);
01441     PyDict_SetItemString(d, "MUON_G_FACTOR", v);
01442     Py_INCREF(v);
01443     v = PyFloat_FromDouble(U_MUON_G_FACTOR);
01444     PyDict_SetItemString(d, "U_MUON_G_FACTOR", v);
01445     Py_INCREF(v);
01446
01447     v = PyFloat_FromDouble(MUON_MAG__MOM);
01448     PyDict_SetItemString(d, "MUON_MAG__MOM", v);
01449     Py_INCREF(v);
01450     v = PyFloat_FromDouble(U_MUON_MAG__MOM);
01451     PyDict_SetItemString(d, "U_MUON_MAG__MOM", v);
01452     Py_INCREF(v);
01453
01454     v = PyFloat_FromDouble(MUON_MAG__MOM__ANOMALY);
01455     PyDict_SetItemString(d, "MUON_MAG__MOM__ANOMALY", v);
01456     Py_INCREF(v);
01457     v = PyFloat_FromDouble(U_MUON_MAG__MOM__ANOMALY);
01458     PyDict_SetItemString(d, "U_MUON_MAG__MOM__ANOMALY", v);
01459     Py_INCREF(v);
01460
01461     v = PyFloat_FromDouble(MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01462     PyDict_SetItemString(d, "MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01463     Py_INCREF(v);
01464     v = PyFloat_FromDouble(U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01465     PyDict_SetItemString(d, "U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01466     Py_INCREF(v);
01467
01468     v = PyFloat_FromDouble(MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01469     PyDict_SetItemString(d, "MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01470     Py_INCREF(v);
01471     v = PyFloat_FromDouble(U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01472     PyDict_SetItemString(d, "U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01473     Py_INCREF(v);
01474
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01475     v = PyFloat_FromDouble(MUON_MASS);
01476     PyDict_SetItemString(d, "MUON_MASS", v);
01477     Py_INCREF(v);
01478     v = PyFloat_FromDouble(U_MUON_MASS);
01479     PyDict_SetItemString(d, "U_MUON_MASS", v);
01480     Py_INCREF(v);
01481
01482     v = PyFloat_FromDouble(MUON_MASS_ENERGY_EQUIVALENT);
01483     PyDict_SetItemString(d, "MUON_MASS_ENERGY_EQUIVALENT", v);
01484     Py_INCREF(v);
01485     v = PyFloat_FromDouble(U_MUON_MASS_ENERGY_EQUIVALENT);
01486     PyDict_SetItemString(d, "U_MUON_MASS_ENERGY_EQUIVALENT", v);
01487     Py_INCREF(v);
01488
01489     v = PyFloat_FromDouble(MUON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01490     PyDict_SetItemString(d, "MUON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01491     Py_INCREF(v);
01492     v = PyFloat_FromDouble(U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01493     PyDict_SetItemString(d, "U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01494     Py_INCREF(v);
01495
01496     v = PyFloat_FromDouble(MUON_MASS_IN_U);
01497     PyDict_SetItemString(d, "MUON_MASS_IN_U", v);
01498     Py_INCREF(v);
01499     v = PyFloat_FromDouble(U_MUON_MASS_IN_U);
01500     PyDict_SetItemString(d, "U_MUON_MASS_IN_U", v);
01501     Py_INCREF(v);
01502
01503     v = PyFloat_FromDouble(MUON_MOLAR_MASS);
01504     PyDict_SetItemString(d, "MUON_MOLAR_MASS", v);
01505     Py_INCREF(v);
01506     v = PyFloat_FromDouble(U_MUON_MOLAR_MASS);
01507     PyDict_SetItemString(d, "U_MUON_MOLAR_MASS", v);
01508     Py_INCREF(v);
01509
01510     v = PyFloat_FromDouble(MUON_NEUTRON_MASS_RATIO);
01511     PyDict_SetItemString(d, "MUON_NEUTRON_MASS_RATIO", v);
01512     Py_INCREF(v);
01513     v = PyFloat_FromDouble(U_MUON_NEUTRON_MASS_RATIO);
01514     PyDict_SetItemString(d, "U_MUON_NEUTRON_MASS_RATIO", v);
01515     Py_INCREF(v);
01516
01517     v = PyFloat_FromDouble(MUON_PROTON_MAG__MOM__RATIO);
01518     PyDict_SetItemString(d, "MUON_PROTON_MAG__MOM__RATIO", v);
01519     Py_INCREF(v);
01520     v = PyFloat_FromDouble(U_MUON_PROTON_MAG__MOM__RATIO);
01521     PyDict_SetItemString(d, "U_MUON_PROTON_MAG__MOM__RATIO", v);
01522     Py_INCREF(v);
01523
01524     v = PyFloat_FromDouble(MUON_PROTON_MASS_RATIO);
01525     PyDict_SetItemString(d, "MUON_PROTON_MASS_RATIO", v);
01526     Py_INCREF(v);
01527     v = PyFloat_FromDouble(U_MUON_PROTON_MASS_RATIO);
01528     PyDict_SetItemString(d, "U_MUON_PROTON_MASS_RATIO", v);
01529     Py_INCREF(v);
01530
01531     v = PyFloat_FromDouble(MUON_TAU_MASS_RATIO);
01532     PyDict_SetItemString(d, "MUON_TAU_MASS_RATIO", v);
01533     Py_INCREF(v);
01534     v = PyFloat_FromDouble(U_MUON_TAU_MASS_RATIO);
01535     PyDict_SetItemString(d, "U_MUON_TAU_MASS_RATIO", v);
01536     Py_INCREF(v);
01537
01538     v = PyFloat_FromDouble(NATURAL_UNIT_OF_ACTION);
01539     PyDict_SetItemString(d, "NATURAL_UNIT_OF_ACTION", v);
01540     Py_INCREF(v);
01541     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ACTION);
01542     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ACTION", v);
01543     Py_INCREF(v);
01544
01545     v = PyFloat_FromDouble(NATURAL_UNIT_OF_ACTION_IN_EV_S);
01546     PyDict_SetItemString(d, "NATURAL_UNIT_OF_ACTION_IN_EV_S", v);
01547     Py_INCREF(v);
01548     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ACTION_IN_EV_S);
01549     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ACTION_IN_EV_S", v);
01550     Py_INCREF(v);
01551
01552     v = PyFloat_FromDouble(NATURAL_UNIT_OF_ENERGY);
01553     PyDict_SetItemString(d, "NATURAL_UNIT_OF_ENERGY", v);
01554     Py_INCREF(v);
01555     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ENERGY);
01556     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ENERGY", v);
01557     Py_INCREF(v);
01558
01559     v = PyFloat_FromDouble(NATURAL_UNIT_OF_ENERGY_IN_MEV);
01560     PyDict_SetItemString(d, "NATURAL_UNIT_OF_ENERGY_IN_MEV", v);
01561     Py_INCREF(v);
```

```
01562     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ENERGY_IN_MEV);
01563     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ENERGY_IN_MEV", v);
01564     Py_INCREF(v);
01565
01566     v = PyFloat_FromDouble(NATURAL_UNIT_OF_LENGTH);
01567     PyDict_SetItemString(d, "NATURAL_UNIT_OF_LENGTH", v);
01568     Py_INCREF(v);
01569     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_LENGTH);
01570     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_LENGTH", v);
01571     Py_INCREF(v);
01572
01573     v = PyFloat_FromDouble(NATURAL_UNIT_OF_MASS);
01574     PyDict_SetItemString(d, "NATURAL_UNIT_OF_MASS", v);
01575     Py_INCREF(v);
01576     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MASS);
01577     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MASS", v);
01578     Py_INCREF(v);
01579
01580     v = PyFloat_FromDouble(NATURAL_UNIT_OF_MOMENTUM);
01581     PyDict_SetItemString(d, "NATURAL_UNIT_OF_MOMENTUM", v);
01582     Py_INCREF(v);
01583     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MOMENTUM);
01584     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MOMENTUM", v);
01585     Py_INCREF(v);
01586
01587     v = PyFloat_FromDouble(NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C);
01588     PyDict_SetItemString(d, "NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C", v);
01589     Py_INCREF(v);
01590     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C);
01591     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C", v);
01592     Py_INCREF(v);
01593
01594     v = PyFloat_FromDouble(NATURAL_UNIT_OF_TIME);
01595     PyDict_SetItemString(d, "NATURAL_UNIT_OF_TIME", v);
01596     Py_INCREF(v);
01597     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_TIME);
01598     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_TIME", v);
01599     Py_INCREF(v);
01600
01601     v = PyFloat_FromDouble(NATURAL_UNIT_OF_VELOCITY);
01602     PyDict_SetItemString(d, "NATURAL_UNIT_OF_VELOCITY", v);
01603     Py_INCREF(v);
01604     v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_VELOCITY);
01605     PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_VELOCITY", v);
01606     Py_INCREF(v);
01607
01608     v = PyFloat_FromDouble(NEUTRON_COMPTON_WAVELENGTH);
01609     PyDict_SetItemString(d, "NEUTRON_COMPTON_WAVELENGTH", v);
01610     Py_INCREF(v);
01611     v = PyFloat_FromDouble(U_NEUTRON_COMPTON_WAVELENGTH);
01612     PyDict_SetItemString(d, "U_NEUTRON_COMPTON_WAVELENGTH", v);
01613     Py_INCREF(v);
01614
01615     v = PyFloat_FromDouble(NEUTRON_ELECTRON_MAG__MOM__RATIO);
01616     PyDict_SetItemString(d, "NEUTRON_ELECTRON_MAG__MOM__RATIO", v);
01617     Py_INCREF(v);
01618     v = PyFloat_FromDouble(U_NEUTRON_ELECTRON_MAG__MOM__RATIO);
01619     PyDict_SetItemString(d, "U_NEUTRON_ELECTRON_MAG__MOM__RATIO", v);
01620     Py_INCREF(v);
01621
01622     v = PyFloat_FromDouble(NEUTRON_ELECTRON_MASS_RATIO);
01623     PyDict_SetItemString(d, "NEUTRON_ELECTRON_MASS_RATIO", v);
01624     Py_INCREF(v);
01625     v = PyFloat_FromDouble(U_NEUTRON_ELECTRON_MASS_RATIO);
01626     PyDict_SetItemString(d, "U_NEUTRON_ELECTRON_MASS_RATIO", v);
01627     Py_INCREF(v);
01628
01629     v = PyFloat_FromDouble(NEUTRON_G_FACTOR);
01630     PyDict_SetItemString(d, "NEUTRON_G_FACTOR", v);
01631     Py_INCREF(v);
01632     v = PyFloat_FromDouble(U_NEUTRON_G_FACTOR);
01633     PyDict_SetItemString(d, "U_NEUTRON_G_FACTOR", v);
01634     Py_INCREF(v);
01635
01636     v = PyFloat_FromDouble(NEUTRON_GYROMAG__RATIO);
01637     PyDict_SetItemString(d, "NEUTRON_GYROMAG__RATIO", v);
01638     Py_INCREF(v);
01639     v = PyFloat_FromDouble(U_NEUTRON_GYROMAG__RATIO);
01640     PyDict_SetItemString(d, "U_NEUTRON_GYROMAG__RATIO", v);
01641     Py_INCREF(v);
01642
01643     v = PyFloat_FromDouble(NEUTRON_GYROMAG__RATIO_IN_MHZ_T);
01644     PyDict_SetItemString(d, "NEUTRON_GYROMAG__RATIO_IN_MHZ_T", v);
01645     Py_INCREF(v);
01646     v = PyFloat_FromDouble(U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T);
01647     PyDict_SetItemString(d, "U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T", v);
01648     Py_INCREF(v);
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01649
01650     v = PyFloat_FromDouble(NEUTRON_MAG__MOM);
01651     PyDict_SetItemString(d, "NEUTRON_MAG__MOM", v);
01652     Py_INCREF(v);
01653     v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM);
01654     PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM", v);
01655     Py_INCREF(v);
01656
01657     v = PyFloat_FromDouble(NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01658     PyDict_SetItemString(d, "NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01659     Py_INCREF(v);
01660     v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01661     PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01662     Py_INCREF(v);
01663
01664     v = PyFloat_FromDouble(NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01665     PyDict_SetItemString(d, "NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01666     Py_INCREF(v);
01667     v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01668     PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01669     Py_INCREF(v);
01670
01671     v = PyFloat_FromDouble(NEUTRON_MASS);
01672     PyDict_SetItemString(d, "NEUTRON_MASS", v);
01673     Py_INCREF(v);
01674     v = PyFloat_FromDouble(U_NEUTRON_MASS);
01675     PyDict_SetItemString(d, "U_NEUTRON_MASS", v);
01676     Py_INCREF(v);
01677
01678     v = PyFloat_FromDouble(NEUTRON_MASS_ENERGY_EQUIVALENT);
01679     PyDict_SetItemString(d, "NEUTRON_MASS_ENERGY_EQUIVALENT", v);
01680     Py_INCREF(v);
01681     v = PyFloat_FromDouble(U_NEUTRON_MASS_ENERGY_EQUIVALENT);
01682     PyDict_SetItemString(d, "U_NEUTRON_MASS_ENERGY_EQUIVALENT", v);
01683     Py_INCREF(v);
01684
01685     v = PyFloat_FromDouble(NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01686     PyDict_SetItemString(d, "NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01687     Py_INCREF(v);
01688     v = PyFloat_FromDouble(U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01689     PyDict_SetItemString(d, "U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01690     Py_INCREF(v);
01691
01692     v = PyFloat_FromDouble(NEUTRON_MASS_IN_U);
01693     PyDict_SetItemString(d, "NEUTRON_MASS_IN_U", v);
01694     Py_INCREF(v);
01695     v = PyFloat_FromDouble(U_NEUTRON_MASS_IN_U);
01696     PyDict_SetItemString(d, "U_NEUTRON_MASS_IN_U", v);
01697     Py_INCREF(v);
01698
01699     v = PyFloat_FromDouble(NEUTRON_MOLAR_MASS);
01700     PyDict_SetItemString(d, "NEUTRON_MOLAR_MASS", v);
01701     Py_INCREF(v);
01702     v = PyFloat_FromDouble(U_NEUTRON_MOLAR_MASS);
01703     PyDict_SetItemString(d, "U_NEUTRON_MOLAR_MASS", v);
01704     Py_INCREF(v);
01705
01706     v = PyFloat_FromDouble(NEUTRON_MUON_MASS_RATIO);
01707     PyDict_SetItemString(d, "NEUTRON_MUON_MASS_RATIO", v);
01708     Py_INCREF(v);
01709     v = PyFloat_FromDouble(U_NEUTRON_MUON_MASS_RATIO);
01710     PyDict_SetItemString(d, "U_NEUTRON_MUON_MASS_RATIO", v);
01711     Py_INCREF(v);
01712
01713     v = PyFloat_FromDouble(NEUTRON_PROTON_MAG__MOM__RATIO);
01714     PyDict_SetItemString(d, "NEUTRON_PROTON_MAG__MOM__RATIO", v);
01715     Py_INCREF(v);
01716     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MAG__MOM__RATIO);
01717     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MAG__MOM__RATIO", v);
01718     Py_INCREF(v);
01719
01720     v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE);
01721     PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE", v);
01722     Py_INCREF(v);
01723     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE);
01724     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE", v);
01725     Py_INCREF(v);
01726
01727     v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT);
01728     PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT", v);
01729     Py_INCREF(v);
01730     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT);
01731     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT", v);
01732     Py_INCREF(v);
01733
01734     v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV);
01735     PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV", v);
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01736     Py_INCREF(v);
01737     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV);
01738     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV", v);
01739     Py_INCREF(v);
01740
01741     v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_IN_U);
01742     PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_IN_U", v);
01743     Py_INCREF(v);
01744     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U);
01745     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U", v);
01746     Py_INCREF(v);
01747
01748     v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_RATIO);
01749     PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_RATIO", v);
01750     Py_INCREF(v);
01751     v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_RATIO);
01752     PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_RATIO", v);
01753     Py_INCREF(v);
01754
01755     v = PyFloat_FromDouble(NEUTRON_RELATIVE_ATOMIC_MASS);
01756     PyDict_SetItemString(d, "NEUTRON_RELATIVE_ATOMIC_MASS", v);
01757     Py_INCREF(v);
01758     v = PyFloat_FromDouble(U_NEUTRON_RELATIVE_ATOMIC_MASS);
01759     PyDict_SetItemString(d, "U_NEUTRON_RELATIVE_ATOMIC_MASS", v);
01760     Py_INCREF(v);
01761
01762     v = PyFloat_FromDouble(NEUTRON_TAU_MASS_RATIO);
01763     PyDict_SetItemString(d, "NEUTRON_TAU_MASS_RATIO", v);
01764     Py_INCREF(v);
01765     v = PyFloat_FromDouble(U_NEUTRON_TAU_MASS_RATIO);
01766     PyDict_SetItemString(d, "U_NEUTRON_TAU_MASS_RATIO", v);
01767     Py_INCREF(v);
01768
01769     v = PyFloat_FromDouble(NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
01770     PyDict_SetItemString(d, "NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
01771     Py_INCREF(v);
01772     v = PyFloat_FromDouble(U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
01773     PyDict_SetItemString(d, "U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
01774     Py_INCREF(v);
01775
01776     v = PyFloat_FromDouble(NEWTONIAN_CONSTANT_OF_GRAVITATION);
01777     PyDict_SetItemString(d, "NEWTONIAN_CONSTANT_OF_GRAVITATION", v);
01778     Py_INCREF(v);
01779     v = PyFloat_FromDouble(U_NEWTONIAN_CONSTANT_OF_GRAVITATION);
01780     PyDict_SetItemString(d, "U_NEWTONIAN_CONSTANT_OF_GRAVITATION", v);
01781     Py_INCREF(v);
01782
01783     v = PyFloat_FromDouble(NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C);
01784     PyDict_SetItemString(d, "NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C", v);
01785     Py_INCREF(v);
01786     v = PyFloat_FromDouble(U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C);
01787     PyDict_SetItemString(d, "U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C", v);
01788     Py_INCREF(v);
01789
01790     v = PyFloat_FromDouble(NUCLEAR_MAGNETON);
01791     PyDict_SetItemString(d, "NUCLEAR_MAGNETON", v);
01792     Py_INCREF(v);
01793     v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON);
01794     PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON", v);
01795     Py_INCREF(v);
01796
01797     v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_EV_T);
01798     PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_EV_T", v);
01799     Py_INCREF(v);
01800     v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_EV_T);
01801     PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_EV_T", v);
01802     Py_INCREF(v);
01803
01804     v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
01805     PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
01806     Py_INCREF(v);
01807     v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
01808     PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
01809     Py_INCREF(v);
01810
01811     v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_K_T);
01812     PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_K_T", v);
01813     Py_INCREF(v);
01814     v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_K_T);
01815     PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_K_T", v);
01816     Py_INCREF(v);
01817
01818     v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_MHZ_T);
01819     PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_MHZ_T", v);
01820     Py_INCREF(v);
01821     v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_MHZ_T);
01822     PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_MHZ_T", v);
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01823     Py_INCREF(v);
01824
01825     v = PyFloat_FromDouble(PLANCK_CONSTANT);
01826     PyDict_SetItemString(d, "PLANCK_CONSTANT", v);
01827     Py_INCREF(v);
01828     v = PyFloat_FromDouble(U_PLANCK_CONSTANT);
01829     PyDict_SetItemString(d, "U_PLANCK_CONSTANT", v);
01830     Py_INCREF(v);
01831
01832     v = PyFloat_FromDouble(PLANCK_CONSTANT_IN_EV_HZ);
01833     PyDict_SetItemString(d, "PLANCK_CONSTANT_IN_EV_HZ", v);
01834     Py_INCREF(v);
01835     v = PyFloat_FromDouble(U_PLANCK_CONSTANT_IN_EV_HZ);
01836     PyDict_SetItemString(d, "U_PLANCK_CONSTANT_IN_EV_HZ", v);
01837     Py_INCREF(v);
01838
01839     v = PyFloat_FromDouble(PLANCK_LENGTH);
01840     PyDict_SetItemString(d, "PLANCK_LENGTH", v);
01841     Py_INCREF(v);
01842     v = PyFloat_FromDouble(U_PLANCK_LENGTH);
01843     PyDict_SetItemString(d, "U_PLANCK_LENGTH", v);
01844     Py_INCREF(v);
01845
01846     v = PyFloat_FromDouble(PLANCK_MASS);
01847     PyDict_SetItemString(d, "PLANCK_MASS", v);
01848     Py_INCREF(v);
01849     v = PyFloat_FromDouble(U_PLANCK_MASS);
01850     PyDict_SetItemString(d, "U_PLANCK_MASS", v);
01851     Py_INCREF(v);
01852
01853     v = PyFloat_FromDouble(PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV);
01854     PyDict_SetItemString(d, "PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV", v);
01855     Py_INCREF(v);
01856     v = PyFloat_FromDouble(U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV);
01857     PyDict_SetItemString(d, "U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV", v);
01858     Py_INCREF(v);
01859
01860     v = PyFloat_FromDouble(PLANCK_TEMPERATURE);
01861     PyDict_SetItemString(d, "PLANCK_TEMPERATURE", v);
01862     Py_INCREF(v);
01863     v = PyFloat_FromDouble(U_PLANCK_TEMPERATURE);
01864     PyDict_SetItemString(d, "U_PLANCK_TEMPERATURE", v);
01865     Py_INCREF(v);
01866
01867     v = PyFloat_FromDouble(PLANCK_TIME);
01868     PyDict_SetItemString(d, "PLANCK_TIME", v);
01869     Py_INCREF(v);
01870     v = PyFloat_FromDouble(U_PLANCK_TIME);
01871     PyDict_SetItemString(d, "U_PLANCK_TIME", v);
01872     Py_INCREF(v);
01873
01874     v = PyFloat_FromDouble(PROTON_CHARGE_TO_MASS_QUOTIENT);
01875     PyDict_SetItemString(d, "PROTON_CHARGE_TO_MASS_QUOTIENT", v);
01876     Py_INCREF(v);
01877     v = PyFloat_FromDouble(U_PROTON_CHARGE_TO_MASS_QUOTIENT);
01878     PyDict_SetItemString(d, "U_PROTON_CHARGE_TO_MASS_QUOTIENT", v);
01879     Py_INCREF(v);
01880
01881     v = PyFloat_FromDouble(PROTON_COMPTON_WAVELENGTH);
01882     PyDict_SetItemString(d, "PROTON_COMPTON_WAVELENGTH", v);
01883     Py_INCREF(v);
01884     v = PyFloat_FromDouble(U_PROTON_COMPTON_WAVELENGTH);
01885     PyDict_SetItemString(d, "U_PROTON_COMPTON_WAVELENGTH", v);
01886     Py_INCREF(v);
01887
01888     v = PyFloat_FromDouble(PROTON_ELECTRON_MASS_RATIO);
01889     PyDict_SetItemString(d, "PROTON_ELECTRON_MASS_RATIO", v);
01890     Py_INCREF(v);
01891     v = PyFloat_FromDouble(U_PROTON_ELECTRON_MASS_RATIO);
01892     PyDict_SetItemString(d, "U_PROTON_ELECTRON_MASS_RATIO", v);
01893     Py_INCREF(v);
01894
01895     v = PyFloat_FromDouble(PROTON_G_FACTOR);
01896     PyDict_SetItemString(d, "PROTON_G_FACTOR", v);
01897     Py_INCREF(v);
01898     v = PyFloat_FromDouble(U_PROTON_G_FACTOR);
01899     PyDict_SetItemString(d, "U_PROTON_G_FACTOR", v);
01900     Py_INCREF(v);
01901
01902     v = PyFloat_FromDouble(PROTON_GYROMAG__RATIO);
01903     PyDict_SetItemString(d, "PROTON_GYROMAG__RATIO", v);
01904     Py_INCREF(v);
01905     v = PyFloat_FromDouble(U_PROTON_GYROMAG__RATIO);
01906     PyDict_SetItemString(d, "U_PROTON_GYROMAG__RATIO", v);
01907     Py_INCREF(v);
01908
01909     v = PyFloat_FromDouble(PROTON_GYROMAG__RATIO_IN_MHZ_T);
```

```
01910     PyDict_SetItemString(d, "PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
01911     Py_INCREF(v);
01912     v = PyFloat_FromDouble(U_PROTON_GYROMAG__RATIO_IN_MHZ_T);
01913     PyDict_SetItemString(d, "U_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
01914     Py_INCREF(v);
01915
01916     v = PyFloat_FromDouble(PROTON_MAG__MOM);
01917     PyDict_SetItemString(d, "PROTON_MAG__MOM", v);
01918     Py_INCREF(v);
01919     v = PyFloat_FromDouble(U_PROTON_MAG__MOM);
01920     PyDict_SetItemString(d, "U_PROTON_MAG__MOM", v);
01921     Py_INCREF(v);
01922
01923     v = PyFloat_FromDouble(PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01924     PyDict_SetItemString(d, "PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01925     Py_INCREF(v);
01926     v = PyFloat_FromDouble(U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
01927     PyDict_SetItemString(d, "U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
01928     Py_INCREF(v);
01929
01930     v = PyFloat_FromDouble(PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01931     PyDict_SetItemString(d, "PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01932     Py_INCREF(v);
01933     v = PyFloat_FromDouble(U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
01934     PyDict_SetItemString(d, "U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
01935     Py_INCREF(v);
01936
01937     v = PyFloat_FromDouble(PROTON_MAG__SHIELDING_CORRECTION);
01938     PyDict_SetItemString(d, "PROTON_MAG__SHIELDING_CORRECTION", v);
01939     Py_INCREF(v);
01940     v = PyFloat_FromDouble(U_PROTON_MAG__SHIELDING_CORRECTION);
01941     PyDict_SetItemString(d, "U_PROTON_MAG__SHIELDING_CORRECTION", v);
01942     Py_INCREF(v);
01943
01944     v = PyFloat_FromDouble(PROTON_MASS);
01945     PyDict_SetItemString(d, "PROTON_MASS", v);
01946     Py_INCREF(v);
01947     v = PyFloat_FromDouble(U_PROTON_MASS);
01948     PyDict_SetItemString(d, "U_PROTON_MASS", v);
01949     Py_INCREF(v);
01950
01951     v = PyFloat_FromDouble(PROTON_MASS_ENERGY_EQUIVALENT);
01952     PyDict_SetItemString(d, "PROTON_MASS_ENERGY_EQUIVALENT", v);
01953     Py_INCREF(v);
01954     v = PyFloat_FromDouble(U_PROTON_MASS_ENERGY_EQUIVALENT);
01955     PyDict_SetItemString(d, "U_PROTON_MASS_ENERGY_EQUIVALENT", v);
01956     Py_INCREF(v);
01957
01958     v = PyFloat_FromDouble(PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01959     PyDict_SetItemString(d, "PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01960     Py_INCREF(v);
01961     v = PyFloat_FromDouble(U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV);
01962     PyDict_SetItemString(d, "U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
01963     Py_INCREF(v);
01964
01965     v = PyFloat_FromDouble(PROTON_MASS_IN_U);
01966     PyDict_SetItemString(d, "PROTON_MASS_IN_U", v);
01967     Py_INCREF(v);
01968     v = PyFloat_FromDouble(U_PROTON_MASS_IN_U);
01969     PyDict_SetItemString(d, "U_PROTON_MASS_IN_U", v);
01970     Py_INCREF(v);
01971
01972     v = PyFloat_FromDouble(PROTON_MOLAR_MASS);
01973     PyDict_SetItemString(d, "PROTON_MOLAR_MASS", v);
01974     Py_INCREF(v);
01975     v = PyFloat_FromDouble(U_PROTON_MOLAR_MASS);
01976     PyDict_SetItemString(d, "U_PROTON_MOLAR_MASS", v);
01977     Py_INCREF(v);
01978
01979     v = PyFloat_FromDouble(PROTON_MUON_MASS_RATIO);
01980     PyDict_SetItemString(d, "PROTON_MUON_MASS_RATIO", v);
01981     Py_INCREF(v);
01982     v = PyFloat_FromDouble(U_PROTON_MUON_MASS_RATIO);
01983     PyDict_SetItemString(d, "U_PROTON_MUON_MASS_RATIO", v);
01984     Py_INCREF(v);
01985
01986     v = PyFloat_FromDouble(PROTON_NEUTRON_MAG__MOM__RATIO);
01987     PyDict_SetItemString(d, "PROTON_NEUTRON_MAG__MOM__RATIO", v);
01988     Py_INCREF(v);
01989     v = PyFloat_FromDouble(U_PROTON_NEUTRON_MAG__MOM__RATIO);
01990     PyDict_SetItemString(d, "U_PROTON_NEUTRON_MAG__MOM__RATIO", v);
01991     Py_INCREF(v);
01992
01993     v = PyFloat_FromDouble(PROTON_NEUTRON_MASS_RATIO);
01994     PyDict_SetItemString(d, "PROTON_NEUTRON_MASS_RATIO", v);
01995     Py_INCREF(v);
01996     v = PyFloat_FromDouble(U_PROTON_NEUTRON_MASS_RATIO);
```

```
01997     PyDict_SetItemString(d, "U_PROTON_NEUTRON_MASS_RATIO", v);
01998     Py_INCREF(v);
01999
02000     v = PyFloat_FromDouble(PROTON_RELATIVE_ATOMIC_MASS);
02001     PyDict_SetItemString(d, "PROTON_RELATIVE_ATOMIC_MASS", v);
02002     Py_INCREF(v);
02003     v = PyFloat_FromDouble(U_PROTON_RELATIVE_ATOMIC_MASS);
02004     PyDict_SetItemString(d, "U_PROTON_RELATIVE_ATOMIC_MASS", v);
02005     Py_INCREF(v);
02006
02007     v = PyFloat_FromDouble(PROTON_RMS_CHARGE_RADIUS);
02008     PyDict_SetItemString(d, "PROTON_RMS_CHARGE_RADIUS", v);
02009     Py_INCREF(v);
02010     v = PyFloat_FromDouble(U_PROTON_RMS_CHARGE_RADIUS);
02011     PyDict_SetItemString(d, "U_PROTON_RMS_CHARGE_RADIUS", v);
02012     Py_INCREF(v);
02013
02014     v = PyFloat_FromDouble(PROTON_TAU_MASS_RATIO);
02015     PyDict_SetItemString(d, "PROTON_TAU_MASS_RATIO", v);
02016     Py_INCREF(v);
02017     v = PyFloat_FromDouble(U_PROTON_TAU_MASS_RATIO);
02018     PyDict_SetItemString(d, "U_PROTON_TAU_MASS_RATIO", v);
02019     Py_INCREF(v);
02020
02021     v = PyFloat_FromDouble(QUANTUM_OF_CIRCULATION);
02022     PyDict_SetItemString(d, "QUANTUM_OF_CIRCULATION", v);
02023     Py_INCREF(v);
02024     v = PyFloat_FromDouble(U_QUANTUM_OF_CIRCULATION);
02025     PyDict_SetItemString(d, "U_QUANTUM_OF_CIRCULATION", v);
02026     Py_INCREF(v);
02027
02028     v = PyFloat_FromDouble(QUANTUM_OF_CIRCULATION_TIMES_2);
02029     PyDict_SetItemString(d, "QUANTUM_OF_CIRCULATION_TIMES_2", v);
02030     Py_INCREF(v);
02031     v = PyFloat_FromDouble(U_QUANTUM_OF_CIRCULATION_TIMES_2);
02032     PyDict_SetItemString(d, "U_QUANTUM_OF_CIRCULATION_TIMES_2", v);
02033     Py_INCREF(v);
02034
02035     v = PyFloat_FromDouble(REDUCED_COMPTON_WAVELENGTH);
02036     PyDict_SetItemString(d, "REDUCED_COMPTON_WAVELENGTH", v);
02037     Py_INCREF(v);
02038     v = PyFloat_FromDouble(U_REDUCED_COMPTON_WAVELENGTH);
02039     PyDict_SetItemString(d, "U_REDUCED_COMPTON_WAVELENGTH", v);
02040     Py_INCREF(v);
02041
02042     v = PyFloat_FromDouble(REDUCED_MUON_COMPTON_WAVELENGTH);
02043     PyDict_SetItemString(d, "REDUCED_MUON_COMPTON_WAVELENGTH", v);
02044     Py_INCREF(v);
02045     v = PyFloat_FromDouble(U_REDUCED_MUON_COMPTON_WAVELENGTH);
02046     PyDict_SetItemString(d, "U_REDUCED_MUON_COMPTON_WAVELENGTH", v);
02047     Py_INCREF(v);
02048
02049     v = PyFloat_FromDouble(REDUCED_NEUTRON_COMPTON_WAVELENGTH);
02050     PyDict_SetItemString(d, "REDUCED_NEUTRON_COMPTON_WAVELENGTH", v);
02051     Py_INCREF(v);
02052     v = PyFloat_FromDouble(U_REDUCED_NEUTRON_COMPTON_WAVELENGTH);
02053     PyDict_SetItemString(d, "U_REDUCED_NEUTRON_COMPTON_WAVELENGTH", v);
02054     Py_INCREF(v);
02055
02056     v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT);
02057     PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT", v);
02058     Py_INCREF(v);
02059     v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT);
02060     PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT", v);
02061     Py_INCREF(v);
02062
02063     v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT_IN_EV_S);
02064     PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT_IN_EV_S", v);
02065     Py_INCREF(v);
02066     v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT_IN_EV_S);
02067     PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT_IN_EV_S", v);
02068     Py_INCREF(v);
02069
02070     v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM);
02071     PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM", v);
02072     Py_INCREF(v);
02073     v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM);
02074     PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM", v);
02075     Py_INCREF(v);
02076
02077     v = PyFloat_FromDouble(REDUCED_PROTON_COMPTON_WAVELENGTH);
02078     PyDict_SetItemString(d, "REDUCED_PROTON_COMPTON_WAVELENGTH", v);
02079     Py_INCREF(v);
02080     v = PyFloat_FromDouble(U_REDUCED_PROTON_COMPTON_WAVELENGTH);
02081     PyDict_SetItemString(d, "U_REDUCED_PROTON_COMPTON_WAVELENGTH", v);
02082     Py_INCREF(v);
02083
```

```
02084     v = PyFloat_FromDouble(REDUCED_TAU_COMPTON_WAVELENGTH);
02085     PyDict_SetItemString(d, "REDUCED_TAU_COMPTON_WAVELENGTH", v);
02086     Py_INCREF(v);
02087     v = PyFloat_FromDouble(U_REDUCED_TAU_COMPTON_WAVELENGTH);
02088     PyDict_SetItemString(d, "U_REDUCED_TAU_COMPTON_WAVELENGTH", v);
02089     Py_INCREF(v);
02090
02091     v = PyFloat_FromDouble(RYDBERG_CONSTANT);
02092     PyDict_SetItemString(d, "RYDBERG_CONSTANT", v);
02093     Py_INCREF(v);
02094     v = PyFloat_FromDouble(U_RYDBERG_CONSTANT);
02095     PyDict_SetItemString(d, "U_RYDBERG_CONSTANT", v);
02096     Py_INCREF(v);
02097
02098     v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_C_IN_HZ);
02099     PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_C_IN_HZ", v);
02100     Py_INCREF(v);
02101     v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_C_IN_HZ);
02102     PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_C_IN_HZ", v);
02103     Py_INCREF(v);
02104
02105     v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_HC_IN_EV);
02106     PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_HC_IN_EV", v);
02107     Py_INCREF(v);
02108     v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_HC_IN_EV);
02109     PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_HC_IN_EV", v);
02110     Py_INCREF(v);
02111
02112     v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_HC_IN_J);
02113     PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_HC_IN_J", v);
02114     Py_INCREF(v);
02115     v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_HC_IN_J);
02116     PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_HC_IN_J", v);
02117     Py_INCREF(v);
02118
02119     v = PyFloat_FromDouble(SACKUR_TETRODE_CONSTANT__1_K__100_KPA);
02120     PyDict_SetItemString(d, "SACKUR_TETRODE_CONSTANT__1_K__100_KPA", v);
02121     Py_INCREF(v);
02122     v = PyFloat_FromDouble(U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA);
02123     PyDict_SetItemString(d, "U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA", v);
02124     Py_INCREF(v);
02125
02126     v = PyFloat_FromDouble(SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA);
02127     PyDict_SetItemString(d, "SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA", v);
02128     Py_INCREF(v);
02129     v = PyFloat_FromDouble(U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA);
02130     PyDict_SetItemString(d, "U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA", v);
02131     Py_INCREF(v);
02132
02133     v = PyFloat_FromDouble(SECOND_RADIATION_CONSTANT);
02134     PyDict_SetItemString(d, "SECOND_RADIATION_CONSTANT", v);
02135     Py_INCREF(v);
02136     v = PyFloat_FromDouble(U_SECOND_RADIATION_CONSTANT);
02137     PyDict_SetItemString(d, "U_SECOND_RADIATION_CONSTANT", v);
02138     Py_INCREF(v);
02139
02140     v = PyFloat_FromDouble(SHIELDED_HELION_GYROMAG__RATIO);
02141     PyDict_SetItemString(d, "SHIELDED_HELION_GYROMAG__RATIO", v);
02142     Py_INCREF(v);
02143     v = PyFloat_FromDouble(U_SHIELDED_HELION_GYROMAG__RATIO);
02144     PyDict_SetItemString(d, "U_SHIELDED_HELION_GYROMAG__RATIO", v);
02145     Py_INCREF(v);
02146
02147     v = PyFloat_FromDouble(SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T);
02148     PyDict_SetItemString(d, "SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T", v);
02149     Py_INCREF(v);
02150     v = PyFloat_FromDouble(U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T);
02151     PyDict_SetItemString(d, "U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T", v);
02152     Py_INCREF(v);
02153
02154     v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM);
02155     PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM", v);
02156     Py_INCREF(v);
02157     v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM);
02158     PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM", v);
02159     Py_INCREF(v);
02160
02161     v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02162     PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02163     Py_INCREF(v);
02164     v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02165     PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02166     Py_INCREF(v);
02167
02168     v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02169     PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02170     Py_INCREF(v);
```

```
02171     v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02172     PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02173     Py_INCREF(v);
02174
02175     v = PyFloat_FromDouble(SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO);
02176     PyDict_SetItemString(d, "SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO", v);
02177     Py_INCREF(v);
02178     v = PyFloat_FromDouble(U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO);
02179     PyDict_SetItemString(d, "U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO", v);
02180     Py_INCREF(v);
02181
02182     v = PyFloat_FromDouble(SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
02183     PyDict_SetItemString(d, "SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
02184     Py_INCREF(v);
02185     v = PyFloat_FromDouble(U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
02186     PyDict_SetItemString(d, "U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
02187     Py_INCREF(v);
02188
02189     v = PyFloat_FromDouble(SHIELDED_PROTON_GYROMAG__RATIO);
02190     PyDict_SetItemString(d, "SHIELDED_PROTON_GYROMAG__RATIO", v);
02191     Py_INCREF(v);
02192     v = PyFloat_FromDouble(U_SHIELDED_PROTON_GYROMAG__RATIO);
02193     PyDict_SetItemString(d, "U_SHIELDED_PROTON_GYROMAG__RATIO", v);
02194     Py_INCREF(v);
02195
02196     v = PyFloat_FromDouble(SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T);
02197     PyDict_SetItemString(d, "SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
02198     Py_INCREF(v);
02199     v = PyFloat_FromDouble(U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T);
02200     PyDict_SetItemString(d, "U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
02201     Py_INCREF(v);
02202
02203     v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM);
02204     PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM", v);
02205     Py_INCREF(v);
02206     v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM);
02207     PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM", v);
02208     Py_INCREF(v);
02209
02210     v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02211     PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02212     Py_INCREF(v);
02213     v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02214     PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02215     Py_INCREF(v);
02216
02217     v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02218     PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02219     Py_INCREF(v);
02220     v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02221     PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02222     Py_INCREF(v);
02223
02224     v = PyFloat_FromDouble(SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD);
02225     PyDict_SetItemString(d, "SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD", v);
02226     Py_INCREF(v);
02227     v = PyFloat_FromDouble(U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD);
02228     PyDict_SetItemString(d, "U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD", v);
02229     Py_INCREF(v);
02230
02231     v = PyFloat_FromDouble(SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT);
02232     PyDict_SetItemString(d, "SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT", v);
02233     Py_INCREF(v);
02234     v = PyFloat_FromDouble(U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT);
02235     PyDict_SetItemString(d, "U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT", v);
02236     Py_INCREF(v);
02237
02238     v = PyFloat_FromDouble(SPEED_OF_LIGHT_IN_VACUUM);
02239     PyDict_SetItemString(d, "SPEED_OF_LIGHT_IN_VACUUM", v);
02240     Py_INCREF(v);
02241     v = PyFloat_FromDouble(U_SPEED_OF_LIGHT_IN_VACUUM);
02242     PyDict_SetItemString(d, "U_SPEED_OF_LIGHT_IN_VACUUM", v);
02243     Py_INCREF(v);
02244
02245     v = PyFloat_FromDouble(STANDARD_ACCELERATION_OF_GRAVITY);
02246     PyDict_SetItemString(d, "STANDARD_ACCELERATION_OF_GRAVITY", v);
02247     Py_INCREF(v);
02248     v = PyFloat_FromDouble(U_STANDARD_ACCELERATION_OF_GRAVITY);
02249     PyDict_SetItemString(d, "U_STANDARD_ACCELERATION_OF_GRAVITY", v);
02250     Py_INCREF(v);
02251
02252     v = PyFloat_FromDouble(STANDARD_ATMOSPHERE);
02253     PyDict_SetItemString(d, "STANDARD_ATMOSPHERE", v);
02254     Py_INCREF(v);
02255     v = PyFloat_FromDouble(U_STANDARD_ATMOSPHERE);
02256     PyDict_SetItemString(d, "U_STANDARD_ATMOSPHERE", v);
02257     Py_INCREF(v);
```

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02258
02259     v = PyFloat_FromDouble(STANDARD_STATE_PRESSURE);
02260     PyDict_SetItemString(d, "STANDARD_STATE_PRESSURE", v);
02261     Py_INCREF(v);
02262     v = PyFloat_FromDouble(U_STANDARD_STATE_PRESSURE);
02263     PyDict_SetItemString(d, "U_STANDARD_STATE_PRESSURE", v);
02264     Py_INCREF(v);
02265
02266     v = PyFloat_FromDouble(STEFAN_BOLTZMANN_CONSTANT);
02267     PyDict_SetItemString(d, "STEFAN_BOLTZMANN_CONSTANT", v);
02268     Py_INCREF(v);
02269     v = PyFloat_FromDouble(U_STEFAN_BOLTZMANN_CONSTANT);
02270     PyDict_SetItemString(d, "U_STEFAN_BOLTZMANN_CONSTANT", v);
02271     Py_INCREF(v);
02272
02273     v = PyFloat_FromDouble(TAU_COMPTON_WAVELENGTH);
02274     PyDict_SetItemString(d, "TAU_COMPTON_WAVELENGTH", v);
02275     Py_INCREF(v);
02276     v = PyFloat_FromDouble(U_TAU_COMPTON_WAVELENGTH);
02277     PyDict_SetItemString(d, "U_TAU_COMPTON_WAVELENGTH", v);
02278     Py_INCREF(v);
02279
02280     v = PyFloat_FromDouble(TAU_ELECTRON_MASS_RATIO);
02281     PyDict_SetItemString(d, "TAU_ELECTRON_MASS_RATIO", v);
02282     Py_INCREF(v);
02283     v = PyFloat_FromDouble(U_TAU_ELECTRON_MASS_RATIO);
02284     PyDict_SetItemString(d, "U_TAU_ELECTRON_MASS_RATIO", v);
02285     Py_INCREF(v);
02286
02287     v = PyFloat_FromDouble(TAU_ENERGY_EQUIVALENT);
02288     PyDict_SetItemString(d, "TAU_ENERGY_EQUIVALENT", v);
02289     Py_INCREF(v);
02290     v = PyFloat_FromDouble(U_TAU_ENERGY_EQUIVALENT);
02291     PyDict_SetItemString(d, "U_TAU_ENERGY_EQUIVALENT", v);
02292     Py_INCREF(v);
02293
02294     v = PyFloat_FromDouble(TAU_MASS);
02295     PyDict_SetItemString(d, "TAU_MASS", v);
02296     Py_INCREF(v);
02297     v = PyFloat_FromDouble(U_TAU_MASS);
02298     PyDict_SetItemString(d, "U_TAU_MASS", v);
02299     Py_INCREF(v);
02300
02301     v = PyFloat_FromDouble(TAU_MASS_ENERGY_EQUIVALENT);
02302     PyDict_SetItemString(d, "TAU_MASS_ENERGY_EQUIVALENT", v);
02303     Py_INCREF(v);
02304     v = PyFloat_FromDouble(U_TAU_MASS_ENERGY_EQUIVALENT);
02305     PyDict_SetItemString(d, "U_TAU_MASS_ENERGY_EQUIVALENT", v);
02306     Py_INCREF(v);
02307
02308     v = PyFloat_FromDouble(TAU_MASS_IN_U);
02309     PyDict_SetItemString(d, "TAU_MASS_IN_U", v);
02310     Py_INCREF(v);
02311     v = PyFloat_FromDouble(U_TAU_MASS_IN_U);
02312     PyDict_SetItemString(d, "U_TAU_MASS_IN_U", v);
02313     Py_INCREF(v);
02314
02315     v = PyFloat_FromDouble(TAU_MOLAR_MASS);
02316     PyDict_SetItemString(d, "TAU_MOLAR_MASS", v);
02317     Py_INCREF(v);
02318     v = PyFloat_FromDouble(U_TAU_MOLAR_MASS);
02319     PyDict_SetItemString(d, "U_TAU_MOLAR_MASS", v);
02320     Py_INCREF(v);
02321
02322     v = PyFloat_FromDouble(TAU_MUON_MASS_RATIO);
02323     PyDict_SetItemString(d, "TAU_MUON_MASS_RATIO", v);
02324     Py_INCREF(v);
02325     v = PyFloat_FromDouble(U_TAU_MUON_MASS_RATIO);
02326     PyDict_SetItemString(d, "U_TAU_MUON_MASS_RATIO", v);
02327     Py_INCREF(v);
02328
02329     v = PyFloat_FromDouble(TAU_NEUTRON_MASS_RATIO);
02330     PyDict_SetItemString(d, "TAU_NEUTRON_MASS_RATIO", v);
02331     Py_INCREF(v);
02332     v = PyFloat_FromDouble(U_TAU_NEUTRON_MASS_RATIO);
02333     PyDict_SetItemString(d, "U_TAU_NEUTRON_MASS_RATIO", v);
02334     Py_INCREF(v);
02335
02336     v = PyFloat_FromDouble(TAU_PROTON_MASS_RATIO);
02337     PyDict_SetItemString(d, "TAU_PROTON_MASS_RATIO", v);
02338     Py_INCREF(v);
02339     v = PyFloat_FromDouble(U_TAU_PROTON_MASS_RATIO);
02340     PyDict_SetItemString(d, "U_TAU_PROTON_MASS_RATIO", v);
02341     Py_INCREF(v);
02342
02343     v = PyFloat_FromDouble(THOMSON_CROSS_SECTION);
02344     PyDict_SetItemString(d, "THOMSON_CROSS_SECTION", v);
```

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02345     Py_INCREF(v);
02346     v = PyFloat_FromDouble(U_THOMSON_CROSS_SECTION);
02347     PyDict_SetItemString(d, "U_THOMSON_CROSS_SECTION", v);
02348     Py_INCREF(v);
02349
02350     v = PyFloat_FromDouble(TRITON_ELECTRON_MASS_RATIO);
02351     PyDict_SetItemString(d, "TRITON_ELECTRON_MASS_RATIO", v);
02352     Py_INCREF(v);
02353     v = PyFloat_FromDouble(U_TRITON_ELECTRON_MASS_RATIO);
02354     PyDict_SetItemString(d, "U_TRITON_ELECTRON_MASS_RATIO", v);
02355     Py_INCREF(v);
02356
02357     v = PyFloat_FromDouble(TRITON_G_FACTOR);
02358     PyDict_SetItemString(d, "TRITON_G_FACTOR", v);
02359     Py_INCREF(v);
02360     v = PyFloat_FromDouble(U_TRITON_G_FACTOR);
02361     PyDict_SetItemString(d, "U_TRITON_G_FACTOR", v);
02362     Py_INCREF(v);
02363
02364     v = PyFloat_FromDouble(TRITON_MAG__MOM);
02365     PyDict_SetItemString(d, "TRITON_MAG__MOM", v);
02366     Py_INCREF(v);
02367     v = PyFloat_FromDouble(U_TRITON_MAG__MOM);
02368     PyDict_SetItemString(d, "U_TRITON_MAG__MOM", v);
02369     Py_INCREF(v);
02370
02371     v = PyFloat_FromDouble(TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02372     PyDict_SetItemString(d, "TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02373     Py_INCREF(v);
02374     v = PyFloat_FromDouble(U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
02375     PyDict_SetItemString(d, "U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
02376     Py_INCREF(v);
02377
02378     v = PyFloat_FromDouble(TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02379     PyDict_SetItemString(d, "TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02380     Py_INCREF(v);
02381     v = PyFloat_FromDouble(U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
02382     PyDict_SetItemString(d, "U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
02383     Py_INCREF(v);
02384
02385     v = PyFloat_FromDouble(TRITON_MASS);
02386     PyDict_SetItemString(d, "TRITON_MASS", v);
02387     Py_INCREF(v);
02388     v = PyFloat_FromDouble(U_TRITON_MASS);
02389     PyDict_SetItemString(d, "U_TRITON_MASS", v);
02390     Py_INCREF(v);
02391
02392     v = PyFloat_FromDouble(TRITON_MASS_ENERGY_EQUIVALENT);
02393     PyDict_SetItemString(d, "TRITON_MASS_ENERGY_EQUIVALENT", v);
02394     Py_INCREF(v);
02395     v = PyFloat_FromDouble(U_TRITON_MASS_ENERGY_EQUIVALENT);
02396     PyDict_SetItemString(d, "U_TRITON_MASS_ENERGY_EQUIVALENT", v);
02397     Py_INCREF(v);
02398
02399     v = PyFloat_FromDouble(TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV);
02400     PyDict_SetItemString(d, "TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
02401     Py_INCREF(v);
02402     v = PyFloat_FromDouble(U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV);
02403     PyDict_SetItemString(d, "U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
02404     Py_INCREF(v);
02405
02406     v = PyFloat_FromDouble(TRITON_MASS_IN_U);
02407     PyDict_SetItemString(d, "TRITON_MASS_IN_U", v);
02408     Py_INCREF(v);
02409     v = PyFloat_FromDouble(U_TRITON_MASS_IN_U);
02410     PyDict_SetItemString(d, "U_TRITON_MASS_IN_U", v);
02411     Py_INCREF(v);
02412
02413     v = PyFloat_FromDouble(TRITON_MOLAR_MASS);
02414     PyDict_SetItemString(d, "TRITON_MOLAR_MASS", v);
02415     Py_INCREF(v);
02416     v = PyFloat_FromDouble(U_TRITON_MOLAR_MASS);
02417     PyDict_SetItemString(d, "U_TRITON_MOLAR_MASS", v);
02418     Py_INCREF(v);
02419
02420     v = PyFloat_FromDouble(TRITON_PROTON_MASS_RATIO);
02421     PyDict_SetItemString(d, "TRITON_PROTON_MASS_RATIO", v);
02422     Py_INCREF(v);
02423     v = PyFloat_FromDouble(U_TRITON_PROTON_MASS_RATIO);
02424     PyDict_SetItemString(d, "U_TRITON_PROTON_MASS_RATIO", v);
02425     Py_INCREF(v);
02426
02427     v = PyFloat_FromDouble(TRITON_RELATIVE_ATOMIC_MASS);
02428     PyDict_SetItemString(d, "TRITON_RELATIVE_ATOMIC_MASS", v);
02429     Py_INCREF(v);
02430     v = PyFloat_FromDouble(U_TRITON_RELATIVE_ATOMIC_MASS);
02431     PyDict_SetItemString(d, "U_TRITON_RELATIVE_ATOMIC_MASS", v);
```

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02432     Py_INCREF(v);
02433
02434     v = PyFloat_FromDouble(TRITON_TO_PROTON_MAG__MOM__RATIO);
02435     PyDict_SetItemString(d, "TRITON_TO_PROTON_MAG__MOM__RATIO", v);
02436     Py_INCREF(v);
02437     v = PyFloat_FromDouble(U_TRITON_TO_PROTON_MAG__MOM__RATIO);
02438     PyDict_SetItemString(d, "U_TRITON_TO_PROTON_MAG__MOM__RATIO", v);
02439     Py_INCREF(v);
02440
02441     v = PyFloat_FromDouble(UNIFIED_ATOMIC_MASS_UNIT);
02442     PyDict_SetItemString(d, "UNIFIED_ATOMIC_MASS_UNIT", v);
02443     Py_INCREF(v);
02444     v = PyFloat_FromDouble(U_UNIFIED_ATOMIC_MASS_UNIT);
02445     PyDict_SetItemString(d, "U_UNIFIED_ATOMIC_MASS_UNIT", v);
02446     Py_INCREF(v);
02447
02448     v = PyFloat_FromDouble(VACUUM_ELECTRIC_PERMITTIVITY);
02449     PyDict_SetItemString(d, "VACUUM_ELECTRIC_PERMITTIVITY", v);
02450     Py_INCREF(v);
02451     v = PyFloat_FromDouble(U_VACUUM_ELECTRIC_PERMITTIVITY);
02452     PyDict_SetItemString(d, "U_VACUUM_ELECTRIC_PERMITTIVITY", v);
02453     Py_INCREF(v);
02454
02455     v = PyFloat_FromDouble(VACUUM_MAG__PERMEABILITY);
02456     PyDict_SetItemString(d, "VACUUM_MAG__PERMEABILITY", v);
02457     Py_INCREF(v);
02458     v = PyFloat_FromDouble(U_VACUUM_MAG__PERMEABILITY);
02459     PyDict_SetItemString(d, "U_VACUUM_MAG__PERMEABILITY", v);
02460     Py_INCREF(v);
02461
02462     v = PyFloat_FromDouble(VON_KLITZING_CONSTANT);
02463     PyDict_SetItemString(d, "VON_KLITZING_CONSTANT", v);
02464     Py_INCREF(v);
02465     v = PyFloat_FromDouble(U_VON_KLITZING_CONSTANT);
02466     PyDict_SetItemString(d, "U_VON_KLITZING_CONSTANT", v);
02467     Py_INCREF(v);
02468
02469     v = PyFloat_FromDouble(WEAK_MIXING_ANGLE);
02470     PyDict_SetItemString(d, "WEAK_MIXING_ANGLE", v);
02471     Py_INCREF(v);
02472     v = PyFloat_FromDouble(U_WEAK_MIXING_ANGLE);
02473     PyDict_SetItemString(d, "U_WEAK_MIXING_ANGLE", v);
02474     Py_INCREF(v);
02475
02476     v = PyFloat_FromDouble(WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT);
02477     PyDict_SetItemString(d, "WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT", v);
02478     Py_INCREF(v);
02479     v = PyFloat_FromDouble(U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT);
02480     PyDict_SetItemString(d, "U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT", v);
02481     Py_INCREF(v);
02482
02483     v = PyFloat_FromDouble(WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT);
02484     PyDict_SetItemString(d, "WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT", v);
02485     Py_INCREF(v);
02486     v = PyFloat_FromDouble(U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT);
02487     PyDict_SetItemString(d, "U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT", v);
02488     Py_INCREF(v);
02489
02490     v = PyFloat_FromDouble(W_TO_Z_MASS_RATIO);
02491     PyDict_SetItemString(d, "W_TO_Z_MASS_RATIO", v);
02492     Py_INCREF(v);
02493     v = PyFloat_FromDouble(U_W_TO_Z_MASS_RATIO);
02494     PyDict_SetItemString(d, "U_W_TO_Z_MASS_RATIO", v);
02495     Py_INCREF(v);
02496
02497     return m;
02498 }
```

16.15 /Users/milan/programs/codata/src/fcodata.f90 File Reference

Codata module - autogenerated.

Modules

- module codata

  Codata constants - autogenerated.

Variables

- real(real64), parameter codata::alpha_particle_electron_mass_ratio =7294.29954142d0
- real(real64), parameter codata::u_alpha_particle_electron_mass_ratio =0.00000024d0
- real(real64), parameter codata::alpha_particle_mass =6.6446573357d-27

  kg
- real(real64), parameter codata::u_alpha_particle_mass =0.0000000020d-27

  kg
- real(real64), parameter codata::alpha_particle_mass_energy_equivalent =5.9719201914d-10

  J.
- real(real64), parameter codata::u_alpha_particle_mass_energy_equivalent =0.0000000018d-10

  J.
- real(real64), parameter codata::alpha_particle_mass_energy_equivalent_in_mev =3727.3794066d0

  MeV.
- real(real64), parameter codata::u_alpha_particle_mass_energy_equivalent_in_mev =0.0000011d0

  MeV.
- real(real64), parameter codata::alpha_particle_mass_in_u =4.001506179127d0

  u
- real(real64), parameter codata::u_alpha_particle_mass_in_u =0.000000000063d0

  u
- real(real64), parameter codata::alpha_particle_molar_mass =4.0015061777d-3

  kg mol^-1
- real(real64), parameter codata::u_alpha_particle_molar_mass =0.0000000012d-3

  kg mol^-1
- real(real64), parameter codata::alpha_particle_proton_mass_ratio =3.97259969009d0
- real(real64), parameter codata::u_alpha_particle_proton_mass_ratio =0.00000000022d0
- real(real64), parameter codata::alpha_particle_relative_atomic_mass =4.001506179127d0
- real(real64), parameter codata::u_alpha_particle_relative_atomic_mass =0.000000000063d0
- real(real64), parameter codata::angstrom_star =1.00001495d-10

  m
- real(real64), parameter codata::u_angstrom_star =0.00000090d-10

  m
- real(real64), parameter codata::atomic_mass_constant =1.66053906660d-27

  kg
- real(real64), parameter codata::u_atomic_mass_constant =0.00000000050d-27

  kg
- real(real64), parameter codata::atomic_mass_constant_energy_equivalent =1.49241808560d-10

  J.
- real(real64), parameter codata::u_atomic_mass_constant_energy_equivalent =0.00000000045d-10

  J.
- real(real64), parameter codata::atomic_mass_constant_energy_equivalent_in_mev =931.49410242d0

  MeV.
- real(real64), parameter codata::u_atomic_mass_constant_energy_equivalent_in_mev =0.00000028d0

  MeV.
- real(real64), parameter codata::atomic_mass_unit_electron_volt_relationship =9.3149410242d8

  eV
- real(real64), parameter codata::u_atomic_mass_unit_electron_volt_relationship =0.0000000028d8

  eV
- real(real64), parameter codata::atomic_mass_unit_hartree_relationship =3.4231776874d7

  E_h.
- real(real64), parameter codata::u_atomic_mass_unit_hartree_relationship =0.0000000010d7

E_h.

- real(real64), parameter codata::atomic_mass_unit_hertz_relationship =2.25234271871d23

  Hz.
- real(real64), parameter codata::u_atomic_mass_unit_hertz_relationship =0.00000000068d23

  Hz.
- real(real64), parameter codata::atomic_mass_unit_inverse_meter_relationship =7.5130066104d14

  m^-1
- real(real64), parameter codata::u_atomic_mass_unit_inverse_meter_relationship =0.0000000023d14

  m^-1
- real(real64), parameter codata::atomic_mass_unit_joule_relationship =1.49241808560d-10

  J.
- real(real64), parameter codata::u_atomic_mass_unit_joule_relationship =0.00000000045d-10

  J.
- real(real64), parameter codata::atomic_mass_unit_kelvin_relationship =1.08095401916d13

  K.
- real(real64), parameter codata::u_atomic_mass_unit_kelvin_relationship =0.00000000033d13

  K.
- real(real64), parameter codata::atomic_mass_unit_kilogram_relationship =1.66053906660d-27

  kg
- real(real64), parameter codata::u_atomic_mass_unit_kilogram_relationship =0.00000000050d-27

  kg
- real(real64), parameter codata::atomic_unit_of_1st_hyperpolarizability =3.2063613061d-53

  C^3 m^3 J^-2.
- real(real64), parameter codata::u_atomic_unit_of_1st_hyperpolarizability =0.0000000015d-53

  C^3 m^3 J^-2.
- real(real64), parameter codata::atomic_unit_of_2nd_hyperpolarizability =6.2353799905d-65

  C^4 m^4 J^-3.
- real(real64), parameter codata::u_atomic_unit_of_2nd_hyperpolarizability =0.0000000038d-65

  C^4 m^4 J^-3.
- real(real64), parameter codata::atomic_unit_of_action =1.054571817d-34

  J s.
- real(real64), parameter codata::u_atomic_unit_of_action =0.0d0

  J s.
- real(real64), parameter codata::atomic_unit_of_charge =1.602176634d-19

  C.
- real(real64), parameter codata::u_atomic_unit_of_charge =0.0d0

  C.
- real(real64), parameter codata::atomic_unit_of_charge_density =1.08120238457d12

  C m^-3.
- real(real64), parameter codata::u_atomic_unit_of_charge_density =0.00000000049d12

  C m^-3.
- real(real64), parameter codata::atomic_unit_of_current =6.623618237510d-3

  A.
- real(real64), parameter codata::u_atomic_unit_of_current =0.000000000013d-3

  A.
- real(real64), parameter codata::atomic_unit_of_electric_dipole_mom =8.4783536255d-30

  C m.
- real(real64), parameter codata::u_atomic_unit_of_electric_dipole_mom =0.0000000013d-30

  C m.
- real(real64), parameter codata::atomic_unit_of_electric_field =5.14220674763d11

  V m^-1.

- real(real64), parameter codata::u_atomic_unit_of_electric_field =0.00000000078d11
  V m^-1.
- real(real64), parameter codata::atomic_unit_of_electric_field_gradient =9.7173624292d21
  V m^-2.
- real(real64), parameter codata::u_atomic_unit_of_electric_field_gradient =0.0000000029d21
  V m^-2.
- real(real64), parameter codata::atomic_unit_of_electric_polarizability =1.64877727436d-41
  C^2 m^2 J^-1.
- real(real64), parameter codata::u_atomic_unit_of_electric_polarizability =0.00000000050d-41
  C^2 m^2 J^-1.
- real(real64), parameter codata::atomic_unit_of_electric_potential =27.211386245988d0
  V.
- real(real64), parameter codata::u_atomic_unit_of_electric_potential =0.000000000053d0
  V.
- real(real64), parameter codata::atomic_unit_of_electric_quadrupole_mom =4.4865515246d-40
  C m^2.
- real(real64), parameter codata::u_atomic_unit_of_electric_quadrupole_mom =0.0000000014d-40
  C m^2.
- real(real64), parameter codata::atomic_unit_of_energy =4.3597447222071d-18
  J.
- real(real64), parameter codata::u_atomic_unit_of_energy =0.0000000000085d-18
  J.
- real(real64), parameter codata::atomic_unit_of_force =8.2387234983d-8
  N.
- real(real64), parameter codata::u_atomic_unit_of_force =0.0000000012d-8
  N.
- real(real64), parameter codata::atomic_unit_of_length =5.29177210903d-11
  m
- real(real64), parameter codata::u_atomic_unit_of_length =0.00000000080d-11
  m
- real(real64), parameter codata::atomic_unit_of_mag__dipole_mom =1.85480201566d-23
  J T^-1.
- real(real64), parameter codata::u_atomic_unit_of_mag__dipole_mom =0.00000000056d-23
  J T^-1.
- real(real64), parameter codata::atomic_unit_of_mag__flux_density =2.35051756758d5
  T.
- real(real64), parameter codata::u_atomic_unit_of_mag__flux_density =0.00000000071d5
  T.
- real(real64), parameter codata::atomic_unit_of_magnetizability =7.8910366008d-29
  J T^-2.
- real(real64), parameter codata::u_atomic_unit_of_magnetizability =0.0000000048d-29
  J T^-2.
- real(real64), parameter codata::atomic_unit_of_mass =9.1093837015d-31
  kg
- real(real64), parameter codata::u_atomic_unit_of_mass =0.0000000028d-31
  kg
- real(real64), parameter codata::atomic_unit_of_momentum =1.99285191410d-24
  kg m s^-1
- real(real64), parameter codata::u_atomic_unit_of_momentum =0.00000000030d-24
  kg m s^-1
- real(real64), parameter codata::atomic_unit_of_permittivity =1.11265005545d-10

F m^-1.

- real(real64), parameter codata::u_atomic_unit_of_permittivity =0.00000000017d-10

  F m^-1.
- real(real64), parameter codata::atomic_unit_of_time =2.4188843265857d-17

  s
- real(real64), parameter codata::u_atomic_unit_of_time =0.0000000000047d-17

  s
- real(real64), parameter codata::atomic_unit_of_velocity =2.18769126364d6

  m s^-1
- real(real64), parameter codata::u_atomic_unit_of_velocity =0.00000000033d6

  m s^-1
- real(real64), parameter codata::avogadro_constant =6.02214076d23

  mol^-1
- real(real64), parameter codata::u_avogadro_constant =0.0d0

  mol^-1
- real(real64), parameter codata::bohr_magneton =9.2740100783d-24

  J T^-1.
- real(real64), parameter codata::u_bohr_magneton =0.0000000028d-24

  J T^-1.
- real(real64), parameter codata::bohr_magneton_in_ev_t =5.7883818060d-5

  eV T^-1
- real(real64), parameter codata::u_bohr_magneton_in_ev_t =0.0000000017d-5

  eV T^-1
- real(real64), parameter codata::bohr_magneton_in_hz_t =1.39962449361d10

  Hz T^-1.
- real(real64), parameter codata::u_bohr_magneton_in_hz_t =0.00000000042d10

  Hz T^-1.
- real(real64), parameter codata::bohr_magneton_in_inverse_meter_per_tesla =46.686447783d0

  m^-1 T^-1
- real(real64), parameter codata::u_bohr_magneton_in_inverse_meter_per_tesla =0.000000014d0

  m^-1 T^-1
- real(real64), parameter codata::bohr_magneton_in_k_t =0.67171381563d0

  K T^-1.
- real(real64), parameter codata::u_bohr_magneton_in_k_t =0.00000000020d0

  K T^-1.
- real(real64), parameter codata::bohr_radius =5.29177210903d-11

  m
- real(real64), parameter codata::u_bohr_radius =0.00000000080d-11

  m
- real(real64), parameter codata::boltzmann_constant =1.380649d-23

  J K^-1.
- real(real64), parameter codata::u_boltzmann_constant =0.0d0

  J K^-1.
- real(real64), parameter codata::boltzmann_constant_in_ev_k =8.617333262d-5

  eV K^-1
- real(real64), parameter codata::u_boltzmann_constant_in_ev_k =0.0d0

  eV K^-1
- real(real64), parameter codata::boltzmann_constant_in_hz_k =2.083661912d10

  Hz K^-1.
- real(real64), parameter codata::u_boltzmann_constant_in_hz_k =0.0d0

  Hz K^-1.

- real(real64), parameter codata::boltzmann_constant_in_inverse_meter_per_kelvin =69.50348004d0
  m^-1 K^-1
- real(real64), parameter codata::u_boltzmann_constant_in_inverse_meter_per_kelvin =0.0d0
  m^-1 K^-1
- real(real64), parameter codata::characteristic_impedance_of_vacuum =376.730313668d0
  ohm
- real(real64), parameter codata::u_characteristic_impedance_of_vacuum =0.000000057d0
  ohm
- real(real64), parameter codata::classical_electron_radius =2.8179403262d-15
  m
- real(real64), parameter codata::u_classical_electron_radius =0.0000000013d-15
  m
- real(real64), parameter codata::compton_wavelength =2.42631023867d-12
  m
- real(real64), parameter codata::u_compton_wavelength =0.00000000073d-12
  m
- real(real64), parameter codata::conductance_quantum =7.748091729d-5
  S.
- real(real64), parameter codata::u_conductance_quantum =0.0d0
  S.
- real(real64), parameter codata::conventional_value_of_ampere_90 =1.00000008887d0
  A.
- real(real64), parameter codata::u_conventional_value_of_ampere_90 =0.0d0
  A.
- real(real64), parameter codata::conventional_value_of_coulomb_90 =1.00000008887d0
  C.
- real(real64), parameter codata::u_conventional_value_of_coulomb_90 =0.0d0
  C.
- real(real64), parameter codata::conventional_value_of_farad_90 =0.99999998220d0
  F.
- real(real64), parameter codata::u_conventional_value_of_farad_90 =0.0d0
  F.
- real(real64), parameter codata::conventional_value_of_henry_90 =1.00000001779d0
  H.
- real(real64), parameter codata::u_conventional_value_of_henry_90 =0.0d0
  H.
- real(real64), parameter codata::conventional_value_of_josephson_constant =483597.9d9
  Hz V^-1.
- real(real64), parameter codata::u_conventional_value_of_josephson_constant =0.0d0
  Hz V^-1.
- real(real64), parameter codata::conventional_value_of_ohm_90 =1.00000001779d0
  ohm
- real(real64), parameter codata::u_conventional_value_of_ohm_90 =0.0d0
  ohm
- real(real64), parameter codata::conventional_value_of_volt_90 =1.00000010666d0
  V.
- real(real64), parameter codata::u_conventional_value_of_volt_90 =0.0d0
  V.
- real(real64), parameter codata::conventional_value_of_von_klitzing_constant =25812.807d0
  ohm
- real(real64), parameter codata::u_conventional_value_of_von_klitzing_constant =0.0d0

ohm

- real(real64), parameter codata::conventional_value_of_watt_90 =1.00000019553d0

  W.
- real(real64), parameter codata::u_conventional_value_of_watt_90 =0.0d0

  W.
- real(real64), parameter codata::copper_x_unit =1.00207697d-13

  m
- real(real64), parameter codata::u_copper_x_unit =0.00000028d-13

  m
- real(real64), parameter codata::deuteron_electron_mag__mom__ratio =-4.664345551d-4
- real(real64), parameter codata::u_deuteron_electron_mag__mom__ratio =0.000000012d-4
- real(real64), parameter codata::deuteron_electron_mass_ratio =3670.48296788d0
- real(real64), parameter codata::u_deuteron_electron_mass_ratio =0.00000013d0
- real(real64), parameter codata::deuteron_g_factor =0.8574382338d0
- real(real64), parameter codata::u_deuteron_g_factor =0.0000000022d0
- real(real64), parameter codata::deuteron_mag__mom =4.330735094d-27

  J T^-1.
- real(real64), parameter codata::u_deuteron_mag__mom =0.000000011d-27

  J T^-1.
- real(real64), parameter codata::deuteron_mag__mom__to_bohr_magneton_ratio =4.669754570d-4
- real(real64), parameter codata::u_deuteron_mag__mom__to_bohr_magneton_ratio =0.000000012d-4
- real(real64), parameter codata::deuteron_mag__mom__to_nuclear_magneton_ratio =0.8574382338d0
- real(real64), parameter codata::u_deuteron_mag__mom__to_nuclear_magneton_ratio =0.0000000022d0
- real(real64), parameter codata::deuteron_mass =3.3435837724d-27

  kg
- real(real64), parameter codata::u_deuteron_mass =0.0000000010d-27

  kg
- real(real64), parameter codata::deuteron_mass_energy_equivalent =3.00506323102d-10

  J.
- real(real64), parameter codata::u_deuteron_mass_energy_equivalent =0.00000000091d-10

  J.
- real(real64), parameter codata::deuteron_mass_energy_equivalent_in_mev =1875.61294257d0

  MeV.
- real(real64), parameter codata::u_deuteron_mass_energy_equivalent_in_mev =0.00000057d0

  MeV.
- real(real64), parameter codata::deuteron_mass_in_u =2.013553212745d0

  u
- real(real64), parameter codata::u_deuteron_mass_in_u =0.000000000040d0

  u
- real(real64), parameter codata::deuteron_molar_mass =2.01355321205d-3

  kg mol^-1
- real(real64), parameter codata::u_deuteron_molar_mass =0.00000000061d-3

  kg mol^-1
- real(real64), parameter codata::deuteron_neutron_mag__mom__ratio =-0.44820653d0
- real(real64), parameter codata::u_deuteron_neutron_mag__mom__ratio =0.00000011d0
- real(real64), parameter codata::deuteron_proton_mag__mom__ratio =0.30701220939d0
- real(real64), parameter codata::u_deuteron_proton_mag__mom__ratio =0.00000000079d0
- real(real64), parameter codata::deuteron_proton_mass_ratio =1.99900750139d0
- real(real64), parameter codata::u_deuteron_proton_mass_ratio =0.00000000011d0
- real(real64), parameter codata::deuteron_relative_atomic_mass =2.013553212745d0
- real(real64), parameter codata::u_deuteron_relative_atomic_mass =0.000000000040d0
- real(real64), parameter codata::deuteron_rms_charge_radius =2.12799d-15

m

- real(real64), parameter codata::u_deuteron_rms_charge_radius =0.00074d-15

  m
- real(real64), parameter codata::electron_charge_to_mass_quotient =-1.75882001076d11

  C kg^-1.
- real(real64), parameter codata::u_electron_charge_to_mass_quotient =0.00000000053d11

  C kg^-1.
- real(real64), parameter codata::electron_deuteron_mag__mom__ratio =-2143.9234915d0
- real(real64), parameter codata::u_electron_deuteron_mag__mom__ratio =0.0000056d0
- real(real64), parameter codata::electron_deuteron_mass_ratio =2.724437107462d-4
- real(real64), parameter codata::u_electron_deuteron_mass_ratio =0.000000000096d-4
- real(real64), parameter codata::electron_g_factor =-2.00231930436256d0
- real(real64), parameter codata::u_electron_g_factor =0.00000000000035d0
- real(real64), parameter codata::electron_gyromag__ratio =1.76085963023d11

  s^-1 T^-1
- real(real64), parameter codata::u_electron_gyromag__ratio =0.00000000053d11

  s^-1 T^-1
- real(real64), parameter codata::electron_gyromag__ratio_in_mhz_t =28024.9514242d0

  MHz T^-1.
- real(real64), parameter codata::u_electron_gyromag__ratio_in_mhz_t =0.0000085d0

  MHz T^-1.
- real(real64), parameter codata::electron_helion_mass_ratio =1.819543074573d-4
- real(real64), parameter codata::u_electron_helion_mass_ratio =0.000000000079d-4
- real(real64), parameter codata::electron_mag__mom =-9.2847647043d-24

  J T^-1.
- real(real64), parameter codata::u_electron_mag__mom =0.0000000028d-24

  J T^-1.
- real(real64), parameter codata::electron_mag__mom__anomaly =1.15965218128d-3
- real(real64), parameter codata::u_electron_mag__mom__anomaly =0.00000000018d-3
- real(real64), parameter codata::electron_mag__mom__to_bohr_magneton_ratio =-1.00115965218128d0
- real(real64), parameter codata::u_electron_mag__mom__to_bohr_magneton_ratio =0.00000000000018d0
- real(real64), parameter codata::electron_mag__mom__to_nuclear_magneton_ratio =-1838.28197188d0
- real(real64), parameter codata::u_electron_mag__mom__to_nuclear_magneton_ratio =0.00000011d0
- real(real64), parameter codata::electron_mass =9.1093837015d-31

  kg
- real(real64), parameter codata::u_electron_mass =0.0000000028d-31

  kg
- real(real64), parameter codata::electron_mass_energy_equivalent =8.1871057769d-14

  J.
- real(real64), parameter codata::u_electron_mass_energy_equivalent =0.0000000025d-14

  J.
- real(real64), parameter codata::electron_mass_energy_equivalent_in_mev =0.51099895000d0

  MeV.
- real(real64), parameter codata::u_electron_mass_energy_equivalent_in_mev =0.00000000015d0

  MeV.
- real(real64), parameter codata::electron_mass_in_u =5.48579909065d-4

  u
- real(real64), parameter codata::u_electron_mass_in_u =0.00000000016d-4

  u
- real(real64), parameter codata::electron_molar_mass =5.4857990888d-7

  kg mol^-1
- real(real64), parameter codata::u_electron_molar_mass =0.0000000017d-7

kg mol^-1

- real(real64), parameter codata::electron_muon_mag__mom__ratio =206.7669883d0
- real(real64), parameter codata::u_electron_muon_mag__mom__ratio =0.0000046d0
- real(real64), parameter codata::electron_muon_mass_ratio =4.83633169d-3
- real(real64), parameter codata::u_electron_muon_mass_ratio =0.00000011d-3
- real(real64), parameter codata::electron_neutron_mag__mom__ratio =960.92050d0
- real(real64), parameter codata::u_electron_neutron_mag__mom__ratio =0.00023d0
- real(real64), parameter codata::electron_neutron_mass_ratio =5.4386734424d-4
- real(real64), parameter codata::u_electron_neutron_mass_ratio =0.0000000026d-4
- real(real64), parameter codata::electron_proton_mag__mom__ratio =-658.21068789d0
- real(real64), parameter codata::u_electron_proton_mag__mom__ratio =0.00000020d0
- real(real64), parameter codata::electron_proton_mass_ratio =5.44617021487d-4
- real(real64), parameter codata::u_electron_proton_mass_ratio =0.00000000033d-4
- real(real64), parameter codata::electron_relative_atomic_mass =5.48579909065d-4
- real(real64), parameter codata::u_electron_relative_atomic_mass =0.00000000016d-4
- real(real64), parameter codata::electron_tau_mass_ratio =2.87585d-4
- real(real64), parameter codata::u_electron_tau_mass_ratio =0.00019d-4
- real(real64), parameter codata::electron_to_alpha_particle_mass_ratio =1.370933554787d-4
- real(real64), parameter codata::u_electron_to_alpha_particle_mass_ratio =0.000000000045d-4
- real(real64), parameter codata::electron_to_shielded_helion_mag__mom__ratio =864.058257d0
- real(real64), parameter codata::u_electron_to_shielded_helion_mag__mom__ratio =0.000010d0
- real(real64), parameter codata::electron_to_shielded_proton_mag__mom__ratio =-658.2275971d0
- real(real64), parameter codata::u_electron_to_shielded_proton_mag__mom__ratio =0.0000072d0
- real(real64), parameter codata::electron_triton_mass_ratio =1.819200062251d-4
- real(real64), parameter codata::u_electron_triton_mass_ratio =0.000000000090d-4
- real(real64), parameter codata::electron_volt =1.602176634d-19

  J.
- real(real64), parameter codata::u_electron_volt =0.0d0

  J.
- real(real64), parameter codata::electron_volt_atomic_mass_unit_relationship =1.07354410233d-9

  u
- real(real64), parameter codata::u_electron_volt_atomic_mass_unit_relationship =0.00000000032d-9

  u
- real(real64), parameter codata::electron_volt_hartree_relationship =3.6749322175655d-2

  E_h.
- real(real64), parameter codata::u_electron_volt_hartree_relationship =0.0000000000071d-2

  E_h.
- real(real64), parameter codata::electron_volt_hertz_relationship =2.417989242d14

  Hz.
- real(real64), parameter codata::u_electron_volt_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter codata::electron_volt_inverse_meter_relationship =8.065543937d5

  m^-1
- real(real64), parameter codata::u_electron_volt_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter codata::electron_volt_joule_relationship =1.602176634d-19

  J.
- real(real64), parameter codata::u_electron_volt_joule_relationship =0.0d0

  J.
- real(real64), parameter codata::electron_volt_kelvin_relationship =1.160451812d4

  K.
- real(real64), parameter codata::u_electron_volt_kelvin_relationship =0.0d0

K.

- real(real64), parameter codata::electron_volt_kilogram_relationship =1.782661921d-36

  kg
- real(real64), parameter codata::u_electron_volt_kilogram_relationship =0.0d0

  kg
- real(real64), parameter codata::elementary_charge =1.602176634d-19

  C.
- real(real64), parameter codata::u_elementary_charge =0.0d0

  C.
- real(real64), parameter codata::elementary_charge_over_h_bar =1.519267447d15

  A J^-1.
- real(real64), parameter codata::u_elementary_charge_over_h_bar =0.0d0

  A J^-1.
- real(real64), parameter codata::faraday_constant =96485.33212d0

  C mol^-1.
- real(real64), parameter codata::u_faraday_constant =0.0d0

  C mol^-1.
- real(real64), parameter codata::fermi_coupling_constant =1.1663787d-5

  GeV^-2.
- real(real64), parameter codata::u_fermi_coupling_constant =0.0000006d-5

  GeV^-2.
- real(real64), parameter codata::fine_structure_constant =7.2973525693d-3
- real(real64), parameter codata::u_fine_structure_constant =0.0000000011d-3
- real(real64), parameter codata::first_radiation_constant =3.741771852d-16

  W m^2.
- real(real64), parameter codata::u_first_radiation_constant =0.0d0

  W m^2.
- real(real64), parameter codata::first_radiation_constant_for_spectral_radiance =1.191042972d-16

  W m^2 sr^-1.
- real(real64), parameter codata::u_first_radiation_constant_for_spectral_radiance =0.0d0

  W m^2 sr^-1.
- real(real64), parameter codata::hartree_atomic_mass_unit_relationship =2.92126232205d-8

  u
- real(real64), parameter codata::u_hartree_atomic_mass_unit_relationship =0.00000000088d-8

  u
- real(real64), parameter codata::hartree_electron_volt_relationship =27.211386245988d0

  eV
- real(real64), parameter codata::u_hartree_electron_volt_relationship =0.000000000053d0

  eV
- real(real64), parameter codata::hartree_energy =4.3597447222071d-18

  J.
- real(real64), parameter codata::u_hartree_energy =0.0000000000085d-18

  J.
- real(real64), parameter codata::hartree_energy_in_ev =27.211386245988d0

  eV
- real(real64), parameter codata::u_hartree_energy_in_ev =0.000000000053d0

  eV
- real(real64), parameter codata::hartree_hertz_relationship =6.579683920502d15

  Hz.
- real(real64), parameter codata::u_hartree_hertz_relationship =0.000000000013d15

  Hz.

- real(real64), parameter codata::hartree_inverse_meter_relationship =2.1947463136320d7
  m^-1
- real(real64), parameter codata::u_hartree_inverse_meter_relationship =0.0000000000043d7
  m^-1
- real(real64), parameter codata::hartree_joule_relationship =4.3597447222071d-18
  J.
- real(real64), parameter codata::u_hartree_joule_relationship =0.0000000000085d-18
  J.
- real(real64), parameter codata::hartree_kelvin_relationship =3.1577502480407d5
  K.
- real(real64), parameter codata::u_hartree_kelvin_relationship =0.0000000000061d5
  K.
- real(real64), parameter codata::hartree_kilogram_relationship =4.8508702095432d-35
  kg
- real(real64), parameter codata::u_hartree_kilogram_relationship =0.0000000000094d-35
  kg
- real(real64), parameter codata::helion_electron_mass_ratio =5495.88528007d0
- real(real64), parameter codata::u_helion_electron_mass_ratio =0.00000024d0
- real(real64), parameter codata::helion_g_factor =-4.255250615d0
- real(real64), parameter codata::u_helion_g_factor =0.000000050d0
- real(real64), parameter codata::helion_mag__mom =-1.074617532d-26
  J T^-1.
- real(real64), parameter codata::u_helion_mag__mom =0.000000013d-26
  J T^-1.
- real(real64), parameter codata::helion_mag__mom__to_bohr_magneton_ratio =-1.158740958d-3
- real(real64), parameter codata::u_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
- real(real64), parameter codata::helion_mag__mom__to_nuclear_magneton_ratio =-2.127625307d0
- real(real64), parameter codata::u_helion_mag__mom__to_nuclear_magneton_ratio =0.000000025d0
- real(real64), parameter codata::helion_mass =5.0064127796d-27
  kg
- real(real64), parameter codata::u_helion_mass =0.0000000015d-27
  kg
- real(real64), parameter codata::helion_mass_energy_equivalent =4.4995394125d-10
  J.
- real(real64), parameter codata::u_helion_mass_energy_equivalent =0.0000000014d-10
  J.
- real(real64), parameter codata::helion_mass_energy_equivalent_in_mev =2808.39160743d0
  MeV.
- real(real64), parameter codata::u_helion_mass_energy_equivalent_in_mev =0.00000085d0
  MeV.
- real(real64), parameter codata::helion_mass_in_u =3.014932247175d0
  u
- real(real64), parameter codata::u_helion_mass_in_u =0.000000000097d0
  u
- real(real64), parameter codata::helion_molar_mass =3.01493224613d-3
  kg mol^-1
- real(real64), parameter codata::u_helion_molar_mass =0.00000000091d-3
  kg mol^-1
- real(real64), parameter codata::helion_proton_mass_ratio =2.99315267167d0
- real(real64), parameter codata::u_helion_proton_mass_ratio =0.00000000013d0
- real(real64), parameter codata::helion_relative_atomic_mass =3.014932247175d0

- real(real64), parameter codata::u_helion_relative_atomic_mass =0.000000000097d0
- real(real64), parameter codata::helion_shielding_shift =5.996743d-5
- real(real64), parameter codata::u_helion_shielding_shift =0.000010d-5
- real(real64), parameter codata::hertz_atomic_mass_unit_relationship =4.4398216652d-24

  u
- real(real64), parameter codata::u_hertz_atomic_mass_unit_relationship =0.0000000013d-24

  u
- real(real64), parameter codata::hertz_electron_volt_relationship =4.135667696d-15

  eV
- real(real64), parameter codata::u_hertz_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter codata::hertz_hartree_relationship =1.5198298460570d-16

  E_h.
- real(real64), parameter codata::u_hertz_hartree_relationship =0.0000000000029d-16

  E_h.
- real(real64), parameter codata::hertz_inverse_meter_relationship =3.335640951d-9

  m^-1
- real(real64), parameter codata::u_hertz_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter codata::hertz_joule_relationship =6.62607015d-34

  J.
- real(real64), parameter codata::u_hertz_joule_relationship =0.0d0

  J.
- real(real64), parameter codata::hertz_kelvin_relationship =4.799243073d-11

  K.
- real(real64), parameter codata::u_hertz_kelvin_relationship =0.0d0

  K.
- real(real64), parameter codata::hertz_kilogram_relationship =7.372497323d-51

  kg
- real(real64), parameter codata::u_hertz_kilogram_relationship =0.0d0

  kg
- real(real64), parameter codata::hyperfine_transition_frequency_of_cs_133 =9192631770.0d0

  Hz.
- real(real64), parameter codata::u_hyperfine_transition_frequency_of_cs_133 =0.0d0

  Hz.
- real(real64), parameter codata::inverse_fine_structure_constant =137.035999084d0
- real(real64), parameter codata::u_inverse_fine_structure_constant =0.000000021d0
- real(real64), parameter codata::inverse_meter_atomic_mass_unit_relationship =1.33102505010d-15

  u
- real(real64), parameter codata::u_inverse_meter_atomic_mass_unit_relationship =0.00000000040d-15

  u
- real(real64), parameter codata::inverse_meter_electron_volt_relationship =1.239841984d-6

  eV
- real(real64), parameter codata::u_inverse_meter_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter codata::inverse_meter_hartree_relationship =4.5563352529120d-8

  E_h.
- real(real64), parameter codata::u_inverse_meter_hartree_relationship =0.0000000000088d-8

  E_h.
- real(real64), parameter codata::inverse_meter_hertz_relationship =299792458.0d0

  Hz.

- real(real64), parameter codata::u_inverse_meter_hertz_relationship =0.0d0
  Hz.
- real(real64), parameter codata::inverse_meter_joule_relationship =1.986445857d-25
  J.
- real(real64), parameter codata::u_inverse_meter_joule_relationship =0.0d0
  J.
- real(real64), parameter codata::inverse_meter_kelvin_relationship =1.438776877d-2
  K.
- real(real64), parameter codata::u_inverse_meter_kelvin_relationship =0.0d0
  K.
- real(real64), parameter codata::inverse_meter_kilogram_relationship =2.210219094d-42
  kg
- real(real64), parameter codata::u_inverse_meter_kilogram_relationship =0.0d0
  kg
- real(real64), parameter codata::inverse_of_conductance_quantum =12906.40372d0
  ohm
- real(real64), parameter codata::u_inverse_of_conductance_quantum =0.0d0
  ohm
- real(real64), parameter codata::josephson_constant =483597.8484d9
  Hz V^-1.
- real(real64), parameter codata::u_josephson_constant =0.0d0
  Hz V^-1.
- real(real64), parameter codata::joule_atomic_mass_unit_relationship =6.7005352565d9
  u
- real(real64), parameter codata::u_joule_atomic_mass_unit_relationship =0.0000000020d9
  u
- real(real64), parameter codata::joule_electron_volt_relationship =6.241509074d18
  eV
- real(real64), parameter codata::u_joule_electron_volt_relationship =0.0d0
  eV
- real(real64), parameter codata::joule_hartree_relationship =2.2937122783963d17
  E_h.
- real(real64), parameter codata::u_joule_hartree_relationship =0.0000000000045d17
  E_h.
- real(real64), parameter codata::joule_hertz_relationship =1.509190179d33
  Hz.
- real(real64), parameter codata::u_joule_hertz_relationship =0.0d0
  Hz.
- real(real64), parameter codata::joule_inverse_meter_relationship =5.034116567d24
  m^-1
- real(real64), parameter codata::u_joule_inverse_meter_relationship =0.0d0
  m^-1
- real(real64), parameter codata::joule_kelvin_relationship =7.242970516d22
  K.
- real(real64), parameter codata::u_joule_kelvin_relationship =0.0d0
  K.
- real(real64), parameter codata::joule_kilogram_relationship =1.112650056d-17
  kg
- real(real64), parameter codata::u_joule_kilogram_relationship =0.0d0
  kg
- real(real64), parameter codata::kelvin_atomic_mass_unit_relationship =9.2510873014d-14

u

- real(real64), parameter codata::u_kelvin_atomic_mass_unit_relationship =0.0000000028d-14

  u
- real(real64), parameter codata::kelvin_electron_volt_relationship =8.617333262d-5

  eV
- real(real64), parameter codata::u_kelvin_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter codata::kelvin_hartree_relationship =3.1668115634556d-6

  E_h.
- real(real64), parameter codata::u_kelvin_hartree_relationship =0.0000000000061d-6

  E_h.
- real(real64), parameter codata::kelvin_hertz_relationship =2.083661912d10

  Hz.
- real(real64), parameter codata::u_kelvin_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter codata::kelvin_inverse_meter_relationship =69.50348004d0

  m^-1
- real(real64), parameter codata::u_kelvin_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter codata::kelvin_joule_relationship =1.380649d-23

  J.
- real(real64), parameter codata::u_kelvin_joule_relationship =0.0d0

  J.
- real(real64), parameter codata::kelvin_kilogram_relationship =1.536179187d-40

  kg
- real(real64), parameter codata::u_kelvin_kilogram_relationship =0.0d0

  kg
- real(real64), parameter codata::kilogram_atomic_mass_unit_relationship =6.0221407621d26

  u
- real(real64), parameter codata::u_kilogram_atomic_mass_unit_relationship =0.0000000018d26

  u
- real(real64), parameter codata::kilogram_electron_volt_relationship =5.609588603d35

  eV
- real(real64), parameter codata::u_kilogram_electron_volt_relationship =0.0d0

  eV
- real(real64), parameter codata::kilogram_hartree_relationship =2.0614857887409d34

  E_h.
- real(real64), parameter codata::u_kilogram_hartree_relationship =0.0000000000040d34

  E_h.
- real(real64), parameter codata::kilogram_hertz_relationship =1.356392489d50

  Hz.
- real(real64), parameter codata::u_kilogram_hertz_relationship =0.0d0

  Hz.
- real(real64), parameter codata::kilogram_inverse_meter_relationship =4.524438335d41

  m^-1
- real(real64), parameter codata::u_kilogram_inverse_meter_relationship =0.0d0

  m^-1
- real(real64), parameter codata::kilogram_joule_relationship =8.987551787d16

  J.
- real(real64), parameter codata::u_kilogram_joule_relationship =0.0d0

  J.

- real(real64), parameter codata::kilogram_kelvin_relationship =6.509657260d39
  K.
- real(real64), parameter codata::u_kilogram_kelvin_relationship =0.0d0
  K.
- real(real64), parameter codata::lattice_parameter_of_silicon =5.431020511d-10
  m
- real(real64), parameter codata::u_lattice_parameter_of_silicon =0.000000089d-10
  m
- real(real64), parameter codata::lattice_spacing_of_ideal_si__220 =1.920155716d-10
  m
- real(real64), parameter codata::u_lattice_spacing_of_ideal_si__220 =0.000000032d-10
  m
- real(real64), parameter codata::loschmidt_constant__273_15_k__100_kpa =2.651645804d25
  m^-3
- real(real64), parameter codata::u_loschmidt_constant__273_15_k__100_kpa =0.0d0
  m^-3
- real(real64), parameter codata::loschmidt_constant__273_15_k__101_325_kpa =2.686780111d25
  m^-3
- real(real64), parameter codata::u_loschmidt_constant__273_15_k__101_325_kpa =0.0d0
  m^-3
- real(real64), parameter codata::luminous_efficacy =683.0d0
  lm W^-1
- real(real64), parameter codata::u_luminous_efficacy =0.0d0
  lm W^-1
- real(real64), parameter codata::mag__flux_quantum =2.067833848d-15
  Wb.
- real(real64), parameter codata::u_mag__flux_quantum =0.0d0
  Wb.
- real(real64), parameter codata::molar_gas_constant =8.314462618d0
  J mol^-1 K^-1.
- real(real64), parameter codata::u_molar_gas_constant =0.0d0
  J mol^-1 K^-1.
- real(real64), parameter codata::molar_mass_constant =0.99999999965d-3
  kg mol^-1
- real(real64), parameter codata::u_molar_mass_constant =0.00000000030d-3
  kg mol^-1
- real(real64), parameter codata::molar_mass_of_carbon_12 =11.9999999958d-3
  kg mol^-1
- real(real64), parameter codata::u_molar_mass_of_carbon_12 =0.0000000036d-3
  kg mol^-1
- real(real64), parameter codata::molar_planck_constant =3.990312712d-10
  J Hz^-1 mol^-1.
- real(real64), parameter codata::u_molar_planck_constant =0.0d0
  J Hz^-1 mol^-1.
- real(real64), parameter codata::molar_volume_of_ideal_gas__273_15_k__100_kpa =22.71095464d-3
  m^3 mol^-1
- real(real64), parameter codata::u_molar_volume_of_ideal_gas__273_15_k__100_kpa =0.0d0
  m^3 mol^-1
- real(real64), parameter codata::molar_volume_of_ideal_gas__273_15_k__101_325_kpa =22.41396954d-3
  m^3 mol^-1
- real(real64), parameter codata::u_molar_volume_of_ideal_gas__273_15_k__101_325_kpa =0.0d0

m^3 mol^-1

- real(real64), parameter codata::molar_volume_of_silicon =1.205883199d-5

  m^3 mol^-1
- real(real64), parameter codata::u_molar_volume_of_silicon =0.000000060d-5

  m^3 mol^-1
- real(real64), parameter codata::molybdenum_x_unit =1.00209952d-13

  m
- real(real64), parameter codata::u_molybdenum_x_unit =0.00000053d-13

  m
- real(real64), parameter codata::muon_compton_wavelength =1.173444110d-14

  m
- real(real64), parameter codata::u_muon_compton_wavelength =0.000000026d-14

  m
- real(real64), parameter codata::muon_electron_mass_ratio =206.7682830d0
- real(real64), parameter codata::u_muon_electron_mass_ratio =0.0000046d0
- real(real64), parameter codata::muon_g_factor =-2.0023318418d0
- real(real64), parameter codata::u_muon_g_factor =0.0000000013d0
- real(real64), parameter codata::muon_mag__mom =-4.49044830d-26

  J T^-1.
- real(real64), parameter codata::u_muon_mag__mom =0.00000010d-26

  J T^-1.
- real(real64), parameter codata::muon_mag__mom__anomaly =1.16592089d-3
- real(real64), parameter codata::u_muon_mag__mom__anomaly =0.00000063d-3
- real(real64), parameter codata::muon_mag__mom__to_bohr_magneton_ratio =-4.84197047d-3
- real(real64), parameter codata::u_muon_mag__mom__to_bohr_magneton_ratio =0.00000011d-3
- real(real64), parameter codata::muon_mag__mom__to_nuclear_magneton_ratio =-8.89059703d0
- real(real64), parameter codata::u_muon_mag__mom__to_nuclear_magneton_ratio =0.00000020d0
- real(real64), parameter codata::muon_mass =1.883531627d-28

  kg
- real(real64), parameter codata::u_muon_mass =0.000000042d-28

  kg
- real(real64), parameter codata::muon_mass_energy_equivalent =1.692833804d-11

  J.
- real(real64), parameter codata::u_muon_mass_energy_equivalent =0.000000038d-11

  J.
- real(real64), parameter codata::muon_mass_energy_equivalent_in_mev =105.6583755d0

  MeV.
- real(real64), parameter codata::u_muon_mass_energy_equivalent_in_mev =0.0000023d0

  MeV.
- real(real64), parameter codata::muon_mass_in_u =0.1134289259d0

  u
- real(real64), parameter codata::u_muon_mass_in_u =0.0000000025d0

  u
- real(real64), parameter codata::muon_molar_mass =1.134289259d-4

  kg mol^-1
- real(real64), parameter codata::u_muon_molar_mass =0.000000025d-4

  kg mol^-1
- real(real64), parameter codata::muon_neutron_mass_ratio =0.1124545170d0
- real(real64), parameter codata::u_muon_neutron_mass_ratio =0.0000000025d0
- real(real64), parameter codata::muon_proton_mag__mom__ratio =-3.183345142d0
- real(real64), parameter codata::u_muon_proton_mag__mom__ratio =0.000000071d0
- real(real64), parameter codata::muon_proton_mass_ratio =0.1126095264d0

- real(real64), parameter codata::u_muon_proton_mass_ratio =0.0000000025d0
- real(real64), parameter codata::muon_tau_mass_ratio =5.94635d-2
- real(real64), parameter codata::u_muon_tau_mass_ratio =0.00040d-2
- real(real64), parameter codata::natural_unit_of_action =1.054571817d-34

  J s.
- real(real64), parameter codata::u_natural_unit_of_action =0.0d0

  J s.
- real(real64), parameter codata::natural_unit_of_action_in_ev_s =6.582119569d-16

  eV s
- real(real64), parameter codata::u_natural_unit_of_action_in_ev_s =0.0d0

  eV s
- real(real64), parameter codata::natural_unit_of_energy =8.1871057769d-14

  J.
- real(real64), parameter codata::u_natural_unit_of_energy =0.0000000025d-14

  J.
- real(real64), parameter codata::natural_unit_of_energy_in_mev =0.51099895000d0

  MeV.
- real(real64), parameter codata::u_natural_unit_of_energy_in_mev =0.00000000015d0

  MeV.
- real(real64), parameter codata::natural_unit_of_length =3.8615926796d-13

  m
- real(real64), parameter codata::u_natural_unit_of_length =0.0000000012d-13

  m
- real(real64), parameter codata::natural_unit_of_mass =9.1093837015d-31

  kg
- real(real64), parameter codata::u_natural_unit_of_mass =0.0000000028d-31

  kg
- real(real64), parameter codata::natural_unit_of_momentum =2.73092453075d-22

  kg m s^-1
- real(real64), parameter codata::u_natural_unit_of_momentum =0.00000000082d-22

  kg m s^-1
- real(real64), parameter codata::natural_unit_of_momentum_in_mev_c =0.51099895000d0

  MeV/c.
- real(real64), parameter codata::u_natural_unit_of_momentum_in_mev_c =0.00000000015d0

  MeV/c.
- real(real64), parameter codata::natural_unit_of_time =1.28808866819d-21

  s
- real(real64), parameter codata::u_natural_unit_of_time =0.00000000039d-21

  s
- real(real64), parameter codata::natural_unit_of_velocity =299792458.0d0

  m s^-1
- real(real64), parameter codata::u_natural_unit_of_velocity =0.0d0

  m s^-1
- real(real64), parameter codata::neutron_compton_wavelength =1.31959090581d-15

  m
- real(real64), parameter codata::u_neutron_compton_wavelength =0.00000000075d-15

  m
- real(real64), parameter codata::neutron_electron_mag__mom__ratio =1.04066882d-3
- real(real64), parameter codata::u_neutron_electron_mag__mom__ratio =0.00000025d-3
- real(real64), parameter codata::neutron_electron_mass_ratio =1838.68366173d0
- real(real64), parameter codata::u_neutron_electron_mass_ratio =0.00000089d0

- real(real64), parameter codata::neutron_g_factor =-3.82608545d0
- real(real64), parameter codata::u_neutron_g_factor =0.00000090d0
- real(real64), parameter codata::neutron_gyromag__ratio =1.83247171d8

  s^-1 T^-1
- real(real64), parameter codata::u_neutron_gyromag__ratio =0.00000043d8

  s^-1 T^-1
- real(real64), parameter codata::neutron_gyromag__ratio_in_mhz_t =29.1646931d0

  MHz T^-1.
- real(real64), parameter codata::u_neutron_gyromag__ratio_in_mhz_t =0.0000069d0

  MHz T^-1.
- real(real64), parameter codata::neutron_mag__mom =-9.6623651d-27

  J T^-1.
- real(real64), parameter codata::u_neutron_mag__mom =0.0000023d-27

  J T^-1.
- real(real64), parameter codata::neutron_mag__mom__to_bohr_magneton_ratio =-1.04187563d-3
- real(real64), parameter codata::u_neutron_mag__mom__to_bohr_magneton_ratio =0.00000025d-3
- real(real64), parameter codata::neutron_mag__mom__to_nuclear_magneton_ratio =-1.91304273d0
- real(real64), parameter codata::u_neutron_mag__mom__to_nuclear_magneton_ratio =0.00000045d0
- real(real64), parameter codata::neutron_mass =1.67492749804d-27

  kg
- real(real64), parameter codata::u_neutron_mass =0.00000000095d-27

  kg
- real(real64), parameter codata::neutron_mass_energy_equivalent =1.50534976287d-10

  J.
- real(real64), parameter codata::u_neutron_mass_energy_equivalent =0.00000000086d-10

  J.
- real(real64), parameter codata::neutron_mass_energy_equivalent_in_mev =939.56542052d0

  MeV.
- real(real64), parameter codata::u_neutron_mass_energy_equivalent_in_mev =0.00000054d0

  MeV.
- real(real64), parameter codata::neutron_mass_in_u =1.00866491595d0

  u
- real(real64), parameter codata::u_neutron_mass_in_u =0.00000000049d0

  u
- real(real64), parameter codata::neutron_molar_mass =1.00866491560d-3

  kg mol^-1
- real(real64), parameter codata::u_neutron_molar_mass =0.00000000057d-3

  kg mol^-1
- real(real64), parameter codata::neutron_muon_mass_ratio =8.89248406d0
- real(real64), parameter codata::u_neutron_muon_mass_ratio =0.00000020d0
- real(real64), parameter codata::neutron_proton_mag__mom__ratio =-0.68497934d0
- real(real64), parameter codata::u_neutron_proton_mag__mom__ratio =0.00000016d0
- real(real64), parameter codata::neutron_proton_mass_difference =2.30557435d-30

  kg
- real(real64), parameter codata::u_neutron_proton_mass_difference =0.00000082d-30

  kg
- real(real64), parameter codata::neutron_proton_mass_difference_energy_equivalent =2.07214689d-13

  J.
- real(real64), parameter codata::u_neutron_proton_mass_difference_energy_equivalent =0.00000074d-13

  J.

- real(real64), parameter codata::neutron_proton_mass_difference_energy_equivalent_in_mev =1.↩ 29333236d0

  MeV.
- real(real64), parameter codata::u_neutron_proton_mass_difference_energy_equivalent_in_mev =0.↩ 00000046d0

  MeV.
- real(real64), parameter codata::neutron_proton_mass_difference_in_u =1.38844933d-3

  u
- real(real64), parameter codata::u_neutron_proton_mass_difference_in_u =0.00000049d-3

  u
- real(real64), parameter codata::neutron_proton_mass_ratio =1.00137841931d0
- real(real64), parameter codata::u_neutron_proton_mass_ratio =0.00000000049d0
- real(real64), parameter codata::neutron_relative_atomic_mass =1.00866491595d0
- real(real64), parameter codata::u_neutron_relative_atomic_mass =0.00000000049d0
- real(real64), parameter codata::neutron_tau_mass_ratio =0.528779d0
- real(real64), parameter codata::u_neutron_tau_mass_ratio =0.000036d0
- real(real64), parameter codata::neutron_to_shielded_proton_mag__mom__ratio =-0.68499694d0
- real(real64), parameter codata::u_neutron_to_shielded_proton_mag__mom__ratio =0.00000016d0
- real(real64), parameter codata::newtonian_constant_of_gravitation =6.67430d-11

  m^3 kg^-1 s^-2
- real(real64), parameter codata::u_newtonian_constant_of_gravitation =0.00015d-11

  m^3 kg^-1 s^-2
- real(real64), parameter codata::newtonian_constant_of_gravitation_over_h_bar_c =6.70883d-39

  (GeV/c^2)^-2
- real(real64), parameter codata::u_newtonian_constant_of_gravitation_over_h_bar_c =0.00015d-39

  (GeV/c^2)^-2
- real(real64), parameter codata::nuclear_magneton =5.0507837461d-27

  J T^-1.
- real(real64), parameter codata::u_nuclear_magneton =0.0000000015d-27

  J T^-1.
- real(real64), parameter codata::nuclear_magneton_in_ev_t =3.15245125844d-8

  eV T^-1
- real(real64), parameter codata::u_nuclear_magneton_in_ev_t =0.00000000096d-8

  eV T^-1
- real(real64), parameter codata::nuclear_magneton_in_inverse_meter_per_tesla =2.54262341353d-2

  m^-1 T^-1
- real(real64), parameter codata::u_nuclear_magneton_in_inverse_meter_per_tesla =0.00000000078d-2

  m^-1 T^-1
- real(real64), parameter codata::nuclear_magneton_in_k_t =3.6582677756d-4

  K T^-1.
- real(real64), parameter codata::u_nuclear_magneton_in_k_t =0.0000000011d-4

  K T^-1.
- real(real64), parameter codata::nuclear_magneton_in_mhz_t =7.6225932291d0

  MHz T^-1.
- real(real64), parameter codata::u_nuclear_magneton_in_mhz_t =0.0000000023d0

  MHz T^-1.
- real(real64), parameter codata::planck_constant =6.62607015d-34

  J Hz^-1.
- real(real64), parameter codata::u_planck_constant =0.0d0

  J Hz^-1.
- real(real64), parameter codata::planck_constant_in_ev_hz =4.135667696d-15

eV Hz^-1

- real(real64), parameter codata::u_planck_constant_in_ev_hz =0.0d0

  eV Hz^-1
- real(real64), parameter codata::planck_length =1.616255d-35

  m
- real(real64), parameter codata::u_planck_length =0.000018d-35

  m
- real(real64), parameter codata::planck_mass =2.176434d-8

  kg
- real(real64), parameter codata::u_planck_mass =0.000024d-8

  kg
- real(real64), parameter codata::planck_mass_energy_equivalent_in_gev =1.220890d19

  GeV.
- real(real64), parameter codata::u_planck_mass_energy_equivalent_in_gev =0.000014d19

  GeV.
- real(real64), parameter codata::planck_temperature =1.416784d32

  K.
- real(real64), parameter codata::u_planck_temperature =0.000016d32

  K.
- real(real64), parameter codata::planck_time =5.391247d-44

  s
- real(real64), parameter codata::u_planck_time =0.000060d-44

  s
- real(real64), parameter codata::proton_charge_to_mass_quotient =9.5788331560d7

  C kg^-1.
- real(real64), parameter codata::u_proton_charge_to_mass_quotient =0.0000000029d7

  C kg^-1.
- real(real64), parameter codata::proton_compton_wavelength =1.32140985539d-15

  m
- real(real64), parameter codata::u_proton_compton_wavelength =0.00000000040d-15

  m
- real(real64), parameter codata::proton_electron_mass_ratio =1836.15267343d0
- real(real64), parameter codata::u_proton_electron_mass_ratio =0.00000011d0
- real(real64), parameter codata::proton_g_factor =5.5856946893d0
- real(real64), parameter codata::u_proton_g_factor =0.0000000016d0
- real(real64), parameter codata::proton_gyromag__ratio =2.6752218744d8

  s^-1 T^-1
- real(real64), parameter codata::u_proton_gyromag__ratio =0.0000000011d8

  s^-1 T^-1
- real(real64), parameter codata::proton_gyromag__ratio_in_mhz_t =42.577478518d0

  MHz T^-1.
- real(real64), parameter codata::u_proton_gyromag__ratio_in_mhz_t =0.000000018d0

  MHz T^-1.
- real(real64), parameter codata::proton_mag__mom =1.41060679736d-26

  J T^-1.
- real(real64), parameter codata::u_proton_mag__mom =0.00000000060d-26

  J T^-1.
- real(real64), parameter codata::proton_mag__mom__to_bohr_magneton_ratio =1.52103220230d-3
- real(real64), parameter codata::u_proton_mag__mom__to_bohr_magneton_ratio =0.00000000046d-3
- real(real64), parameter codata::proton_mag__mom__to_nuclear_magneton_ratio =2.79284734463d0
- real(real64), parameter codata::u_proton_mag__mom__to_nuclear_magneton_ratio =0.00000000082d0

- real(real64), parameter codata::proton_mag__shielding_correction =2.5689d-5
- real(real64), parameter codata::u_proton_mag__shielding_correction =0.0011d-5
- real(real64), parameter codata::proton_mass =1.67262192369d-27

  kg
- real(real64), parameter codata::u_proton_mass =0.00000000051d-27

  kg
- real(real64), parameter codata::proton_mass_energy_equivalent =1.50327761598d-10

  J.
- real(real64), parameter codata::u_proton_mass_energy_equivalent =0.00000000046d-10

  J.
- real(real64), parameter codata::proton_mass_energy_equivalent_in_mev =938.27208816d0

  MeV.
- real(real64), parameter codata::u_proton_mass_energy_equivalent_in_mev =0.00000029d0

  MeV.
- real(real64), parameter codata::proton_mass_in_u =1.007276466621d0

  u
- real(real64), parameter codata::u_proton_mass_in_u =0.000000000053d0

  u
- real(real64), parameter codata::proton_molar_mass =1.00727646627d-3

  kg mol^-1
- real(real64), parameter codata::u_proton_molar_mass =0.00000000031d-3

  kg mol^-1
- real(real64), parameter codata::proton_muon_mass_ratio =8.88024337d0
- real(real64), parameter codata::u_proton_muon_mass_ratio =0.00000020d0
- real(real64), parameter codata::proton_neutron_mag__mom__ratio =-1.45989805d0
- real(real64), parameter codata::u_proton_neutron_mag__mom__ratio =0.00000034d0
- real(real64), parameter codata::proton_neutron_mass_ratio =0.99862347812d0
- real(real64), parameter codata::u_proton_neutron_mass_ratio =0.00000000049d0
- real(real64), parameter codata::proton_relative_atomic_mass =1.007276466621d0
- real(real64), parameter codata::u_proton_relative_atomic_mass =0.000000000053d0
- real(real64), parameter codata::proton_rms_charge_radius =8.414d-16

  m
- real(real64), parameter codata::u_proton_rms_charge_radius =0.019d-16

  m
- real(real64), parameter codata::proton_tau_mass_ratio =0.528051d0
- real(real64), parameter codata::u_proton_tau_mass_ratio =0.000036d0
- real(real64), parameter codata::quantum_of_circulation =3.6369475516d-4

  m^2 s^-1
- real(real64), parameter codata::u_quantum_of_circulation =0.0000000011d-4

  m^2 s^-1
- real(real64), parameter codata::quantum_of_circulation_times_2 =7.2738951032d-4

  m^2 s^-1
- real(real64), parameter codata::u_quantum_of_circulation_times_2 =0.0000000022d-4

  m^2 s^-1
- real(real64), parameter codata::reduced_compton_wavelength =3.8615926796d-13

  m
- real(real64), parameter codata::u_reduced_compton_wavelength =0.0000000012d-13

  m
- real(real64), parameter codata::reduced_muon_compton_wavelength =1.867594306d-15

  m
- real(real64), parameter codata::u_reduced_muon_compton_wavelength =0.000000042d-15

m

- real(real64), parameter codata::reduced_neutron_compton_wavelength =2.1001941552d-16

  m
- real(real64), parameter codata::u_reduced_neutron_compton_wavelength =0.0000000012d-16

  m
- real(real64), parameter codata::reduced_planck_constant =1.054571817d-34

  J s.
- real(real64), parameter codata::u_reduced_planck_constant =0.0d0

  J s.
- real(real64), parameter codata::reduced_planck_constant_in_ev_s =6.582119569d-16

  eV s
- real(real64), parameter codata::u_reduced_planck_constant_in_ev_s =0.0d0

  eV s
- real(real64), parameter codata::reduced_planck_constant_times_c_in_mev_fm =197.3269804d0

  MeV fm.
- real(real64), parameter codata::u_reduced_planck_constant_times_c_in_mev_fm =0.0d0

  MeV fm.
- real(real64), parameter codata::reduced_proton_compton_wavelength =2.10308910336d-16

  m
- real(real64), parameter codata::u_reduced_proton_compton_wavelength =0.00000000064d-16

  m
- real(real64), parameter codata::reduced_tau_compton_wavelength =1.110538d-16

  m
- real(real64), parameter codata::u_reduced_tau_compton_wavelength =0.000075d-16

  m
- real(real64), parameter codata::rydberg_constant =10973731.568160d0

  m^-1
- real(real64), parameter codata::u_rydberg_constant =0.000021d0

  m^-1
- real(real64), parameter codata::rydberg_constant_times_c_in_hz =3.2898419602508d15

  Hz.
- real(real64), parameter codata::u_rydberg_constant_times_c_in_hz =0.0000000000064d15

  Hz.
- real(real64), parameter codata::rydberg_constant_times_hc_in_ev =13.605693122994d0

  eV
- real(real64), parameter codata::u_rydberg_constant_times_hc_in_ev =0.000000000026d0

  eV
- real(real64), parameter codata::rydberg_constant_times_hc_in_j =2.1798723611035d-18

  J.
- real(real64), parameter codata::u_rydberg_constant_times_hc_in_j =0.0000000000042d-18

  J.
- real(real64), parameter codata::sackur_tetrode_constant__1_k__100_kpa =-1.15170753706d0
- real(real64), parameter codata::u_sackur_tetrode_constant__1_k__100_kpa =0.00000000045d0
- real(real64), parameter codata::sackur_tetrode_constant__1_k__101_325_kpa =-1.16487052358d0
- real(real64), parameter codata::u_sackur_tetrode_constant__1_k__101_325_kpa =0.00000000045d0
- real(real64), parameter codata::second_radiation_constant =1.438776877d-2

  m K
- real(real64), parameter codata::u_second_radiation_constant =0.0d0

  m K
- real(real64), parameter codata::shielded_helion_gyromag__ratio =2.037894569d8

  s^-1 T^-1

- real(real64), parameter codata::u_shielded_helion_gyromag__ratio =0.000000024d8

  s^-1 T^-1
- real(real64), parameter codata::shielded_helion_gyromag__ratio_in_mhz_t =32.43409942d0

  MHz T^-1.
- real(real64), parameter codata::u_shielded_helion_gyromag__ratio_in_mhz_t =0.00000038d0

  MHz T^-1.
- real(real64), parameter codata::shielded_helion_mag__mom =-1.074553090d-26

  J T^-1.
- real(real64), parameter codata::u_shielded_helion_mag__mom =0.000000013d-26

  J T^-1.
- real(real64), parameter codata::shielded_helion_mag__mom__to_bohr_magneton_ratio =-1.158671471d-3
- real(real64), parameter codata::u_shielded_helion_mag__mom__to_bohr_magneton_ratio =0.000000014d-3
- real(real64), parameter codata::shielded_helion_mag__mom__to_nuclear_magneton_ratio =-2.127497719d0
- real(real64), parameter codata::u_shielded_helion_mag__mom__to_nuclear_magneton_ratio =0.000000025d0
- real(real64), parameter codata::shielded_helion_to_proton_mag__mom__ratio =-0.7617665618d0
- real(real64), parameter codata::u_shielded_helion_to_proton_mag__mom__ratio =0.0000000089d0
- real(real64), parameter codata::shielded_helion_to_shielded_proton_mag__mom__ratio =-0.7617861313d0
- real(real64), parameter codata::u_shielded_helion_to_shielded_proton_mag__mom__ratio =0.0000000033d0
- real(real64), parameter codata::shielded_proton_gyromag__ratio =2.675153151d8

  s^-1 T^-1
- real(real64), parameter codata::u_shielded_proton_gyromag__ratio =0.000000029d8

  s^-1 T^-1
- real(real64), parameter codata::shielded_proton_gyromag__ratio_in_mhz_t =42.57638474d0

  MHz T^-1.
- real(real64), parameter codata::u_shielded_proton_gyromag__ratio_in_mhz_t =0.00000046d0

  MHz T^-1.
- real(real64), parameter codata::shielded_proton_mag__mom =1.410570560d-26

  J T^-1.
- real(real64), parameter codata::u_shielded_proton_mag__mom =0.000000015d-26

  J T^-1.
- real(real64), parameter codata::shielded_proton_mag__mom__to_bohr_magneton_ratio =1.520993128d-3
- real(real64), parameter codata::u_shielded_proton_mag__mom__to_bohr_magneton_ratio =0.000000017d-3
- real(real64), parameter codata::shielded_proton_mag__mom__to_nuclear_magneton_ratio =2.792775599d0
- real(real64), parameter codata::u_shielded_proton_mag__mom__to_nuclear_magneton_ratio =0.000000030d0
- real(real64), parameter codata::shielding_difference_of_d_and_p_in_hd =2.0200d-8
- real(real64), parameter codata::u_shielding_difference_of_d_and_p_in_hd =0.0020d-8
- real(real64), parameter codata::shielding_difference_of_t_and_p_in_ht =2.4140d-8
- real(real64), parameter codata::u_shielding_difference_of_t_and_p_in_ht =0.0020d-8
- real(real64), parameter codata::speed_of_light_in_vacuum =299792458.0d0

  m s^-1
- real(real64), parameter codata::u_speed_of_light_in_vacuum =0.0d0

  m s^-1
- real(real64), parameter codata::standard_acceleration_of_gravity =9.80665d0

  m s^-2
- real(real64), parameter codata::u_standard_acceleration_of_gravity =0.0d0

  m s^-2
- real(real64), parameter codata::standard_atmosphere =101325.0d0

  Pa.

- real(real64), parameter codata::u_standard_atmosphere =0.0d0

  Pa.
- real(real64), parameter codata::standard_state_pressure =100000.0d0

  Pa.
- real(real64), parameter codata::u_standard_state_pressure =0.0d0

  Pa.
- real(real64), parameter codata::stefan_boltzmann_constant =5.670374419d-8

  W m^-2 K^-4.
- real(real64), parameter codata::u_stefan_boltzmann_constant =0.0d0

  W m^-2 K^-4.
- real(real64), parameter codata::tau_compton_wavelength =6.97771d-16

  m
- real(real64), parameter codata::u_tau_compton_wavelength =0.00047d-16

  m
- real(real64), parameter codata::tau_electron_mass_ratio =3477.23d0
- real(real64), parameter codata::u_tau_electron_mass_ratio =0.23d0
- real(real64), parameter codata::tau_energy_equivalent =1776.86d0

  MeV.
- real(real64), parameter codata::u_tau_energy_equivalent =0.12d0

  MeV.
- real(real64), parameter codata::tau_mass =3.16754d-27

  kg
- real(real64), parameter codata::u_tau_mass =0.00021d-27

  kg
- real(real64), parameter codata::tau_mass_energy_equivalent =2.84684d-10

  J.
- real(real64), parameter codata::u_tau_mass_energy_equivalent =0.00019d-10

  J.
- real(real64), parameter codata::tau_mass_in_u =1.90754d0

  u
- real(real64), parameter codata::u_tau_mass_in_u =0.00013d0

  u
- real(real64), parameter codata::tau_molar_mass =1.90754d-3

  kg mol^-1
- real(real64), parameter codata::u_tau_molar_mass =0.00013d-3

  kg mol^-1
- real(real64), parameter codata::tau_muon_mass_ratio =16.8170d0
- real(real64), parameter codata::u_tau_muon_mass_ratio =0.0011d0
- real(real64), parameter codata::tau_neutron_mass_ratio =1.89115d0
- real(real64), parameter codata::u_tau_neutron_mass_ratio =0.00013d0
- real(real64), parameter codata::tau_proton_mass_ratio =1.89376d0
- real(real64), parameter codata::u_tau_proton_mass_ratio =0.00013d0
- real(real64), parameter codata::thomson_cross_section =6.6524587321d-29

  m^2
- real(real64), parameter codata::u_thomson_cross_section =0.0000000060d-29

  m^2
- real(real64), parameter codata::triton_electron_mass_ratio =5496.92153573d0
- real(real64), parameter codata::u_triton_electron_mass_ratio =0.00000027d0
- real(real64), parameter codata::triton_g_factor =5.957924931d0
- real(real64), parameter codata::u_triton_g_factor =0.000000012d0
- real(real64), parameter codata::triton_mag__mom =1.5046095202d-26

J T^-1.

- real(real64), parameter codata::u_triton_mag__mom =0.0000000030d-26

  J T^-1.
- real(real64), parameter codata::triton_mag__mom__to_bohr_magneton_ratio =1.6223936651d-3
- real(real64), parameter codata::u_triton_mag__mom__to_bohr_magneton_ratio =0.0000000032d-3
- real(real64), parameter codata::triton_mag__mom__to_nuclear_magneton_ratio =2.9789624656d0
- real(real64), parameter codata::u_triton_mag__mom__to_nuclear_magneton_ratio =0.0000000059d0
- real(real64), parameter codata::triton_mass =5.0073567446d-27

  kg
- real(real64), parameter codata::u_triton_mass =0.0000000015d-27

  kg
- real(real64), parameter codata::triton_mass_energy_equivalent =4.5003878060d-10

  J.
- real(real64), parameter codata::u_triton_mass_energy_equivalent =0.0000000014d-10

  J.
- real(real64), parameter codata::triton_mass_energy_equivalent_in_mev =2808.92113298d0

  MeV.
- real(real64), parameter codata::u_triton_mass_energy_equivalent_in_mev =0.00000085d0

  MeV.
- real(real64), parameter codata::triton_mass_in_u =3.01550071621d0

  u
- real(real64), parameter codata::u_triton_mass_in_u =0.00000000012d0

  u
- real(real64), parameter codata::triton_molar_mass =3.01550071517d-3

  kg mol^-1
- real(real64), parameter codata::u_triton_molar_mass =0.00000000092d-3

  kg mol^-1
- real(real64), parameter codata::triton_proton_mass_ratio =2.99371703414d0
- real(real64), parameter codata::u_triton_proton_mass_ratio =0.00000000015d0
- real(real64), parameter codata::triton_relative_atomic_mass =3.01550071621d0
- real(real64), parameter codata::u_triton_relative_atomic_mass =0.00000000012d0
- real(real64), parameter codata::triton_to_proton_mag__mom__ratio =1.0666399191d0
- real(real64), parameter codata::u_triton_to_proton_mag__mom__ratio =0.0000000021d0
- real(real64), parameter codata::unified_atomic_mass_unit =1.66053906660d-27

  kg
- real(real64), parameter codata::u_unified_atomic_mass_unit =0.00000000050d-27

  kg
- real(real64), parameter codata::vacuum_electric_permittivity =8.8541878128d-12

  F m^-1.
- real(real64), parameter codata::u_vacuum_electric_permittivity =0.0000000013d-12

  F m^-1.
- real(real64), parameter codata::vacuum_mag__permeability =1.25663706212d-6

  N A^-2.
- real(real64), parameter codata::u_vacuum_mag__permeability =0.00000000019d-6

  N A^-2.
- real(real64), parameter codata::von_klitzing_constant =25812.80745d0

  ohm
- real(real64), parameter codata::u_von_klitzing_constant =0.0d0

  ohm
- real(real64), parameter codata::weak_mixing_angle =0.22290d0
- real(real64), parameter codata::u_weak_mixing_angle =0.00030d0
- real(real64), parameter codata::wien_frequency_displacement_law_constant =5.878925757d10

Hz K^-1.

- real(real64), parameter codata::u_wien_frequency_displacement_law_constant =0.0d0

  Hz K^-1.
- real(real64), parameter codata::wien_wavelength_displacement_law_constant =2.897771955d-3

  m K
- real(real64), parameter codata::u_wien_wavelength_displacement_law_constant =0.0d0

  m K
- real(real64), parameter codata::w_to_z_mass_ratio =0.88153d0
- real(real64), parameter codata::u_w_to_z_mass_ratio =0.00017d0

16.15.1 Detailed Description

Codata module - autogenerated.

Definition in file fcodata.f90.

16.16 fcodata.f90

Go to the documentation of this file.

```
00001
00003
00004
00006 module codata
00007 use iso_fortran_env
00008 implicit none
00009
00010 real(real64), parameter:: &
00011 alpha_particle_electron_mass_ratio=7294.29954142d0
00012 real(real64), parameter :: &
00013 u_alpha_particle_electron_mass_ratio=0.00000024d0
00014
00015 real(real64), parameter:: &
00016 alpha_particle_mass=6.6446573357d-27
00017 real(real64), parameter :: &
00018 u_alpha_particle_mass=0.0000000020d-27
00019
00020 real(real64), parameter:: &
00021 alpha_particle_mass_energy_equivalent=5.9719201914d-10
00022 real(real64), parameter :: &
00023 u_alpha_particle_mass_energy_equivalent=0.0000000018d-10
00024
00025 real(real64), parameter:: &
00026 alpha_particle_mass_energy_equivalent_in_mev=3727.3794066d0
00027 real(real64), parameter :: &
00028 u_alpha_particle_mass_energy_equivalent_in_mev=0.0000011d0
00029
00030 real(real64), parameter:: &
00031 alpha_particle_mass_in_u=4.001506179127d0
00032 real(real64), parameter :: &
00033 u_alpha_particle_mass_in_u=0.000000000063d0
00034
00035 real(real64), parameter:: &
00036 alpha_particle_molar_mass=4.0015061777d-3
00037 real(real64), parameter :: &
00038 u_alpha_particle_molar_mass=0.0000000012d-3
00039
00040 real(real64), parameter:: &
00041 alpha_particle_proton_mass_ratio=3.97259969009d0
00042 real(real64), parameter :: &
00043 u_alpha_particle_proton_mass_ratio=0.00000000022d0
00044
00045 real(real64), parameter:: &
00046 alpha_particle_relative_atomic_mass=4.001506179127d0
00047 real(real64), parameter :: &
00048 u_alpha_particle_relative_atomic_mass=0.000000000063d0
00049
00050 real(real64), parameter:: &
00051 angstrom_star=1.00001495d-10
00052 real(real64), parameter :: &
00053 u_angstrom_star=0.00000090d-10
```

```
00054
00055 real(real64), parameter:: &
00056 atomic_mass_constant=1.66053906660d-27
00057 real(real64), parameter :: &
00058 u_atomic_mass_constant=0.00000000050d-27
00059
00060 real(real64), parameter:: &
00061 atomic_mass_constant_energy_equivalent=1.49241808560d-10
00062 real(real64), parameter :: &
00063 u_atomic_mass_constant_energy_equivalent=0.00000000045d-10
00064
00065 real(real64), parameter:: &
00066 atomic_mass_constant_energy_equivalent_in_mev=931.49410242d0
00067 real(real64), parameter :: &
00068 u_atomic_mass_constant_energy_equivalent_in_mev=0.00000028d0
00069
00070 real(real64), parameter:: &
00071 atomic_mass_unit_electron_volt_relationship=9.3149410242d8
00072 real(real64), parameter :: &
00073 u_atomic_mass_unit_electron_volt_relationship=0.0000000028d8
00074
00075 real(real64), parameter:: &
00076 atomic_mass_unit_hartree_relationship=3.4231776874d7
00077 real(real64), parameter :: &
00078 u_atomic_mass_unit_hartree_relationship=0.0000000010d7
00079
00080 real(real64), parameter:: &
00081 atomic_mass_unit_hertz_relationship=2.25234271871d23
00082 real(real64), parameter :: &
00083 u_atomic_mass_unit_hertz_relationship=0.00000000068d23
00084
00085 real(real64), parameter:: &
00086 atomic_mass_unit_inverse_meter_relationship=7.5130066104d14
00087 real(real64), parameter :: &
00088 u_atomic_mass_unit_inverse_meter_relationship=0.0000000023d14
00089
00090 real(real64), parameter:: &
00091 atomic_mass_unit_joule_relationship=1.49241808560d-10
00092 real(real64), parameter :: &
00093 u_atomic_mass_unit_joule_relationship=0.00000000045d-10
00094
00095 real(real64), parameter:: &
00096 atomic_mass_unit_kelvin_relationship=1.08095401916d13
00097 real(real64), parameter :: &
00098 u_atomic_mass_unit_kelvin_relationship=0.00000000033d13
00099
00100 real(real64), parameter:: &
00101 atomic_mass_unit_kilogram_relationship=1.66053906660d-27
00102 real(real64), parameter :: &
00103 u_atomic_mass_unit_kilogram_relationship=0.00000000050d-27
00104
00105 real(real64), parameter:: &
00106 atomic_unit_of_1st_hyperpolarizability=3.2063613061d-53
00107 real(real64), parameter :: &
00108 u_atomic_unit_of_1st_hyperpolarizability=0.0000000015d-53
00109
00110 real(real64), parameter:: &
00111 atomic_unit_of_2nd_hyperpolarizability=6.2353799905d-65
00112 real(real64), parameter :: &
00113 u_atomic_unit_of_2nd_hyperpolarizability=0.0000000038d-65
00114
00115 real(real64), parameter:: &
00116 atomic_unit_of_action=1.054571817d-34
00117 real(real64), parameter :: &
00118 u_atomic_unit_of_action=0.0d0
00119
00120 real(real64), parameter:: &
00121 atomic_unit_of_charge=1.602176634d-19
00122 real(real64), parameter :: &
00123 u_atomic_unit_of_charge=0.0d0
00124
00125 real(real64), parameter:: &
00126 atomic_unit_of_charge_density=1.08120238457d12
00127 real(real64), parameter :: &
00128 u_atomic_unit_of_charge_density=0.00000000049d12
00129
00130 real(real64), parameter:: &
00131 atomic_unit_of_current=6.623618237510d-3
00132 real(real64), parameter :: &
00133 u_atomic_unit_of_current=0.000000000013d-3
00134
00135 real(real64), parameter:: &
00136 atomic_unit_of_electric_dipole_mom=8.4783536255d-30
00137 real(real64), parameter :: &
00138 u_atomic_unit_of_electric_dipole_mom=0.0000000013d-30
00139
00140 real(real64), parameter:: &
```

```
00141 atomic_unit_of_electric_field=5.14220674763d11
00142 real(real64), parameter :: &
00143 u_atomic_unit_of_electric_field=0.00000000078d11
00144
00145 real(real64), parameter:: &
00146 atomic_unit_of_electric_field_gradient=9.7173624292d21
00147 real(real64), parameter :: &
00148 u_atomic_unit_of_electric_field_gradient=0.0000000029d21
00149
00150 real(real64), parameter:: &
00151 atomic_unit_of_electric_polarizability=1.64877727436d-41
00152 real(real64), parameter :: &
00153 u_atomic_unit_of_electric_polarizability=0.00000000050d-41
00154
00155 real(real64), parameter:: &
00156 atomic_unit_of_electric_potential=27.211386245988d0
00157 real(real64), parameter :: &
00158 u_atomic_unit_of_electric_potential=0.000000000053d0
00159
00160 real(real64), parameter:: &
00161 atomic_unit_of_electric_quadrupole_mom=4.4865515246d-40
00162 real(real64), parameter :: &
00163 u_atomic_unit_of_electric_quadrupole_mom=0.0000000014d-40
00164
00165 real(real64), parameter:: &
00166 atomic_unit_of_energy=4.3597447222071d-18
00167 real(real64), parameter :: &
00168 u_atomic_unit_of_energy=0.0000000000085d-18
00169
00170 real(real64), parameter:: &
00171 atomic_unit_of_force=8.2387234983d-8
00172 real(real64), parameter :: &
00173 u_atomic_unit_of_force=0.0000000012d-8
00174
00175 real(real64), parameter:: &
00176 atomic_unit_of_length=5.29177210903d-11
00177 real(real64), parameter :: &
00178 u_atomic_unit_of_length=0.00000000080d-11
00179
00180 real(real64), parameter:: &
00181 atomic_unit_of_mag__dipole_mom=1.85480201566d-23
00182 real(real64), parameter :: &
00183 u_atomic_unit_of_mag__dipole_mom=0.00000000056d-23
00184
00185 real(real64), parameter:: &
00186 atomic_unit_of_mag__flux_density=2.35051756758d5
00187 real(real64), parameter :: &
00188 u_atomic_unit_of_mag__flux_density=0.00000000071d5
00189
00190 real(real64), parameter:: &
00191 atomic_unit_of_magnetizability=7.8910366008d-29
00192 real(real64), parameter :: &
00193 u_atomic_unit_of_magnetizability=0.0000000048d-29
00194
00195 real(real64), parameter:: &
00196 atomic_unit_of_mass=9.1093837015d-31
00197 real(real64), parameter :: &
00198 u_atomic_unit_of_mass=0.0000000028d-31
00199
00200 real(real64), parameter:: &
00201 atomic_unit_of_momentum=1.99285191410d-24
00202 real(real64), parameter :: &
00203 u_atomic_unit_of_momentum=0.00000000030d-24
00204
00205 real(real64), parameter:: &
00206 atomic_unit_of_permittivity=1.11265005545d-10
00207 real(real64), parameter :: &
00208 u_atomic_unit_of_permittivity=0.00000000017d-10
00209
00210 real(real64), parameter:: &
00211 atomic_unit_of_time=2.4188843265857d-17
00212 real(real64), parameter :: &
00213 u_atomic_unit_of_time=0.0000000000047d-17
00214
00215 real(real64), parameter:: &
00216 atomic_unit_of_velocity=2.18769126364d6
00217 real(real64), parameter :: &
00218 u_atomic_unit_of_velocity=0.00000000033d6
00219
00220 real(real64), parameter:: &
00221 avogadro_constant=6.02214076d23
00222 real(real64), parameter :: &
00223 u_avogadro_constant=0.0d0
00224
00225 real(real64), parameter:: &
00226 bohr_magneton=9.2740100783d-24
00227 real(real64), parameter :: &
```

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00228 u_bohr_magneton=0.0000000028d-24
00229
00230 real(real64), parameter:: &
00231 bohr_magneton_in_ev_t=5.7883818060d-5
00232 real(real64), parameter :: &
00233 u_bohr_magneton_in_ev_t=0.0000000017d-5
00234
00235 real(real64), parameter:: &
00236 bohr_magneton_in_hz_t=1.39962449361d10
00237 real(real64), parameter :: &
00238 u_bohr_magneton_in_hz_t=0.00000000042d10
00239
00240 real(real64), parameter:: &
00241 bohr_magneton_in_inverse_meter_per_tesla=46.686447783d0
00242 real(real64), parameter :: &
00243 u_bohr_magneton_in_inverse_meter_per_tesla=0.000000014d0
00244
00245 real(real64), parameter:: &
00246 bohr_magneton_in_k_t=0.67171381563d0
00247 real(real64), parameter :: &
00248 u_bohr_magneton_in_k_t=0.00000000020d0
00249
00250 real(real64), parameter:: &
00251 bohr_radius=5.29177210903d-11
00252 real(real64), parameter :: &
00253 u_bohr_radius=0.00000000080d-11
00254
00255 real(real64), parameter:: &
00256 boltzmann_constant=1.380649d-23
00257 real(real64), parameter :: &
00258 u_boltzmann_constant=0.0d0
00259
00260 real(real64), parameter:: &
00261 boltzmann_constant_in_ev_k=8.617333262d-5
00262 real(real64), parameter :: &
00263 u_boltzmann_constant_in_ev_k=0.0d0
00264
00265 real(real64), parameter:: &
00266 boltzmann_constant_in_hz_k=2.083661912d10
00267 real(real64), parameter :: &
00268 u_boltzmann_constant_in_hz_k=0.0d0
00269
00270 real(real64), parameter:: &
00271 boltzmann_constant_in_inverse_meter_per_kelvin=69.50348004d0
00272 real(real64), parameter :: &
00273 u_boltzmann_constant_in_inverse_meter_per_kelvin=0.0d0
00274
00275 real(real64), parameter:: &
00276 characteristic_impedance_of_vacuum=376.730313668d0
00277 real(real64), parameter :: &
00278 u_characteristic_impedance_of_vacuum=0.000000057d0
00279
00280 real(real64), parameter:: &
00281 classical_electron_radius=2.8179403262d-15
00282 real(real64), parameter :: &
00283 u_classical_electron_radius=0.0000000013d-15
00284
00285 real(real64), parameter:: &
00286 compton_wavelength=2.42631023867d-12
00287 real(real64), parameter :: &
00288 u_compton_wavelength=0.00000000073d-12
00289
00290 real(real64), parameter:: &
00291 conductance_quantum=7.748091729d-5
00292 real(real64), parameter :: &
00293 u_conductance_quantum=0.0d0
00294
00295 real(real64), parameter:: &
00296 conventional_value_of_ampere_90=1.00000008887d0
00297 real(real64), parameter :: &
00298 u_conventional_value_of_ampere_90=0.0d0
00299
00300 real(real64), parameter:: &
00301 conventional_value_of_coulomb_90=1.00000008887d0
00302 real(real64), parameter :: &
00303 u_conventional_value_of_coulomb_90=0.0d0
00304
00305 real(real64), parameter:: &
00306 conventional_value_of_farad_90=0.99999998220d0
00307 real(real64), parameter :: &
00308 u_conventional_value_of_farad_90=0.0d0
00309
00310 real(real64), parameter:: &
00311 conventional_value_of_henry_90=1.00000001779d0
00312 real(real64), parameter :: &
00313 u_conventional_value_of_henry_90=0.0d0
00314
```

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00315 real(real64), parameter:: &
00316 conventional_value_of_josephson_constant=483597.9d9
00317 real(real64), parameter :: &
00318 u_conventional_value_of_josephson_constant=0.0d0
00319
00320 real(real64), parameter:: &
00321 conventional_value_of_ohm_90=1.00000001779d0
00322 real(real64), parameter :: &
00323 u_conventional_value_of_ohm_90=0.0d0
00324
00325 real(real64), parameter:: &
00326 conventional_value_of_volt_90=1.00000010666d0
00327 real(real64), parameter :: &
00328 u_conventional_value_of_volt_90=0.0d0
00329
00330 real(real64), parameter:: &
00331 conventional_value_of_von_klitzing_constant=25812.807d0
00332 real(real64), parameter :: &
00333 u_conventional_value_of_von_klitzing_constant=0.0d0
00334
00335 real(real64), parameter:: &
00336 conventional_value_of_watt_90=1.00000019553d0
00337 real(real64), parameter :: &
00338 u_conventional_value_of_watt_90=0.0d0
00339
00340 real(real64), parameter:: &
00341 copper_x_unit=1.00207697d-13
00342 real(real64), parameter :: &
00343 u_copper_x_unit=0.00000028d-13
00344
00345 real(real64), parameter:: &
00346 deuteron_electron_mag__mom__ratio=-4.664345551d-4
00347 real(real64), parameter :: &
00348 u_deuteron_electron_mag__mom__ratio=0.000000012d-4
00349
00350 real(real64), parameter:: &
00351 deuteron_electron_mass_ratio=3670.48296788d0
00352 real(real64), parameter :: &
00353 u_deuteron_electron_mass_ratio=0.00000013d0
00354
00355 real(real64), parameter:: &
00356 deuteron_g_factor=0.8574382338d0
00357 real(real64), parameter :: &
00358 u_deuteron_g_factor=0.0000000022d0
00359
00360 real(real64), parameter:: &
00361 deuteron_mag__mom=4.330735094d-27
00362 real(real64), parameter :: &
00363 u_deuteron_mag__mom=0.000000011d-27
00364
00365 real(real64), parameter:: &
00366 deuteron_mag__mom__to_bohr_magneton_ratio=4.669754570d-4
00367 real(real64), parameter :: &
00368 u_deuteron_mag__mom__to_bohr_magneton_ratio=0.000000012d-4
00369
00370 real(real64), parameter:: &
00371 deuteron_mag__mom__to_nuclear_magneton_ratio=0.8574382338d0
00372 real(real64), parameter :: &
00373 u_deuteron_mag__mom__to_nuclear_magneton_ratio=0.0000000022d0
00374
00375 real(real64), parameter:: &
00376 deuteron_mass=3.3435837724d-27
00377 real(real64), parameter :: &
00378 u_deuteron_mass=0.0000000010d-27
00379
00380 real(real64), parameter:: &
00381 deuteron_mass_energy_equivalent=3.00506323102d-10
00382 real(real64), parameter :: &
00383 u_deuteron_mass_energy_equivalent=0.00000000091d-10
00384
00385 real(real64), parameter:: &
00386 deuteron_mass_energy_equivalent_in_mev=1875.61294257d0
00387 real(real64), parameter :: &
00388 u_deuteron_mass_energy_equivalent_in_mev=0.00000057d0
00389
00390 real(real64), parameter:: &
00391 deuteron_mass_in_u=2.013553212745d0
00392 real(real64), parameter :: &
00393 u_deuteron_mass_in_u=0.000000000040d0
00394
00395 real(real64), parameter:: &
00396 deuteron_molar_mass=2.01355321205d-3
00397 real(real64), parameter :: &
00398 u_deuteron_molar_mass=0.00000000061d-3
00399
00400 real(real64), parameter:: &
00401 deuteron_neutron_mag__mom__ratio=-0.44820653d0
```

```
00402 real(real64), parameter :: &
00403 u_deuteron_neutron_mag__mom__ratio=0.00000011d0
00404
00405 real(real64), parameter:: &
00406 deuteron_proton_mag__mom__ratio=0.30701220939d0
00407 real(real64), parameter :: &
00408 u_deuteron_proton_mag__mom__ratio=0.00000000079d0
00409
00410 real(real64), parameter:: &
00411 deuteron_proton_mass_ratio=1.99900750139d0
00412 real(real64), parameter :: &
00413 u_deuteron_proton_mass_ratio=0.00000000011d0
00414
00415 real(real64), parameter:: &
00416 deuteron_relative_atomic_mass=2.013553212745d0
00417 real(real64), parameter :: &
00418 u_deuteron_relative_atomic_mass=0.000000000040d0
00419
00420 real(real64), parameter:: &
00421 deuteron_rms_charge_radius=2.12799d-15
00422 real(real64), parameter :: &
00423 u_deuteron_rms_charge_radius=0.00074d-15
00424
00425 real(real64), parameter:: &
00426 electron_charge_to_mass_quotient=-1.75882001076d11
00427 real(real64), parameter :: &
00428 u_electron_charge_to_mass_quotient=0.00000000053d11
00429
00430 real(real64), parameter:: &
00431 electron_deuteron_mag__mom__ratio=-2143.9234915d0
00432 real(real64), parameter :: &
00433 u_electron_deuteron_mag__mom__ratio=0.0000056d0
00434
00435 real(real64), parameter:: &
00436 electron_deuteron_mass_ratio=2.724437107462d-4
00437 real(real64), parameter :: &
00438 u_electron_deuteron_mass_ratio=0.000000000096d-4
00439
00440 real(real64), parameter:: &
00441 electron_g_factor=-2.00231930436256d0
00442 real(real64), parameter :: &
00443 u_electron_g_factor=0.00000000000035d0
00444
00445 real(real64), parameter:: &
00446 electron_gyromag__ratio=1.76085963023d11
00447 real(real64), parameter :: &
00448 u_electron_gyromag__ratio=0.00000000053d11
00449
00450 real(real64), parameter:: &
00451 electron_gyromag__ratio_in_mhz_t=28024.9514242d0
00452 real(real64), parameter :: &
00453 u_electron_gyromag__ratio_in_mhz_t=0.0000085d0
00454
00455 real(real64), parameter:: &
00456 electron_helion_mass_ratio=1.819543074573d-4
00457 real(real64), parameter :: &
00458 u_electron_helion_mass_ratio=0.000000000079d-4
00459
00460 real(real64), parameter:: &
00461 electron_mag__mom=-9.2847647043d-24
00462 real(real64), parameter :: &
00463 u_electron_mag__mom=0.0000000028d-24
00464
00465 real(real64), parameter:: &
00466 electron_mag__mom__anomaly=1.15965218128d-3
00467 real(real64), parameter :: &
00468 u_electron_mag__mom__anomaly=0.00000000018d-3
00469
00470 real(real64), parameter:: &
00471 electron_mag__mom__to_bohr_magneton_ratio=-1.00115965218128d0
00472 real(real64), parameter :: &
00473 u_electron_mag__mom__to_bohr_magneton_ratio=0.00000000000018d0
00474
00475 real(real64), parameter:: &
00476 electron_mag__mom__to_nuclear_magneton_ratio=-1838.28197188d0
00477 real(real64), parameter :: &
00478 u_electron_mag__mom__to_nuclear_magneton_ratio=0.00000011d0
00479
00480 real(real64), parameter:: &
00481 electron_mass=9.1093837015d-31
00482 real(real64), parameter :: &
00483 u_electron_mass=0.0000000028d-31
00484
00485 real(real64), parameter:: &
00486 electron_mass_energy_equivalent=8.1871057769d-14
00487 real(real64), parameter :: &
00488 u_electron_mass_energy_equivalent=0.0000000025d-14
```

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00489
00490 real(real64), parameter:: &
00491 electron_mass_energy_equivalent_in_mev=0.51099895000d0
00492 real(real64), parameter :: &
00493 u_electron_mass_energy_equivalent_in_mev=0.00000000015d0
00494
00495 real(real64), parameter:: &
00496 electron_mass_in_u=5.48579909065d-4
00497 real(real64), parameter :: &
00498 u_electron_mass_in_u=0.00000000016d-4
00499
00500 real(real64), parameter:: &
00501 electron_molar_mass=5.4857990888d-7
00502 real(real64), parameter :: &
00503 u_electron_molar_mass=0.0000000017d-7
00504
00505 real(real64), parameter:: &
00506 electron_muon_mag__mom__ratio=206.7669883d0
00507 real(real64), parameter :: &
00508 u_electron_muon_mag__mom__ratio=0.0000046d0
00509
00510 real(real64), parameter:: &
00511 electron_muon_mass_ratio=4.83633169d-3
00512 real(real64), parameter :: &
00513 u_electron_muon_mass_ratio=0.00000011d-3
00514
00515 real(real64), parameter:: &
00516 electron_neutron_mag__mom__ratio=960.92050d0
00517 real(real64), parameter :: &
00518 u_electron_neutron_mag__mom__ratio=0.00023d0
00519
00520 real(real64), parameter:: &
00521 electron_neutron_mass_ratio=5.4386734424d-4
00522 real(real64), parameter :: &
00523 u_electron_neutron_mass_ratio=0.0000000026d-4
00524
00525 real(real64), parameter:: &
00526 electron_proton_mag__mom__ratio=-658.21068789d0
00527 real(real64), parameter :: &
00528 u_electron_proton_mag__mom__ratio=0.00000020d0
00529
00530 real(real64), parameter:: &
00531 electron_proton_mass_ratio=5.44617021487d-4
00532 real(real64), parameter :: &
00533 u_electron_proton_mass_ratio=0.00000000033d-4
00534
00535 real(real64), parameter:: &
00536 electron_relative_atomic_mass=5.48579909065d-4
00537 real(real64), parameter :: &
00538 u_electron_relative_atomic_mass=0.00000000016d-4
00539
00540 real(real64), parameter:: &
00541 electron_tau_mass_ratio=2.87585d-4
00542 real(real64), parameter :: &
00543 u_electron_tau_mass_ratio=0.00019d-4
00544
00545 real(real64), parameter:: &
00546 electron_to_alpha_particle_mass_ratio=1.370933554787d-4
00547 real(real64), parameter :: &
00548 u_electron_to_alpha_particle_mass_ratio=0.000000000045d-4
00549
00550 real(real64), parameter:: &
00551 electron_to_shielded_helion_mag__mom__ratio=864.058257d0
00552 real(real64), parameter :: &
00553 u_electron_to_shielded_helion_mag__mom__ratio=0.000010d0
00554
00555 real(real64), parameter:: &
00556 electron_to_shielded_proton_mag__mom__ratio=-658.2275971d0
00557 real(real64), parameter :: &
00558 u_electron_to_shielded_proton_mag__mom__ratio=0.0000072d0
00559
00560 real(real64), parameter:: &
00561 electron_triton_mass_ratio=1.819200062251d-4
00562 real(real64), parameter :: &
00563 u_electron_triton_mass_ratio=0.000000000090d-4
00564
00565 real(real64), parameter:: &
00566 electron_volt=1.602176634d-19
00567 real(real64), parameter :: &
00568 u_electron_volt=0.0d0
00569
00570 real(real64), parameter:: &
00571 electron_volt_atomic_mass_unit_relationship=1.07354410233d-9
00572 real(real64), parameter :: &
00573 u_electron_volt_atomic_mass_unit_relationship=0.00000000032d-9
00574
00575 real(real64), parameter:: &
```

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00576 electron_volt_hartree_relationship=3.6749322175655d-2
00577 real(real64), parameter :: &
00578 u_electron_volt_hartree_relationship=0.0000000000071d-2
00579
00580 real(real64), parameter:: &
00581 electron_volt_hertz_relationship=2.417989242d14
00582 real(real64), parameter :: &
00583 u_electron_volt_hertz_relationship=0.0d0
00584
00585 real(real64), parameter:: &
00586 electron_volt_inverse_meter_relationship=8.065543937d5
00587 real(real64), parameter :: &
00588 u_electron_volt_inverse_meter_relationship=0.0d0
00589
00590 real(real64), parameter:: &
00591 electron_volt_joule_relationship=1.602176634d-19
00592 real(real64), parameter :: &
00593 u_electron_volt_joule_relationship=0.0d0
00594
00595 real(real64), parameter:: &
00596 electron_volt_kelvin_relationship=1.160451812d4
00597 real(real64), parameter :: &
00598 u_electron_volt_kelvin_relationship=0.0d0
00599
00600 real(real64), parameter:: &
00601 electron_volt_kilogram_relationship=1.782661921d-36
00602 real(real64), parameter :: &
00603 u_electron_volt_kilogram_relationship=0.0d0
00604
00605 real(real64), parameter:: &
00606 elementary_charge=1.602176634d-19
00607 real(real64), parameter :: &
00608 u_elementary_charge=0.0d0
00609
00610 real(real64), parameter:: &
00611 elementary_charge_over_h_bar=1.519267447d15
00612 real(real64), parameter :: &
00613 u_elementary_charge_over_h_bar=0.0d0
00614
00615 real(real64), parameter:: &
00616 faraday_constant=96485.33212d0
00617 real(real64), parameter :: &
00618 u_faraday_constant=0.0d0
00619
00620 real(real64), parameter:: &
00621 fermi_coupling_constant=1.1663787d-5
00622 real(real64), parameter :: &
00623 u_fermi_coupling_constant=0.0000006d-5
00624
00625 real(real64), parameter:: &
00626 fine_structure_constant=7.2973525693d-3
00627 real(real64), parameter :: &
00628 u_fine_structure_constant=0.0000000011d-3
00629
00630 real(real64), parameter:: &
00631 first_radiation_constant=3.741771852d-16
00632 real(real64), parameter :: &
00633 u_first_radiation_constant=0.0d0
00634
00635 real(real64), parameter:: &
00636 first_radiation_constant_for_spectral_radiance=1.191042972d-16
00637 real(real64), parameter :: &
00638 u_first_radiation_constant_for_spectral_radiance=0.0d0
00639
00640 real(real64), parameter:: &
00641 hartree_atomic_mass_unit_relationship=2.92126232205d-8
00642 real(real64), parameter :: &
00643 u_hartree_atomic_mass_unit_relationship=0.00000000088d-8
00644
00645 real(real64), parameter:: &
00646 hartree_electron_volt_relationship=27.211386245988d0
00647 real(real64), parameter :: &
00648 u_hartree_electron_volt_relationship=0.000000000053d0
00649
00650 real(real64), parameter:: &
00651 hartree_energy=4.3597447222071d-18
00652 real(real64), parameter :: &
00653 u_hartree_energy=0.0000000000085d-18
00654
00655 real(real64), parameter:: &
00656 hartree_energy_in_ev=27.211386245988d0
00657 real(real64), parameter :: &
00658 u_hartree_energy_in_ev=0.000000000053d0
00659
00660 real(real64), parameter:: &
00661 hartree_hertz_relationship=6.579683920502d15
00662 real(real64), parameter :: &
```

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00663 u_hartree_hertz_relationship=0.000000000013d15
00664
00665 real(real64), parameter:: &
00666 hartree_inverse_meter_relationship=2.1947463136320d7
00667 real(real64), parameter :: &
00668 u_hartree_inverse_meter_relationship=0.0000000000043d7
00669
00670 real(real64), parameter:: &
00671 hartree_joule_relationship=4.3597447222071d-18
00672 real(real64), parameter :: &
00673 u_hartree_joule_relationship=0.0000000000085d-18
00674
00675 real(real64), parameter:: &
00676 hartree_kelvin_relationship=3.1577502480407d5
00677 real(real64), parameter :: &
00678 u_hartree_kelvin_relationship=0.0000000000061d5
00679
00680 real(real64), parameter:: &
00681 hartree_kilogram_relationship=4.8508702095432d-35
00682 real(real64), parameter :: &
00683 u_hartree_kilogram_relationship=0.0000000000094d-35
00684
00685 real(real64), parameter:: &
00686 helion_electron_mass_ratio=5495.88528007d0
00687 real(real64), parameter :: &
00688 u_helion_electron_mass_ratio=0.00000024d0
00689
00690 real(real64), parameter:: &
00691 helion_g_factor=-4.255250615d0
00692 real(real64), parameter :: &
00693 u_helion_g_factor=0.000000050d0
00694
00695 real(real64), parameter:: &
00696 helion_mag__mom=-1.074617532d-26
00697 real(real64), parameter :: &
00698 u_helion_mag__mom=0.000000013d-26
00699
00700 real(real64), parameter:: &
00701 helion_mag__mom__to_bohr_magneton_ratio=-1.158740958d-3
00702 real(real64), parameter :: &
00703 u_helion_mag__mom__to_bohr_magneton_ratio=0.000000014d-3
00704
00705 real(real64), parameter:: &
00706 helion_mag__mom__to_nuclear_magneton_ratio=-2.127625307d0
00707 real(real64), parameter :: &
00708 u_helion_mag__mom__to_nuclear_magneton_ratio=0.000000025d0
00709
00710 real(real64), parameter:: &
00711 helion_mass=5.0064127796d-27
00712 real(real64), parameter :: &
00713 u_helion_mass=0.0000000015d-27
00714
00715 real(real64), parameter:: &
00716 helion_mass_energy_equivalent=4.4995394125d-10
00717 real(real64), parameter :: &
00718 u_helion_mass_energy_equivalent=0.0000000014d-10
00719
00720 real(real64), parameter:: &
00721 helion_mass_energy_equivalent_in_mev=2808.39160743d0
00722 real(real64), parameter :: &
00723 u_helion_mass_energy_equivalent_in_mev=0.00000085d0
00724
00725 real(real64), parameter:: &
00726 helion_mass_in_u=3.014932247175d0
00727 real(real64), parameter :: &
00728 u_helion_mass_in_u=0.000000000097d0
00729
00730 real(real64), parameter:: &
00731 helion_molar_mass=3.01493224613d-3
00732 real(real64), parameter :: &
00733 u_helion_molar_mass=0.00000000091d-3
00734
00735 real(real64), parameter:: &
00736 helion_proton_mass_ratio=2.99315267167d0
00737 real(real64), parameter :: &
00738 u_helion_proton_mass_ratio=0.00000000013d0
00739
00740 real(real64), parameter:: &
00741 helion_relative_atomic_mass=3.014932247175d0
00742 real(real64), parameter :: &
00743 u_helion_relative_atomic_mass=0.000000000097d0
00744
00745 real(real64), parameter:: &
00746 helion_shielding_shift=5.996743d-5
00747 real(real64), parameter :: &
00748 u_helion_shielding_shift=0.000010d-5
00749
```

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00750 real(real64), parameter:: &
00751 hertz_atomic_mass_unit_relationship=4.4398216652d-24
00752 real(real64), parameter :: &
00753 u_hertz_atomic_mass_unit_relationship=0.0000000013d-24
00754
00755 real(real64), parameter:: &
00756 hertz_electron_volt_relationship=4.135667696d-15
00757 real(real64), parameter :: &
00758 u_hertz_electron_volt_relationship=0.0d0
00759
00760 real(real64), parameter:: &
00761 hertz_hartree_relationship=1.5198298460570d-16
00762 real(real64), parameter :: &
00763 u_hertz_hartree_relationship=0.0000000000029d-16
00764
00765 real(real64), parameter:: &
00766 hertz_inverse_meter_relationship=3.335640951d-9
00767 real(real64), parameter :: &
00768 u_hertz_inverse_meter_relationship=0.0d0
00769
00770 real(real64), parameter:: &
00771 hertz_joule_relationship=6.62607015d-34
00772 real(real64), parameter :: &
00773 u_hertz_joule_relationship=0.0d0
00774
00775 real(real64), parameter:: &
00776 hertz_kelvin_relationship=4.799243073d-11
00777 real(real64), parameter :: &
00778 u_hertz_kelvin_relationship=0.0d0
00779
00780 real(real64), parameter:: &
00781 hertz_kilogram_relationship=7.372497323d-51
00782 real(real64), parameter :: &
00783 u_hertz_kilogram_relationship=0.0d0
00784
00785 real(real64), parameter:: &
00786 hyperfine_transition_frequency_of_cs_133=9192631770.0d0
00787 real(real64), parameter :: &
00788 u_hyperfine_transition_frequency_of_cs_133=0.0d0
00789
00790 real(real64), parameter:: &
00791 inverse_fine_structure_constant=137.035999084d0
00792 real(real64), parameter :: &
00793 u_inverse_fine_structure_constant=0.000000021d0
00794
00795 real(real64), parameter:: &
00796 inverse_meter_atomic_mass_unit_relationship=1.33102505010d-15
00797 real(real64), parameter :: &
00798 u_inverse_meter_atomic_mass_unit_relationship=0.00000000040d-15
00799
00800 real(real64), parameter:: &
00801 inverse_meter_electron_volt_relationship=1.239841984d-6
00802 real(real64), parameter :: &
00803 u_inverse_meter_electron_volt_relationship=0.0d0
00804
00805 real(real64), parameter:: &
00806 inverse_meter_hartree_relationship=4.5563352529120d-8
00807 real(real64), parameter :: &
00808 u_inverse_meter_hartree_relationship=0.0000000000088d-8
00809
00810 real(real64), parameter:: &
00811 inverse_meter_hertz_relationship=299792458.0d0
00812 real(real64), parameter :: &
00813 u_inverse_meter_hertz_relationship=0.0d0
00814
00815 real(real64), parameter:: &
00816 inverse_meter_joule_relationship=1.986445857d-25
00817 real(real64), parameter :: &
00818 u_inverse_meter_joule_relationship=0.0d0
00819
00820 real(real64), parameter:: &
00821 inverse_meter_kelvin_relationship=1.438776877d-2
00822 real(real64), parameter :: &
00823 u_inverse_meter_kelvin_relationship=0.0d0
00824
00825 real(real64), parameter:: &
00826 inverse_meter_kilogram_relationship=2.210219094d-42
00827 real(real64), parameter :: &
00828 u_inverse_meter_kilogram_relationship=0.0d0
00829
00830 real(real64), parameter:: &
00831 inverse_of_conductance_quantum=12906.40372d0
00832 real(real64), parameter :: &
00833 u_inverse_of_conductance_quantum=0.0d0
00834
00835 real(real64), parameter:: &
00836 josephson_constant=483597.8484d9
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00837 real(real64), parameter :: &
00838 u_josephson_constant=0.0d0
00839
00840 real(real64), parameter:: &
00841 joule_atomic_mass_unit_relationship=6.7005352565d9
00842 real(real64), parameter :: &
00843 u_joule_atomic_mass_unit_relationship=0.0000000020d9
00844
00845 real(real64), parameter:: &
00846 joule_electron_volt_relationship=6.241509074d18
00847 real(real64), parameter :: &
00848 u_joule_electron_volt_relationship=0.0d0
00849
00850 real(real64), parameter:: &
00851 joule_hartree_relationship=2.2937122783963d17
00852 real(real64), parameter :: &
00853 u_joule_hartree_relationship=0.0000000000045d17
00854
00855 real(real64), parameter:: &
00856 joule_hertz_relationship=1.509190179d33
00857 real(real64), parameter :: &
00858 u_joule_hertz_relationship=0.0d0
00859
00860 real(real64), parameter:: &
00861 joule_inverse_meter_relationship=5.034116567d24
00862 real(real64), parameter :: &
00863 u_joule_inverse_meter_relationship=0.0d0
00864
00865 real(real64), parameter:: &
00866 joule_kelvin_relationship=7.242970516d22
00867 real(real64), parameter :: &
00868 u_joule_kelvin_relationship=0.0d0
00869
00870 real(real64), parameter:: &
00871 joule_kilogram_relationship=1.112650056d-17
00872 real(real64), parameter :: &
00873 u_joule_kilogram_relationship=0.0d0
00874
00875 real(real64), parameter:: &
00876 kelvin_atomic_mass_unit_relationship=9.2510873014d-14
00877 real(real64), parameter :: &
00878 u_kelvin_atomic_mass_unit_relationship=0.0000000028d-14
00879
00880 real(real64), parameter:: &
00881 kelvin_electron_volt_relationship=8.617333262d-5
00882 real(real64), parameter :: &
00883 u_kelvin_electron_volt_relationship=0.0d0
00884
00885 real(real64), parameter:: &
00886 kelvin_hartree_relationship=3.1668115634556d-6
00887 real(real64), parameter :: &
00888 u_kelvin_hartree_relationship=0.0000000000061d-6
00889
00890 real(real64), parameter:: &
00891 kelvin_hertz_relationship=2.083661912d10
00892 real(real64), parameter :: &
00893 u_kelvin_hertz_relationship=0.0d0
00894
00895 real(real64), parameter:: &
00896 kelvin_inverse_meter_relationship=69.50348004d0
00897 real(real64), parameter :: &
00898 u_kelvin_inverse_meter_relationship=0.0d0
00899
00900 real(real64), parameter:: &
00901 kelvin_joule_relationship=1.380649d-23
00902 real(real64), parameter :: &
00903 u_kelvin_joule_relationship=0.0d0
00904
00905 real(real64), parameter:: &
00906 kelvin_kilogram_relationship=1.536179187d-40
00907 real(real64), parameter :: &
00908 u_kelvin_kilogram_relationship=0.0d0
00909
00910 real(real64), parameter:: &
00911 kilogram_atomic_mass_unit_relationship=6.0221407621d26
00912 real(real64), parameter :: &
00913 u_kilogram_atomic_mass_unit_relationship=0.0000000018d26
00914
00915 real(real64), parameter:: &
00916 kilogram_electron_volt_relationship=5.609588603d35
00917 real(real64), parameter :: &
00918 u_kilogram_electron_volt_relationship=0.0d0
00919
00920 real(real64), parameter:: &
00921 kilogram_hartree_relationship=2.0614857887409d34
00922 real(real64), parameter :: &
00923 u_kilogram_hartree_relationship=0.0000000000040d34
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00924
00925 real(real64), parameter:: &
00926 kilogram_hertz_relationship=1.356392489d50
00927 real(real64), parameter :: &
00928 u_kilogram_hertz_relationship=0.0d0
00929
00930 real(real64), parameter:: &
00931 kilogram_inverse_meter_relationship=4.524438335d41
00932 real(real64), parameter :: &
00933 u_kilogram_inverse_meter_relationship=0.0d0
00934
00935 real(real64), parameter:: &
00936 kilogram_joule_relationship=8.987551787d16
00937 real(real64), parameter :: &
00938 u_kilogram_joule_relationship=0.0d0
00939
00940 real(real64), parameter:: &
00941 kilogram_kelvin_relationship=6.509657260d39
00942 real(real64), parameter :: &
00943 u_kilogram_kelvin_relationship=0.0d0
00944
00945 real(real64), parameter:: &
00946 lattice_parameter_of_silicon=5.431020511d-10
00947 real(real64), parameter :: &
00948 u_lattice_parameter_of_silicon=0.000000089d-10
00949
00950 real(real64), parameter:: &
00951 lattice_spacing_of_ideal_si__220=1.920155716d-10
00952 real(real64), parameter :: &
00953 u_lattice_spacing_of_ideal_si__220=0.000000032d-10
00954
00955 real(real64), parameter:: &
00956 loschmidt_constant__273_15_k__100_kpa=2.651645804d25
00957 real(real64), parameter :: &
00958 u_loschmidt_constant__273_15_k__100_kpa=0.0d0
00959
00960 real(real64), parameter:: &
00961 loschmidt_constant__273_15_k__101_325_kpa=2.686780111d25
00962 real(real64), parameter :: &
00963 u_loschmidt_constant__273_15_k__101_325_kpa=0.0d0
00964
00965 real(real64), parameter:: &
00966 luminous_efficacy=683.0d0
00967 real(real64), parameter :: &
00968 u_luminous_efficacy=0.0d0
00969
00970 real(real64), parameter:: &
00971 mag__flux_quantum=2.067833848d-15
00972 real(real64), parameter :: &
00973 u_mag__flux_quantum=0.0d0
00974
00975 real(real64), parameter:: &
00976 molar_gas_constant=8.314462618d0
00977 real(real64), parameter :: &
00978 u_molar_gas_constant=0.0d0
00979
00980 real(real64), parameter:: &
00981 molar_mass_constant=0.99999999965d-3
00982 real(real64), parameter :: &
00983 u_molar_mass_constant=0.00000000030d-3
00984
00985 real(real64), parameter:: &
00986 molar_mass_of_carbon_12=11.9999999958d-3
00987 real(real64), parameter :: &
00988 u_molar_mass_of_carbon_12=0.0000000036d-3
00989
00990 real(real64), parameter:: &
00991 molar_planck_constant=3.990312712d-10
00992 real(real64), parameter :: &
00993 u_molar_planck_constant=0.0d0
00994
00995 real(real64), parameter:: &
00996 molar_volume_of_ideal_gas__273_15_k__100_kpa=22.71095464d-3
00997 real(real64), parameter :: &
00998 u_molar_volume_of_ideal_gas__273_15_k__100_kpa=0.0d0
00999
01000 real(real64), parameter:: &
01001 molar_volume_of_ideal_gas__273_15_k__101_325_kpa=22.41396954d-3
01002 real(real64), parameter :: &
01003 u_molar_volume_of_ideal_gas__273_15_k__101_325_kpa=0.0d0
01004
01005 real(real64), parameter:: &
01006 molar_volume_of_silicon=1.205883199d-5
01007 real(real64), parameter :: &
01008 u_molar_volume_of_silicon=0.000000060d-5
01009
01010 real(real64), parameter:: &
```

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01011 molybdenum_x_unit=1.00209952d-13
01012 real(real64), parameter :: &
01013 u_molybdenum_x_unit=0.00000053d-13
01014
01015 real(real64), parameter:: &
01016 muon_compton_wavelength=1.173444110d-14
01017 real(real64), parameter :: &
01018 u_muon_compton_wavelength=0.000000026d-14
01019
01020 real(real64), parameter:: &
01021 muon_electron_mass_ratio=206.7682830d0
01022 real(real64), parameter :: &
01023 u_muon_electron_mass_ratio=0.0000046d0
01024
01025 real(real64), parameter:: &
01026 muon_g_factor=-2.0023318418d0
01027 real(real64), parameter :: &
01028 u_muon_g_factor=0.0000000013d0
01029
01030 real(real64), parameter:: &
01031 muon_mag__mom=-4.49044830d-26
01032 real(real64), parameter :: &
01033 u_muon_mag__mom=0.00000010d-26
01034
01035 real(real64), parameter:: &
01036 muon_mag__mom__anomaly=1.16592089d-3
01037 real(real64), parameter :: &
01038 u_muon_mag__mom__anomaly=0.00000063d-3
01039
01040 real(real64), parameter:: &
01041 muon_mag__mom__to_bohr_magneton_ratio=-4.84197047d-3
01042 real(real64), parameter :: &
01043 u_muon_mag__mom__to_bohr_magneton_ratio=0.00000011d-3
01044
01045 real(real64), parameter:: &
01046 muon_mag__mom__to_nuclear_magneton_ratio=-8.89059703d0
01047 real(real64), parameter :: &
01048 u_muon_mag__mom__to_nuclear_magneton_ratio=0.00000020d0
01049
01050 real(real64), parameter:: &
01051 muon_mass=1.883531627d-28
01052 real(real64), parameter :: &
01053 u_muon_mass=0.000000042d-28
01054
01055 real(real64), parameter:: &
01056 muon_mass_energy_equivalent=1.692833804d-11
01057 real(real64), parameter :: &
01058 u_muon_mass_energy_equivalent=0.000000038d-11
01059
01060 real(real64), parameter:: &
01061 muon_mass_energy_equivalent_in_mev=105.6583755d0
01062 real(real64), parameter :: &
01063 u_muon_mass_energy_equivalent_in_mev=0.0000023d0
01064
01065 real(real64), parameter:: &
01066 muon_mass_in_u=0.1134289259d0
01067 real(real64), parameter :: &
01068 u_muon_mass_in_u=0.0000000025d0
01069
01070 real(real64), parameter:: &
01071 muon_molar_mass=1.134289259d-4
01072 real(real64), parameter :: &
01073 u_muon_molar_mass=0.000000025d-4
01074
01075 real(real64), parameter:: &
01076 muon_neutron_mass_ratio=0.1124545170d0
01077 real(real64), parameter :: &
01078 u_muon_neutron_mass_ratio=0.0000000025d0
01079
01080 real(real64), parameter:: &
01081 muon_proton_mag__mom__ratio=-3.183345142d0
01082 real(real64), parameter :: &
01083 u_muon_proton_mag__mom__ratio=0.000000071d0
01084
01085 real(real64), parameter:: &
01086 muon_proton_mass_ratio=0.1126095264d0
01087 real(real64), parameter :: &
01088 u_muon_proton_mass_ratio=0.0000000025d0
01089
01090 real(real64), parameter:: &
01091 muon_tau_mass_ratio=5.94635d-2
01092 real(real64), parameter :: &
01093 u_muon_tau_mass_ratio=0.00040d-2
01094
01095 real(real64), parameter:: &
01096 natural_unit_of_action=1.054571817d-34
01097 real(real64), parameter :: &
```

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01098 u_natural_unit_of_action=0.0d0
01099
01100 real(real64), parameter:: &
01101 natural_unit_of_action_in_ev_s=6.582119569d-16
01102 real(real64), parameter :: &
01103 u_natural_unit_of_action_in_ev_s=0.0d0
01104
01105 real(real64), parameter:: &
01106 natural_unit_of_energy=8.1871057769d-14
01107 real(real64), parameter :: &
01108 u_natural_unit_of_energy=0.0000000025d-14
01109
01110 real(real64), parameter:: &
01111 natural_unit_of_energy_in_mev=0.51099895000d0
01112 real(real64), parameter :: &
01113 u_natural_unit_of_energy_in_mev=0.00000000015d0
01114
01115 real(real64), parameter:: &
01116 natural_unit_of_length=3.8615926796d-13
01117 real(real64), parameter :: &
01118 u_natural_unit_of_length=0.0000000012d-13
01119
01120 real(real64), parameter:: &
01121 natural_unit_of_mass=9.1093837015d-31
01122 real(real64), parameter :: &
01123 u_natural_unit_of_mass=0.0000000028d-31
01124
01125 real(real64), parameter:: &
01126 natural_unit_of_momentum=2.73092453075d-22
01127 real(real64), parameter :: &
01128 u_natural_unit_of_momentum=0.00000000082d-22
01129
01130 real(real64), parameter:: &
01131 natural_unit_of_momentum_in_mev_c=0.51099895000d0
01132 real(real64), parameter :: &
01133 u_natural_unit_of_momentum_in_mev_c=0.00000000015d0
01134
01135 real(real64), parameter:: &
01136 natural_unit_of_time=1.28808866819d-21
01137 real(real64), parameter :: &
01138 u_natural_unit_of_time=0.00000000039d-21
01139
01140 real(real64), parameter:: &
01141 natural_unit_of_velocity=299792458.0d0
01142 real(real64), parameter :: &
01143 u_natural_unit_of_velocity=0.0d0
01144
01145 real(real64), parameter:: &
01146 neutron_compton_wavelength=1.31959090581d-15
01147 real(real64), parameter :: &
01148 u_neutron_compton_wavelength=0.00000000075d-15
01149
01150 real(real64), parameter:: &
01151 neutron_electron_mag__mom__ratio=1.04066882d-3
01152 real(real64), parameter :: &
01153 u_neutron_electron_mag__mom__ratio=0.00000025d-3
01154
01155 real(real64), parameter:: &
01156 neutron_electron_mass_ratio=1838.68366173d0
01157 real(real64), parameter :: &
01158 u_neutron_electron_mass_ratio=0.00000089d0
01159
01160 real(real64), parameter:: &
01161 neutron_g_factor=-3.82608545d0
01162 real(real64), parameter :: &
01163 u_neutron_g_factor=0.00000090d0
01164
01165 real(real64), parameter:: &
01166 neutron_gyromag__ratio=1.83247171d8
01167 real(real64), parameter :: &
01168 u_neutron_gyromag__ratio=0.00000043d8
01169
01170 real(real64), parameter:: &
01171 neutron_gyromag__ratio_in_mhz_t=29.1646931d0
01172 real(real64), parameter :: &
01173 u_neutron_gyromag__ratio_in_mhz_t=0.0000069d0
01174
01175 real(real64), parameter:: &
01176 neutron_mag__mom=-9.6623651d-27
01177 real(real64), parameter :: &
01178 u_neutron_mag__mom=0.0000023d-27
01179
01180 real(real64), parameter:: &
01181 neutron_mag__mom__to_bohr_magneton_ratio=-1.04187563d-3
01182 real(real64), parameter :: &
01183 u_neutron_mag__mom__to_bohr_magneton_ratio=0.00000025d-3
01184
```

```
01185 real(real64), parameter:: &
01186 neutron_mag__mom__to_nuclear_magneton_ratio=-1.91304273d0
01187 real(real64), parameter :: &
01188 u_neutron_mag__mom__to_nuclear_magneton_ratio=0.00000045d0
01189
01190 real(real64), parameter:: &
01191 neutron_mass=1.67492749804d-27
01192 real(real64), parameter :: &
01193 u_neutron_mass=0.00000000095d-27
01194
01195 real(real64), parameter:: &
01196 neutron_mass_energy_equivalent=1.50534976287d-10
01197 real(real64), parameter :: &
01198 u_neutron_mass_energy_equivalent=0.00000000086d-10
01199
01200 real(real64), parameter:: &
01201 neutron_mass_energy_equivalent_in_mev=939.56542052d0
01202 real(real64), parameter :: &
01203 u_neutron_mass_energy_equivalent_in_mev=0.00000054d0
01204
01205 real(real64), parameter:: &
01206 neutron_mass_in_u=1.00866491595d0
01207 real(real64), parameter :: &
01208 u_neutron_mass_in_u=0.00000000049d0
01209
01210 real(real64), parameter:: &
01211 neutron_molar_mass=1.00866491560d-3
01212 real(real64), parameter :: &
01213 u_neutron_molar_mass=0.00000000057d-3
01214
01215 real(real64), parameter:: &
01216 neutron_muon_mass_ratio=8.89248406d0
01217 real(real64), parameter :: &
01218 u_neutron_muon_mass_ratio=0.00000020d0
01219
01220 real(real64), parameter:: &
01221 neutron_proton_mag__mom__ratio=-0.68497934d0
01222 real(real64), parameter :: &
01223 u_neutron_proton_mag__mom__ratio=0.00000016d0
01224
01225 real(real64), parameter:: &
01226 neutron_proton_mass_difference=2.30557435d-30
01227 real(real64), parameter :: &
01228 u_neutron_proton_mass_difference=0.00000082d-30
01229
01230 real(real64), parameter:: &
01231 neutron_proton_mass_difference_energy_equivalent=2.07214689d-13
01232 real(real64), parameter :: &
01233 u_neutron_proton_mass_difference_energy_equivalent=0.00000074d-13
01234
01235 real(real64), parameter:: &
01236 neutron_proton_mass_difference_energy_equivalent_in_mev=1.29333236d0
01237 real(real64), parameter :: &
01238 u_neutron_proton_mass_difference_energy_equivalent_in_mev=0.00000046d0
01239
01240 real(real64), parameter:: &
01241 neutron_proton_mass_difference_in_u=1.38844933d-3
01242 real(real64), parameter :: &
01243 u_neutron_proton_mass_difference_in_u=0.00000049d-3
01244
01245 real(real64), parameter:: &
01246 neutron_proton_mass_ratio=1.00137841931d0
01247 real(real64), parameter :: &
01248 u_neutron_proton_mass_ratio=0.00000000049d0
01249
01250 real(real64), parameter:: &
01251 neutron_relative_atomic_mass=1.00866491595d0
01252 real(real64), parameter :: &
01253 u_neutron_relative_atomic_mass=0.00000000049d0
01254
01255 real(real64), parameter:: &
01256 neutron_tau_mass_ratio=0.528779d0
01257 real(real64), parameter :: &
01258 u_neutron_tau_mass_ratio=0.000036d0
01259
01260 real(real64), parameter:: &
01261 neutron_to_shielded_proton_mag__mom__ratio=-0.68499694d0
01262 real(real64), parameter :: &
01263 u_neutron_to_shielded_proton_mag__mom__ratio=0.00000016d0
01264
01265 real(real64), parameter:: &
01266 newtonian_constant_of_gravitation=6.67430d-11
01267 real(real64), parameter :: &
01268 u_newtonian_constant_of_gravitation=0.00015d-11
01269
01270 real(real64), parameter:: &
01271 newtonian_constant_of_gravitation_over_h_bar_c=6.70883d-39
```

```
01272 real(real64), parameter :: &
01273 u_newtonian_constant_of_gravitation_over_h_bar_c=0.00015d-39
01274
01275 real(real64), parameter:: &
01276 nuclear_magneton=5.0507837461d-27
01277 real(real64), parameter :: &
01278 u_nuclear_magneton=0.0000000015d-27
01279
01280 real(real64), parameter:: &
01281 nuclear_magneton_in_ev_t=3.15245125844d-8
01282 real(real64), parameter :: &
01283 u_nuclear_magneton_in_ev_t=0.00000000096d-8
01284
01285 real(real64), parameter:: &
01286 nuclear_magneton_in_inverse_meter_per_tesla=2.54262341353d-2
01287 real(real64), parameter :: &
01288 u_nuclear_magneton_in_inverse_meter_per_tesla=0.00000000078d-2
01289
01290 real(real64), parameter:: &
01291 nuclear_magneton_in_k_t=3.6582677756d-4
01292 real(real64), parameter :: &
01293 u_nuclear_magneton_in_k_t=0.0000000011d-4
01294
01295 real(real64), parameter:: &
01296 nuclear_magneton_in_mhz_t=7.6225932291d0
01297 real(real64), parameter :: &
01298 u_nuclear_magneton_in_mhz_t=0.0000000023d0
01299
01300 real(real64), parameter:: &
01301 planck_constant=6.62607015d-34
01302 real(real64), parameter :: &
01303 u_planck_constant=0.0d0
01304
01305 real(real64), parameter:: &
01306 planck_constant_in_ev_hz=4.135667696d-15
01307 real(real64), parameter :: &
01308 u_planck_constant_in_ev_hz=0.0d0
01309
01310 real(real64), parameter:: &
01311 planck_length=1.616255d-35
01312 real(real64), parameter :: &
01313 u_planck_length=0.000018d-35
01314
01315 real(real64), parameter:: &
01316 planck_mass=2.176434d-8
01317 real(real64), parameter :: &
01318 u_planck_mass=0.000024d-8
01319
01320 real(real64), parameter:: &
01321 planck_mass_energy_equivalent_in_gev=1.220890d19
01322 real(real64), parameter :: &
01323 u_planck_mass_energy_equivalent_in_gev=0.000014d19
01324
01325 real(real64), parameter:: &
01326 planck_temperature=1.416784d32
01327 real(real64), parameter :: &
01328 u_planck_temperature=0.000016d32
01329
01330 real(real64), parameter:: &
01331 planck_time=5.391247d-44
01332 real(real64), parameter :: &
01333 u_planck_time=0.000060d-44
01334
01335 real(real64), parameter:: &
01336 proton_charge_to_mass_quotient=9.5788331560d7
01337 real(real64), parameter :: &
01338 u_proton_charge_to_mass_quotient=0.0000000029d7
01339
01340 real(real64), parameter:: &
01341 proton_compton_wavelength=1.32140985539d-15
01342 real(real64), parameter :: &
01343 u_proton_compton_wavelength=0.00000000040d-15
01344
01345 real(real64), parameter:: &
01346 proton_electron_mass_ratio=1836.15267343d0
01347 real(real64), parameter :: &
01348 u_proton_electron_mass_ratio=0.00000011d0
01349
01350 real(real64), parameter:: &
01351 proton_g_factor=5.5856946893d0
01352 real(real64), parameter :: &
01353 u_proton_g_factor=0.0000000016d0
01354
01355 real(real64), parameter:: &
01356 proton_gyromag__ratio=2.6752218744d8
01357 real(real64), parameter :: &
01358 u_proton_gyromag__ratio=0.0000000011d8
```

```
01359
01360 real(real64), parameter:: &
01361 proton_gyromag__ratio_in_mhz_t=42.577478518d0
01362 real(real64), parameter :: &
01363 u_proton_gyromag__ratio_in_mhz_t=0.000000018d0
01364
01365 real(real64), parameter:: &
01366 proton_mag__mom=1.41060679736d-26
01367 real(real64), parameter :: &
01368 u_proton_mag__mom=0.00000000060d-26
01369
01370 real(real64), parameter:: &
01371 proton_mag__mom__to_bohr_magneton_ratio=1.52103220230d-3
01372 real(real64), parameter :: &
01373 u_proton_mag__mom__to_bohr_magneton_ratio=0.00000000046d-3
01374
01375 real(real64), parameter:: &
01376 proton_mag__mom__to_nuclear_magneton_ratio=2.79284734463d0
01377 real(real64), parameter :: &
01378 u_proton_mag__mom__to_nuclear_magneton_ratio=0.00000000082d0
01379
01380 real(real64), parameter:: &
01381 proton_mag__shielding_correction=2.5689d-5
01382 real(real64), parameter :: &
01383 u_proton_mag__shielding_correction=0.0011d-5
01384
01385 real(real64), parameter:: &
01386 proton_mass=1.67262192369d-27
01387 real(real64), parameter :: &
01388 u_proton_mass=0.00000000051d-27
01389
01390 real(real64), parameter:: &
01391 proton_mass_energy_equivalent=1.50327761598d-10
01392 real(real64), parameter :: &
01393 u_proton_mass_energy_equivalent=0.00000000046d-10
01394
01395 real(real64), parameter:: &
01396 proton_mass_energy_equivalent_in_mev=938.27208816d0
01397 real(real64), parameter :: &
01398 u_proton_mass_energy_equivalent_in_mev=0.00000029d0
01399
01400 real(real64), parameter:: &
01401 proton_mass_in_u=1.007276466621d0
01402 real(real64), parameter :: &
01403 u_proton_mass_in_u=0.000000000053d0
01404
01405 real(real64), parameter:: &
01406 proton_molar_mass=1.00727646627d-3
01407 real(real64), parameter :: &
01408 u_proton_molar_mass=0.00000000031d-3
01409
01410 real(real64), parameter:: &
01411 proton_muon_mass_ratio=8.88024337d0
01412 real(real64), parameter :: &
01413 u_proton_muon_mass_ratio=0.00000020d0
01414
01415 real(real64), parameter:: &
01416 proton_neutron_mag__mom__ratio=-1.45989805d0
01417 real(real64), parameter :: &
01418 u_proton_neutron_mag__mom__ratio=0.00000034d0
01419
01420 real(real64), parameter:: &
01421 proton_neutron_mass_ratio=0.99862347812d0
01422 real(real64), parameter :: &
01423 u_proton_neutron_mass_ratio=0.00000000049d0
01424
01425 real(real64), parameter:: &
01426 proton_relative_atomic_mass=1.007276466621d0
01427 real(real64), parameter :: &
01428 u_proton_relative_atomic_mass=0.000000000053d0
01429
01430 real(real64), parameter:: &
01431 proton_rms_charge_radius=8.414d-16
01432 real(real64), parameter :: &
01433 u_proton_rms_charge_radius=0.019d-16
01434
01435 real(real64), parameter:: &
01436 proton_tau_mass_ratio=0.528051d0
01437 real(real64), parameter :: &
01438 u_proton_tau_mass_ratio=0.000036d0
01439
01440 real(real64), parameter:: &
01441 quantum_of_circulation=3.6369475516d-4
01442 real(real64), parameter :: &
01443 u_quantum_of_circulation=0.0000000011d-4
01444
01445 real(real64), parameter:: &
```

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01446 quantum_of_circulation_times_2=7.2738951032d-4
01447 real(real64), parameter :: &
01448 u_quantum_of_circulation_times_2=0.0000000022d-4
01449
01450 real(real64), parameter:: &
01451 reduced_compton_wavelength=3.8615926796d-13
01452 real(real64), parameter :: &
01453 u_reduced_compton_wavelength=0.0000000012d-13
01454
01455 real(real64), parameter:: &
01456 reduced_muon_compton_wavelength=1.867594306d-15
01457 real(real64), parameter :: &
01458 u_reduced_muon_compton_wavelength=0.000000042d-15
01459
01460 real(real64), parameter:: &
01461 reduced_neutron_compton_wavelength=2.1001941552d-16
01462 real(real64), parameter :: &
01463 u_reduced_neutron_compton_wavelength=0.0000000012d-16
01464
01465 real(real64), parameter:: &
01466 reduced_planck_constant=1.054571817d-34
01467 real(real64), parameter :: &
01468 u_reduced_planck_constant=0.0d0
01469
01470 real(real64), parameter:: &
01471 reduced_planck_constant_in_ev_s=6.582119569d-16
01472 real(real64), parameter :: &
01473 u_reduced_planck_constant_in_ev_s=0.0d0
01474
01475 real(real64), parameter:: &
01476 reduced_planck_constant_times_c_in_mev_fm=197.3269804d0
01477 real(real64), parameter :: &
01478 u_reduced_planck_constant_times_c_in_mev_fm=0.0d0
01479
01480 real(real64), parameter:: &
01481 reduced_proton_compton_wavelength=2.10308910336d-16
01482 real(real64), parameter :: &
01483 u_reduced_proton_compton_wavelength=0.00000000064d-16
01484
01485 real(real64), parameter:: &
01486 reduced_tau_compton_wavelength=1.110538d-16
01487 real(real64), parameter :: &
01488 u_reduced_tau_compton_wavelength=0.000075d-16
01489
01490 real(real64), parameter:: &
01491 rydberg_constant=10973731.568160d0
01492 real(real64), parameter :: &
01493 u_rydberg_constant=0.000021d0
01494
01495 real(real64), parameter:: &
01496 rydberg_constant_times_c_in_hz=3.2898419602508d15
01497 real(real64), parameter :: &
01498 u_rydberg_constant_times_c_in_hz=0.0000000000064d15
01499
01500 real(real64), parameter:: &
01501 rydberg_constant_times_hc_in_ev=13.605693122994d0
01502 real(real64), parameter :: &
01503 u_rydberg_constant_times_hc_in_ev=0.000000000026d0
01504
01505 real(real64), parameter:: &
01506 rydberg_constant_times_hc_in_j=2.1798723611035d-18
01507 real(real64), parameter :: &
01508 u_rydberg_constant_times_hc_in_j=0.0000000000042d-18
01509
01510 real(real64), parameter:: &
01511 sackur_tetrode_constant__1_k__100_kpa=-1.15170753706d0
01512 real(real64), parameter :: &
01513 u_sackur_tetrode_constant__1_k__100_kpa=0.00000000045d0
01514
01515 real(real64), parameter:: &
01516 sackur_tetrode_constant__1_k__101_325_kpa=-1.16487052358d0
01517 real(real64), parameter :: &
01518 u_sackur_tetrode_constant__1_k__101_325_kpa=0.00000000045d0
01519
01520 real(real64), parameter:: &
01521 second_radiation_constant=1.438776877d-2
01522 real(real64), parameter :: &
01523 u_second_radiation_constant=0.0d0
01524
01525 real(real64), parameter:: &
01526 shielded_helion_gyromag__ratio=2.037894569d8
01527 real(real64), parameter :: &
01528 u_shielded_helion_gyromag__ratio=0.000000024d8
01529
01530 real(real64), parameter:: &
01531 shielded_helion_gyromag__ratio_in_mhz_t=32.43409942d0
01532 real(real64), parameter :: &
```

```
01533 u_shielded_helion_gyromag__ratio_in_mhz_t=0.00000038d0
01534
01535 real(real64), parameter:: &
01536 shielded_helion_mag__mom=-1.074553090d-26
01537 real(real64), parameter :: &
01538 u_shielded_helion_mag__mom=0.000000013d-26
01539
01540 real(real64), parameter:: &
01541 shielded_helion_mag__mom__to_bohr_magneton_ratio=-1.158671471d-3
01542 real(real64), parameter :: &
01543 u_shielded_helion_mag__mom__to_bohr_magneton_ratio=0.000000014d-3
01544
01545 real(real64), parameter:: &
01546 shielded_helion_mag__mom__to_nuclear_magneton_ratio=-2.127497719d0
01547 real(real64), parameter :: &
01548 u_shielded_helion_mag__mom__to_nuclear_magneton_ratio=0.000000025d0
01549
01550 real(real64), parameter:: &
01551 shielded_helion_to_proton_mag__mom__ratio=-0.7617665618d0
01552 real(real64), parameter :: &
01553 u_shielded_helion_to_proton_mag__mom__ratio=0.0000000089d0
01554
01555 real(real64), parameter:: &
01556 shielded_helion_to_shielded_proton_mag__mom__ratio=-0.7617861313d0
01557 real(real64), parameter :: &
01558 u_shielded_helion_to_shielded_proton_mag__mom__ratio=0.0000000033d0
01559
01560 real(real64), parameter:: &
01561 shielded_proton_gyromag__ratio=2.675153151d8
01562 real(real64), parameter :: &
01563 u_shielded_proton_gyromag__ratio=0.000000029d8
01564
01565 real(real64), parameter:: &
01566 shielded_proton_gyromag__ratio_in_mhz_t=42.57638474d0
01567 real(real64), parameter :: &
01568 u_shielded_proton_gyromag__ratio_in_mhz_t=0.00000046d0
01569
01570 real(real64), parameter:: &
01571 shielded_proton_mag__mom=1.410570560d-26
01572 real(real64), parameter :: &
01573 u_shielded_proton_mag__mom=0.000000015d-26
01574
01575 real(real64), parameter:: &
01576 shielded_proton_mag__mom__to_bohr_magneton_ratio=1.520993128d-3
01577 real(real64), parameter :: &
01578 u_shielded_proton_mag__mom__to_bohr_magneton_ratio=0.000000017d-3
01579
01580 real(real64), parameter:: &
01581 shielded_proton_mag__mom__to_nuclear_magneton_ratio=2.792775599d0
01582 real(real64), parameter :: &
01583 u_shielded_proton_mag__mom__to_nuclear_magneton_ratio=0.000000030d0
01584
01585 real(real64), parameter:: &
01586 shielding_difference_of_d_and_p_in_hd=2.0200d-8
01587 real(real64), parameter :: &
01588 u_shielding_difference_of_d_and_p_in_hd=0.0020d-8
01589
01590 real(real64), parameter:: &
01591 shielding_difference_of_t_and_p_in_ht=2.4140d-8
01592 real(real64), parameter :: &
01593 u_shielding_difference_of_t_and_p_in_ht=0.0020d-8
01594
01595 real(real64), parameter:: &
01596 speed_of_light_in_vacuum=299792458.0d0
01597 real(real64), parameter :: &
01598 u_speed_of_light_in_vacuum=0.0d0
01599
01600 real(real64), parameter:: &
01601 standard_acceleration_of_gravity=9.80665d0
01602 real(real64), parameter :: &
01603 u_standard_acceleration_of_gravity=0.0d0
01604
01605 real(real64), parameter:: &
01606 standard_atmosphere=101325.0d0
01607 real(real64), parameter :: &
01608 u_standard_atmosphere=0.0d0
01609
01610 real(real64), parameter:: &
01611 standard_state_pressure=100000.0d0
01612 real(real64), parameter :: &
01613 u_standard_state_pressure=0.0d0
01614
01615 real(real64), parameter:: &
01616 stefan_boltzmann_constant=5.670374419d-8
01617 real(real64), parameter :: &
01618 u_stefan_boltzmann_constant=0.0d0
01619
```

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01620 real(real64), parameter:: &
01621 tau_compton_wavelength=6.97771d-16
01622 real(real64), parameter :: &
01623 u_tau_compton_wavelength=0.00047d-16
01624
01625 real(real64), parameter:: &
01626 tau_electron_mass_ratio=3477.23d0
01627 real(real64), parameter :: &
01628 u_tau_electron_mass_ratio=0.23d0
01629
01630 real(real64), parameter:: &
01631 tau_energy_equivalent=1776.86d0
01632 real(real64), parameter :: &
01633 u_tau_energy_equivalent=0.12d0
01634
01635 real(real64), parameter:: &
01636 tau_mass=3.16754d-27
01637 real(real64), parameter :: &
01638 u_tau_mass=0.00021d-27
01639
01640 real(real64), parameter:: &
01641 tau_mass_energy_equivalent=2.84684d-10
01642 real(real64), parameter :: &
01643 u_tau_mass_energy_equivalent=0.00019d-10
01644
01645 real(real64), parameter:: &
01646 tau_mass_in_u=1.90754d0
01647 real(real64), parameter :: &
01648 u_tau_mass_in_u=0.00013d0
01649
01650 real(real64), parameter:: &
01651 tau_molar_mass=1.90754d-3
01652 real(real64), parameter :: &
01653 u_tau_molar_mass=0.00013d-3
01654
01655 real(real64), parameter:: &
01656 tau_muon_mass_ratio=16.8170d0
01657 real(real64), parameter :: &
01658 u_tau_muon_mass_ratio=0.0011d0
01659
01660 real(real64), parameter:: &
01661 tau_neutron_mass_ratio=1.89115d0
01662 real(real64), parameter :: &
01663 u_tau_neutron_mass_ratio=0.00013d0
01664
01665 real(real64), parameter:: &
01666 tau_proton_mass_ratio=1.89376d0
01667 real(real64), parameter :: &
01668 u_tau_proton_mass_ratio=0.00013d0
01669
01670 real(real64), parameter:: &
01671 thomson_cross_section=6.6524587321d-29
01672 real(real64), parameter :: &
01673 u_thomson_cross_section=0.0000000060d-29
01674
01675 real(real64), parameter:: &
01676 triton_electron_mass_ratio=5496.92153573d0
01677 real(real64), parameter :: &
01678 u_triton_electron_mass_ratio=0.00000027d0
01679
01680 real(real64), parameter:: &
01681 triton_g_factor=5.957924931d0
01682 real(real64), parameter :: &
01683 u_triton_g_factor=0.000000012d0
01684
01685 real(real64), parameter:: &
01686 triton_mag__mom=1.5046095202d-26
01687 real(real64), parameter :: &
01688 u_triton_mag__mom=0.0000000030d-26
01689
01690 real(real64), parameter:: &
01691 triton_mag__mom__to_bohr_magneton_ratio=1.6223936651d-3
01692 real(real64), parameter :: &
01693 u_triton_mag__mom__to_bohr_magneton_ratio=0.0000000032d-3
01694
01695 real(real64), parameter:: &
01696 triton_mag__mom__to_nuclear_magneton_ratio=2.9789624656d0
01697 real(real64), parameter :: &
01698 u_triton_mag__mom__to_nuclear_magneton_ratio=0.0000000059d0
01699
01700 real(real64), parameter:: &
01701 triton_mass=5.0073567446d-27
01702 real(real64), parameter :: &
01703 u_triton_mass=0.0000000015d-27
01704
01705 real(real64), parameter:: &
01706 triton_mass_energy_equivalent=4.5003878060d-10
```

```
01707 real(real64), parameter :: &
01708 u_triton_mass_energy_equivalent=0.0000000014d-10
01709
01710 real(real64), parameter:: &
01711 triton_mass_energy_equivalent_in_mev=2808.92113298d0
01712 real(real64), parameter :: &
01713 u_triton_mass_energy_equivalent_in_mev=0.00000085d0
01714
01715 real(real64), parameter:: &
01716 triton_mass_in_u=3.01550071621d0
01717 real(real64), parameter :: &
01718 u_triton_mass_in_u=0.00000000012d0
01719
01720 real(real64), parameter:: &
01721 triton_molar_mass=3.01550071517d-3
01722 real(real64), parameter :: &
01723 u_triton_molar_mass=0.00000000092d-3
01724
01725 real(real64), parameter:: &
01726 triton_proton_mass_ratio=2.99371703414d0
01727 real(real64), parameter :: &
01728 u_triton_proton_mass_ratio=0.00000000015d0
01729
01730 real(real64), parameter:: &
01731 triton_relative_atomic_mass=3.01550071621d0
01732 real(real64), parameter :: &
01733 u_triton_relative_atomic_mass=0.00000000012d0
01734
01735 real(real64), parameter:: &
01736 triton_to_proton_mag__mom__ratio=1.0666399191d0
01737 real(real64), parameter :: &
01738 u_triton_to_proton_mag__mom__ratio=0.0000000021d0
01739
01740 real(real64), parameter:: &
01741 unified_atomic_mass_unit=1.66053906660d-27
01742 real(real64), parameter :: &
01743 u_unified_atomic_mass_unit=0.00000000050d-27
01744
01745 real(real64), parameter:: &
01746 vacuum_electric_permittivity=8.8541878128d-12
01747 real(real64), parameter :: &
01748 u_vacuum_electric_permittivity=0.0000000013d-12
01749
01750 real(real64), parameter:: &
01751 vacuum_mag__permeability=1.25663706212d-6
01752 real(real64), parameter :: &
01753 u_vacuum_mag__permeability=0.00000000019d-6
01754
01755 real(real64), parameter:: &
01756 von_klitzing_constant=25812.80745d0
01757 real(real64), parameter :: &
01758 u_von_klitzing_constant=0.0d0
01759
01760 real(real64), parameter:: &
01761 weak_mixing_angle=0.22290d0
01762 real(real64), parameter :: &
01763 u_weak_mixing_angle=0.00030d0
01764
01765 real(real64), parameter:: &
01766 wien_frequency_displacement_law_constant=5.878925757d10
01767 real(real64), parameter :: &
01768 u_wien_frequency_displacement_law_constant=0.0d0
01769
01770 real(real64), parameter:: &
01771 wien_wavelength_displacement_law_constant=2.897771955d-3
01772 real(real64), parameter :: &
01773 u_wien_wavelength_displacement_law_constant=0.0d0
01774
01775 real(real64), parameter:: &
01776 w_to_z_mass_ratio=0.88153d0
01777 real(real64), parameter :: &
01778 u_w_to_z_mass_ratio=0.00017d0
01779
01780 end module codata
```

16.17 /Users/milan/programs/codata/src/generator.c File Reference

Generator.

```
#include <stdio.h>
#include <stdlib.h>
```

```
#include <string.h>
#include <ctype.h>
```

Data Structures

- struct codata_file_props

  Properties of the file for the codata raw data.

Functions

- void format_names (char *line, char *name)

  Format names simply by copying them.
- void format_values (char *line, char *value)

  Format values to be conform to Fortran double precision.
- void format_uncertainties (char *line, char *uncertainty)

  Format the uncertainties to be conform to Fortran double precsion.
- void format_units (char *line, char *unit)

  Format the units to be conform to Fortran strings.
- void convert_value_to_c (char *value)

  Convert power symbol d to e for C code.
- void clean_line (char *buf, size_t buffer_size)

  Fill the buffer with white space.
- int read_line (FILE *f, char *buf, size_t buffer_size)

  Read the line from f and copy in buf.
- void ltrim (char *buf, size_t buffer_size)

  Remove all white space from the left.
- void rtrim (char *buf, size_t buffer_size)

  Remove all white space from the right.
- int is_blank_line (char *buf, size_t buffer_size)

  Test if the line is a blank line.
- void get_props (struct codata_file_props *props)

  Get the properties of the codata file.
- void print_props (struct codata_file_props *props)

  Print the codata file properties.
- void write_fortran_file_doc (FILE *fcode)

  Generate the Fortran file documentation.
- void write_fortran_module_doc (FILE *fcode)

  Generate the Fortran module documentation.
- void write_fortran_module_declaration (FILE *fcode)

  Generate the Fortran module declaration.
- void write_fortran_module_end (FILE *fcode)

  Generate the end of the Fortran module.
- void write_c_header_doc (FILE *fcode)

  Generate the documentation for the C header.
- void write_python_module_doc (FILE *fcode)
- void write_cpython_extension_declaration (FILE *fcode)
- void write_cpython_extension_end (FILE *fcode)
- void write_all_constants (FILE *fcodata, FILE *ffortran, FILE *fcheader, FILE *fpython, FILE *fcpython, struct codata_file_props *props)

  Generate all constants in the Fortran module.
- int main (int argc, char **argv)

  Generated Fortran module.

16.17.1 Detailed Description

Generator.

The raw data from NIST are parsed line by line The raw codata from http://physics.nist.gov/constants are parsed line by line and converted into declarations as constants for different languages:

Definition in file generator.c.

16.17.2 Function Documentation

16.17.2.1 clean_line()

```
void clean_line (
            char * buf,
            size_t buffer_size )
```

Fill the buffer with white space.

Parameters

buf	Line to be cleaned
buffer_size	Size of the line.

Definition at line 242 of file generator.c.

16.17.2.2 convert_value_to_c()

```
void convert_value_to_c (
            char * value )
```

Convert power symbol d to e for C code.

Parameters

value	Value to be converted.

Definition at line 227 of file generator.c.

16.17.2.3 format_names()

```
void format_names (
```

```
            char * line,
            char * name )
```

Format names simply by copying them.

Parameters

line	Line to be parsed.
name	String where the name will be copied.

Definition at line 39 of file generator.c.

16.17.2.4 format_uncertainties()

```
void format_uncertainties (
            char * line,
            char * uncertainty )
```

Format the uncertainties to be conform to Fortran double precsion.

Parameters

line	Line to be parsed.
uncertainty	String where the uncertainty will be copied.

Definition at line 146 of file generator.c.

16.17.2.5 format_units()

```
void format_units (
            char * line,
            char * unit )
```

Format the units to be conform to Fortran strings.

Parameters

line	Line to be parsed.
unit	String where the unit will be copied.

Definition at line 215 of file generator.c.

16.17.2.6 format_values()

```
void format_values (
            char * line,
            char * value )
```

Format values to be conform to Fortran double precision.

Parameters

line	Line to be parsed.
value	String where the value will be copied.

Definition at line 69 of file generator.c.

16.17.2.7 get_props()

```
void get_props (
            struct codata_file_props * props )
```

Get the properties of the codata file.

Parameters

props	Properties of the codata file.

Definition at line 357 of file generator.c.

16.17.2.8 is_blank_line()

```
int is_blank_line (
            char * buf,
            size_t buffer_size )
```

Test if the line is a blank line.

Parameters

buf	Line to be tested.
buffer_size	Size of the line.

Returns

int Flag indicating if blank(=1) or not (=0).

Definition at line 334 of file generator.c.

16.17.2.9 ltrim()

```
void ltrim (
            char * buf,
            size_t buffer_size )
```

Remove all white space from the left.

Parameters

buf	Line to be left trimmed.
buffer_size	Size of the line.

Definition at line 284 of file generator.c.

16.17.2.10 main()

```
int main (
            int argc,
            char ** argv )
```

Generated Fortran module.

Parameters

argc	Number of arguments
argv	List of arguments

Returns

int Exit flag.

Definition at line 588 of file generator.c.

16.17.2.11 print_props()

```
void print_props (
            struct codata_file_props * props )
```

Print the codata file properties.

Parameters

props	Properties of the codata file.

Definition at line 395 of file generator.c.

16.17.2.12 read_line()

```
int read_line (
            FILE * f,
            char * buf,
            size_t buffer_size )
```

Read the line from f and copy in buf.

Parameters

f	File pointer where the line will be parsed.
buf	String where the line will be copied.
buffer_size	Size of the buffer.

Returns

int Flag if the line is empty(=1) or not empty(=0).

Definition at line 259 of file generator.c.

16.17.2.13 rtrim()

```
void rtrim (
            char * buf,
            size_t buffer_size )
```

Remove all white space from the right.

Parameters

buf	Line to be right trimmed.
buffer_size	Size of the line.

Definition at line 315 of file generator.c.

16.17.2.14 write_all_constants()

```
void write_all_constants (
            FILE * fcodata,
            FILE * ffortran,
            FILE * fcheader,
            FILE * fpython,
            FILE * fcpython,
            struct codata_file_props * props )
```

Generate all constants in the Fortran module.

Parameters

fcodata	File pointer to the codata file.
ffortran	File pointer to the Fortran module.
fcheader	File pointer to the C header.
fpython	File pointer to the python module.
fcpython	File pointer to the cpython module.
props	Properties of the codata file.

Definition at line 505 of file generator.c.

16.17.2.15 write_c_header_doc()

```
void write_c_header_doc (
            FILE * fcode )
```

Generate the documentation for the C header.

Parameters

fcode	File pointer to the C header.

Definition at line 454 of file generator.c.

16.17.2.16 write_cpython_extension_declaration()

```
void write_cpython_extension_declaration (
            FILE * fcode )
```

Definition at line 469 of file generator.c.

16.17.2.17 write_cpython_extension_end()

```
void write_cpython_extension_end (
            FILE * fcode )
```

Definition at line 490 of file generator.c.

16.17.2.18 write_fortran_file_doc()

```
void write_fortran_file_doc (
            FILE * fcode )
```

Generate the Fortran file documentation.

Parameters

fcode	File pointer of the Fortran module.

Definition at line 408 of file generator.c.

16.17.2.19 write_fortran_module_declaration()

```
void write_fortran_module_declaration (
            FILE * fcode )
```

Generate the Fortran module declaration.

Parameters

fcode	File pointer of the Fortran module.

Definition at line 431 of file generator.c.

16.17.2.20 write_fortran_module_doc()

```
void write_fortran_module_doc (
            FILE * fcode )
```

Generate the Fortran module documentation.

Parameters

fcode	File pointer of the Fortran module.

Definition at line 422 of file generator.c.

16.17.2.21 write_fortran_module_end()

```
void write_fortran_module_end (
            FILE * fcode )
```

Generate the end of the Fortran module.

Parameters

fcode	File pointer to the Fortran module.

Definition at line 443 of file generator.c.

16.17.2.22 write_python_module_doc()

```
void write_python_module_doc (
            FILE * fcode )
```

Definition at line 463 of file generator.c.

16.18 generator.c

Go to the documentation of this file.

```
00001
00009 #include <stdio.h>
00010 #include <stdlib.h>
00011 #include <string.h>
00012 #include <ctype.h>
00013
00018 struct codata_file_props{
00019     size_t n;
00020     size_t index_header_end;
00021     char codata_path[18];
00022     char year[5];
00023     char fmodule_path[18];
00025 };
00026
00027 static const size_t LINE_LENGTH = 256;
00028 static const size_t NAMES_LENGTH = 60;
00029 static const size_t VALUES_LENGTH = 25;
00030 static const size_t UNCERTAINTIES_LENGTH = 25;
00031 static const size_t UNITS_LENGTH = 25;
00039 void format_names(char *line, char *name){
00040
00041     size_t i;
00042
00043     for(i=0; i<NAMES_LENGTH; i++){
00044         if(!isalnum(line[i])){
00045             name[i] = '_';
00046         }else{
00047             name[i] = line[i];
00048         }
00049     }
00050
00051     for(i=0; i<NAMES_LENGTH; i++){
00052         if(name[NAMES_LENGTH-1-i]!='_'){
```

```
00053             break;
00054         }
00055         name[NAMES_LENGTH-1-i] = ' ';
00056     }
00057
00058     for(i=0; i<NAMES_LENGTH; i++){
00059         name[i] = toupper(name[i]);
00060     }
00061 }
00062
00069 void format_values(char *line, char *value){
00070     size_t i;
00071     size_t j;
00072     int flag_decimal = 0;
00073     int flag_exponent = 0;
00074
00075     char *temp = (char *)malloc(sizeof(char)*VALUES_LENGTH);
00076
00077     for(i=0; i<VALUES_LENGTH; i++){
00078         temp[i] = ' ';
00079     }
00080     j = 0;
00081     temp[j] = line[NAMES_LENGTH];
00082     j++;
00083     for(i=(NAMES_LENGTH+1); i<(NAMES_LENGTH+VALUES_LENGTH-2);i++){
00084         if(isdigit(line[i])){
00085             temp[j] = line[i];
00086             j++;
00087         }
00088         if((line[i]=='.') & (isdigit(line[i-1])>0) & (isdigit(line[i+1])>0)){
00089             temp[j] = line[i];
00090             j++;
00091         }
00092         if(line[i]=='e'){
00093             temp[j] = line[i];
00094             j++;
00095         }
00096         if((line[i]=='-') | (line[i]=='+')){
00097             temp[j] = line[i];
00098             j++;
00099         }
00100     }
00101     j = 0;
00102     for(i=0; i<VALUES_LENGTH; i++){
00103         value[i] = temp[i];
00104     }
00105     for(i=0; i<VALUES_LENGTH; i++){
00106         if(value[i] == '.'){
00107             flag_decimal = 1;
00108             break;
00109         }
00110     }
00111     for(i=0; i<VALUES_LENGTH; i++){
00112         if (value[i]=='e'){
00113             value[i] = 'd';
00114         }
00115         if(value[i] == 'd'){
00116             flag_exponent = 1;
00117         }
00118     }
00119     if ((flag_decimal == 0)&(flag_exponent == 0)){
00120         for(i=0; i<VALUES_LENGTH; i++){
00121             if(isdigit(value[VALUES_LENGTH-1-i]) > 0){
00122                 value[VALUES_LENGTH-1-i+1] = '.';
00123                 value[VALUES_LENGTH-1-i+2] = '0';
00124                 break;
00125             }
00126         }
00127     }
00128     if (flag_exponent == 0){
00129         for(i=0; i<VALUES_LENGTH; i++){
00130             if(isdigit(value[VALUES_LENGTH-1-i]) > 0){
00131                 value[VALUES_LENGTH-1-i+1] = 'd';
00132                 value[VALUES_LENGTH-1-i+2] = '0';
00133                 break;
00134             }
00135         }
00136     }
00137     free(temp);
00138 }
00139
00146 void format_uncertainties(char *line, char *uncertainty){
00147     size_t i;
00148     size_t j;
00149     int flag_exponent = 0;
00150
00151     char *temp = (char *)malloc(sizeof(char)*UNCERTAINTIES_LENGTH);
```

```
00152     for(i=0; i<UNCERTAINTIES_LENGTH; i++){
00153         temp[i] = ' ';
00154     }
00155     j = 0;
00156     if(line[NAMES_LENGTH+VALUES_LENGTH] != '('){
00157         temp[j] = line[NAMES_LENGTH+VALUES_LENGTH];
00158     }
00159     j++;
00160     for(i=(NAMES_LENGTH+VALUES_LENGTH+1); i<(NAMES_LENGTH+VALUES_LENGTH+UNCERTAINTIES_LENGTH-2);i++){
00161         if (strncmp(&line[NAMES_LENGTH+VALUES_LENGTH], "(exact)", 7)==0){
00162             temp[0] = '0';
00163             temp[1] = '.';
00164             temp[2] = '0';
00165             break;
00166         }
00167 
00168         if(isdigit(line[i])){
00169             temp[j] = line[i];
00170             j++;
00171         }
00172         if((line[i]=='.') & (isdigit(line[i-1])>0) & (isdigit(line[i+1])>0)){
00173             temp[j] = line[i];
00174             j++;
00175         }
00176         if(line[i]=='e'){
00177             temp[j] = line[i];
00178             j++;
00179         }
00180         if((line[i]=='-') | (line[i]=='+')){
00181             temp[j] = line[i];
00182             j++;
00183         }
00184     }
00185     for(i=0; i<UNCERTAINTIES_LENGTH; i++){
00186         uncertainty[i] = temp[i];
00187     }
00188     for(i=0; i<UNCERTAINTIES_LENGTH; i++){
00189         if (uncertainty[i]=='e'){
00190             uncertainty[i] = 'd';
00191         }
00192         if(uncertainty[i] == 'd'){
00193             flag_exponent = 1;
00194         }
00195     }
00196     if (flag_exponent == 0){
00197         for(i=0; i<UNCERTAINTIES_LENGTH; i++){
00198             if(isdigit(uncertainty[UNCERTAINTIES_LENGTH-1-i]) > 0){
00199                 uncertainty[UNCERTAINTIES_LENGTH-1-i+1] = 'd';
00200                 uncertainty[UNCERTAINTIES_LENGTH-1-i+2] = '0';
00201                 break;
00202             }
00203         }
00204     }
00205 
00206     free(temp);
00207 }
00208 
00215 void format_units(char *line, char *unit){
00216     size_t i;
00217 
00218 
00219     for(i=0; i<UNITS_LENGTH; i++){
00220         unit[i] = line[i+NAMES_LENGTH+VALUES_LENGTH+UNCERTAINTIES_LENGTH];
00221     }
00222 }
00227 void convert_value_to_c(char *value){
00228     size_t i;
00229     for(i=0; i<VALUES_LENGTH; i++){
00230         if(value[i] == 'd'){
00231             value[i] = 'e';
00232         }
00233     }
00234 }
00235 
00242 void clean_line(char *buf, size_t buffer_size){
00243 
00244     size_t i;
00245     for(i=0; i<=buffer_size; i++){
00246         buf[i] = ' ';
00247     }
00248     buf[buffer_size] = '\0';
00249 }
00250 
00259 int read_line(FILE *f, char *buf, size_t buffer_size){
00260 
00261     char c;
00262     size_t i = 0;
```

```
00263     int empty=0;
00264     clean_line(buf, buffer_size);
00265     while(((c=fgetc(f)) != '\n') & (!feof(f))){
00266         if(i<buffer_size){
00267             buf[i] = c;
00268             i++;
00269         }
00270     }
00271     if ( i <= 0){
00272         empty = 1;
00273     }
00274 
00275     return empty;
00276 }
00277 
00284 void ltrim(char *buf, size_t buffer_size){
00285     size_t i, j, k;
00286     i = 0;
00287     j = 0;
00288     k = 0;
00289     char *temp = (char *)malloc(sizeof(char)*(buffer_size+1));
00290     for(i=0; i<buffer_size; i++){
00291         if(isalnum(buf[i])>0){
00292             k = i;
00293             break;
00294         }
00295     }
00296     clean_line(temp, buffer_size);
00297     for(i=k; i<buffer_size; i++){
00298         temp[j] = buf[i];
00299         j++;
00300     }
00301     clean_line(buf, buffer_size);
00302     for(i=0; i<buffer_size; i++){
00303         buf[i] = temp[i];
00304     }
00305     free(temp);
00306 
00307 }
00308 
00315 void rtrim(char *buf, size_t buffer_size){
00316     size_t i;
00317     for(i=0; i<buffer_size; i++){
00318         if(isalnum(buf[buffer_size-i])>0){
00319             break;
00320         }else{
00321             buf[buffer_size-i] = ' ';
00322         }
00323     }
00324     buf[buffer_size-i+1]= '\0';
00325 }
00326 
00334 int is_blank_line(char *buf, size_t buffer_size){
00335     size_t i;
00336     size_t j;
00337     i = 0;
00338     j = 0;
00339     for(i=0; i<buffer_size; i++){
00340         if(isalnum(buf[i])>0){
00341             j++;
00342         }
00343     }
00344     if(j>0){
00345         return 0;
00346     }
00347     else{
00348         return 1;
00349     }
00350 }
00351 
00357 void get_props(struct codata_file_props *props){
00358 
00359     FILE *codata;
00360     char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));
00361     int empty;
00362 
00363     codata = fopen(props->codata_path, "r");
00364 
00365     props->n = 0;
00366     props->index_header_end = 0;
00367 
00368     while (!feof(codata)){
00369         read_line(codata, line, LINE_LENGTH);
00370         if (line[0] == '-'){
00371             props->index_header_end = props->index_header_end + 1 ;
00372             break;
00373         }
```

```
00374         props->index_header_end = props->index_header_end + 1 ;
00375     }
00376
00377     while (!feof(codata)){
00378         empty = read_line(codata, line, LINE_LENGTH);
00379
00380         if (empty == 0){
00381             props->n = props->n + 1 ;
00382         }
00383     }
00384
00385     fclose(codata);
00386     free(line);
00387
00388 }
00389
00395 void print_props(struct codata_file_props *props){
00396     printf("Header ends at index: %zu\n", props->index_header_end);
00397     printf("Number of constants: %zu\n", props->n);
00398 }
00399
00400
00401 /* FORTRAN */
00402
00408 void write_fortran_file_doc(FILE *fcode){
00409     char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));
00410
00411     fprintf(fcode, "%s\n", "!> @file");
00412     fprintf(fcode, "%s\n", "!! @brief Codata module - autogenerated.");
00413     fprintf(fcode, "%s\n\n", "");
00414     free(line);
00415 }
00416
00422 void write_fortran_module_doc(FILE *fcode){
00423     fprintf(fcode, "!> %s\n", "@brief Codata constants - autogenerated.");
00424 }
00425
00431 void write_fortran_module_declaration(FILE *fcode){
00432     fprintf(fcode, "module codata\n");
00433     fprintf(fcode, "%s\n", "use iso_fortran_env");
00434     fprintf(fcode, "%s\n", "implicit none");
00435     fprintf(fcode, "%s\n", "");
00436 }
00437
00443 void write_fortran_module_end(FILE *fcode){
00444     fprintf(fcode, "end module codata\n");
00445 }
00446
00447
00448 /* C */
00449
00454 void write_c_header_doc(FILE *fcode){
00455     fprintf(fcode, "/**\n* %s\n", "@file");
00456     fprintf(fcode, "%s\n", "* @brief Codata module - autogenerated.");
00457     fprintf(fcode, "%s\n\n", "*/");
00458 }
00459
00460
00461 /* Python */
00462
00463 void write_python_module_doc(FILE *fcode){
00464     fprintf(fcode, "\"\"\"Codata module - autogenerated\"\"\"");
00465     fprintf(fcode, "\n\n");
00466 }
00467
00468 /* CPython */
00469 void write_cpython_extension_declaration(FILE *fcode){
00470
00471     fprintf(fcode, "#define PY_SSIZE_T_CLEAN\n");
00472     fprintf(fcode, "#include <Python.h>\n");
00473     fprintf(fcode, "#include \"codata.h\"\n");
00474     fprintf(fcode, "\n\n");
00475     fprintf(fcode, "PyDoc_STRVAR(module_docstring, \"C extension for codata constants.\");");
00476     fprintf(fcode, "\n\n");
00477     fprintf(fcode, "static PyMethodDef myMethods[] = {{ NULL, NULL, 0, NULL }};");
00478     fprintf(fcode, "\n\n");
00479     fprintf(fcode, "static struct PyModuleDef codata = {PyModuleDef_HEAD_INIT, \"codata\",
      module_docstring, -1, myMethods};");
00480     fprintf(fcode, "\n\n");
00481     fprintf(fcode, "PyMODINIT_FUNC PyInit_codata(void){\n");
00482     fprintf(fcode, "\tPyObject *m;\n");
00483     fprintf(fcode, "\tPyObject *d;\n");
00484     fprintf(fcode, "\tPyObject *v;\n");
00485     fprintf(fcode, "\tm = PyModule_Create(&codata);\n");
00486     fprintf(fcode, "\td = PyModule_GetDict(m);\n");
00487     fprintf(fcode, "\n");
00488 }
```

```
00489
00490 void write_cpython_extension_end(FILE *fcode){
00491     fprintf(fcode, "\treturn m;\n");
00492     fprintf(fcode, "}");
00493 }
00494
00505 void write_all_constants(FILE *fcodata,
00506                          FILE *ffortran,
00507                          FILE *fcheader,
00508                          FILE *fpython,
00509                          FILE *fcpython,
00510                          struct codata_file_props *props){
00511
00512     int empty;
00513     size_t i;
00514
00515     char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));
00516     char *name = (char *)malloc(sizeof(char)*(NAMES_LENGTH+1));
00517     char *value = (char *)malloc(sizeof(char)*(VALUES_LENGTH+1));
00518     char *uncertainty = (char *)malloc(sizeof(char)*(UNCERTAINTIES_LENGTH+1));
00519     char *unit = (char *)malloc(sizeof(char)*(UNITS_LENGTH+1));
00520
00521     fseek(fcodata, 0, SEEK_SET);
00522     for (i=0; i<props->index_header_end;i++){
00523         empty = read_line(fcodata, line, LINE_LENGTH);
00524     }
00525
00526     for(i=0; i<props->n; i++){
00527         clean_line(line, LINE_LENGTH);
00528         clean_line(name, NAMES_LENGTH);
00529         clean_line(value, VALUES_LENGTH);
00530         clean_line(uncertainty, UNCERTAINTIES_LENGTH);
00531         clean_line(unit, UNITS_LENGTH);
00532         empty = read_line(fcodata, line, LINE_LENGTH);
00533         if(empty == 0){
00534             format_names(line, name);
00535             format_values(line, value);
00536             format_uncertainties(line, uncertainty);
00537             format_units(line, unit);
00538             rtrim(name, NAMES_LENGTH);
00539             rtrim(value, VALUES_LENGTH);
00540             rtrim(uncertainty, UNCERTAINTIES_LENGTH);
00541             rtrim(unit, UNITS_LENGTH);
00542
00543             // fortran code
00544             fprintf(ffortran, "real(real64), parameter:: &\n%s=%s !< %s\n", name, value, unit);
00545             fprintf(ffortran, "real(real64), parameter :: &\nU_%s=%s !< %s\n", name, uncertainty,
      unit);
00546             fprintf(ffortran, "\n");
00547
00548             // C code
00549             convert_value_to_c(value);
00550             convert_value_to_c(uncertainty);
00551             fprintf(fcheader, "const double %s=%s;/**< %s */\n", name, value, unit);
00552             fprintf(fcheader, "const double U_%s=%s;/**< %s */\n", name, uncertainty, unit);
00553             fprintf(fcheader, "\n");
00554
00555             // Python code
00556             fprintf(fpython, "%s=%s # %s \n", name, value, unit);
00557             fprintf(fpython, "U_%s=%s # %s \n", name, uncertainty, unit);
00558             fprintf(fpython, "\n");
00559
00560             // CPython code
00561             fprintf(fcpython, "\tv = PyFloat_FromDouble(%s);\n", name);
00562             fprintf(fcpython, "\tPyDict_SetItemString(d, \"%s\", v);\n", name);
00563             fprintf(fcpython, "\tPy_INCREF(v);\n");
00564             fprintf(fcpython, "\tv = PyFloat_FromDouble(U_%s);\n", name);
00565             fprintf(fcpython, "\tPyDict_SetItemString(d, \"U_%s\", v);\n", name);
00566             fprintf(fcpython, "\tPy_INCREF(v);\n");
00567             fprintf(fcpython, "\n");
00568
00569         }
00570     }
00571
00572     free(line);
00573     free(name);
00574     free(value);
00575     free(uncertainty);
00576     free(unit);
00577
00578 }
00579
00580
00588 int main(int argc, char **argv){
00589
00590     FILE *fcodata;
00591     FILE *ffortran;
```

```
00592     FILE *fcheader;
00593     FILE *fpython;
00594     FILE *fcpython;
00595     struct codata_file_props *props;
00596 
00597     struct codata_file_props props_current = {0, 0, "./codata_2018.txt"};
00598 
00599     // avoid compiler complaining
00600     if (argc>1){
00601         printf("%d %s", argc, argv[1]);
00602     }
00603 
00604     /* Codata current (2018)*/
00605     props = &props_current;
00606     fcodata =  fopen(props->codata_path, "r");
00607     ffortran = fopen("fcodata.f90", "w");
00608     fcheader = fopen("ccodata.h", "w");
00609     fpython = fopen("pycodata.py", "w");
00610     fcpython = fopen("cpycodata.c", "w");
00611     get_props(props);
00612     write_fortran_file_doc(ffortran);
00613     write_fortran_module_doc(ffortran);
00614     write_fortran_module_declaration(ffortran);
00615     write_c_header_doc(fcheader);
00616     write_python_module_doc(fpython);
00617     write_cpython_extension_declaration(fcpython);
00618     write_all_constants(fcodata, ffortran, fcheader, fpython, fcpython, props);
00619     write_fortran_module_end(ffortran);
00620     write_cpython_extension_end(fcpython);
00621     fclose(ffortran);
00622     fclose(fcheader);
00623     fclose(fpython);
00624     fclose(fcodata);
00625 
00626 
00627     return EXIT_SUCCESS;
00628 }
```

16.19 /Users/milan/programs/codata/src/pycodata.py File Reference

Namespaces

- namespace pycodata

Variables

- float pycodata.ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 7294.29954142e0
- float pycodata.U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 0.00000024e0
- float pycodata.ALPHA_PARTICLE_MASS = 6.6446573357e-27
- float pycodata.U_ALPHA_PARTICLE_MASS = 0.0000000020e-27
- float pycodata.ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 5.9719201914e-10
- float pycodata.U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 0.0000000018e-10
- float pycodata.ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 3727.3794066e0
- float pycodata.U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000011e0
- float pycodata.ALPHA_PARTICLE_MASS_IN_U = 4.001506179127e0
- float pycodata.U_ALPHA_PARTICLE_MASS_IN_U = 0.000000000063e0
- float pycodata.ALPHA_PARTICLE_MOLAR_MASS = 4.0015061777e-3
- float pycodata.U_ALPHA_PARTICLE_MOLAR_MASS = 0.0000000012e-3
- float pycodata.ALPHA_PARTICLE_PROTON_MASS_RATIO = 3.97259969009e0
- float pycodata.U_ALPHA_PARTICLE_PROTON_MASS_RATIO = 0.00000000022e0
- float pycodata.ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 4.001506179127e0
- float pycodata.U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 0.000000000063e0
- float pycodata.ANGSTROM_STAR = 1.00001495e-10
- float pycodata.U_ANGSTROM_STAR = 0.00000090e-10
- float pycodata.ATOMIC_MASS_CONSTANT = 1.66053906660e-27

- float pycodata.U_ATOMIC_MASS_CONSTANT = 0.00000000050e-27
- float pycodata.ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 1.49241808560e-10
- float pycodata.U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 0.00000000045e-10
- float pycodata.ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 931.49410242e0
- float pycodata.U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV = 0.00000028e0
- float pycodata.ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 9.3149410242e8
- float pycodata.U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 0.0000000028e8
- float pycodata.ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 3.4231776874e7
- float pycodata.U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 0.0000000010e7
- float pycodata.ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 2.25234271871e23
- float pycodata.U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 0.00000000068e23
- float pycodata.ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 7.5130066104e14
- float pycodata.U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 0.0000000023e14
- float pycodata.ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 1.49241808560e-10
- float pycodata.U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 0.00000000045e-10
- float pycodata.ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 1.08095401916e13
- float pycodata.U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 0.00000000033e13
- float pycodata.ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 1.66053906660e-27
- float pycodata.U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 0.00000000050e-27
- float pycodata.ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 3.2063613061e-53
- float pycodata.U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 0.0000000015e-53
- float pycodata.ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 6.2353799905e-65
- float pycodata.U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 0.0000000038e-65
- float pycodata.ATOMIC_UNIT_OF_ACTION = 1.054571817e-34
- float pycodata.U_ATOMIC_UNIT_OF_ACTION = 0.0e0
- float pycodata.ATOMIC_UNIT_OF_CHARGE = 1.602176634e-19
- float pycodata.U_ATOMIC_UNIT_OF_CHARGE = 0.0e0
- float pycodata.ATOMIC_UNIT_OF_CHARGE_DENSITY = 1.08120238457e12
- float pycodata.U_ATOMIC_UNIT_OF_CHARGE_DENSITY = 0.00000000049e12
- float pycodata.ATOMIC_UNIT_OF_CURRENT = 6.623618237510e-3
- float pycodata.U_ATOMIC_UNIT_OF_CURRENT = 0.000000000013e-3
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 8.4783536255e-30
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM = 0.0000000013e-30
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD = 5.14220674763e11
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_FIELD = 0.00000000078e11
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 9.7173624292e21
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 0.0000000029e21
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 1.64877727436e-41
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 0.00000000050e-41
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 27.211386245988e0
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 0.000000000053e0
- float pycodata.ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 4.4865515246e-40
- float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM = 0.0000000014e-40
- float pycodata.ATOMIC_UNIT_OF_ENERGY = 4.3597447222071e-18
- float pycodata.U_ATOMIC_UNIT_OF_ENERGY = 0.0000000000085e-18
- float pycodata.ATOMIC_UNIT_OF_FORCE = 8.2387234983e-8
- float pycodata.U_ATOMIC_UNIT_OF_FORCE = 0.0000000012e-8
- float pycodata.ATOMIC_UNIT_OF_LENGTH = 5.29177210903e-11
- float pycodata.U_ATOMIC_UNIT_OF_LENGTH = 0.00000000080e-11
- float pycodata.ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 1.85480201566e-23
- float pycodata.U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM = 0.00000000056e-23
- float pycodata.ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 2.35051756758e5
- float pycodata.U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 0.00000000071e5
- float pycodata.ATOMIC_UNIT_OF_MAGNETIZABILITY = 7.8910366008e-29
- float pycodata.U_ATOMIC_UNIT_OF_MAGNETIZABILITY = 0.0000000048e-29

- float pycodata.ATOMIC_UNIT_OF_MASS = 9.1093837015e-31
- float pycodata.U_ATOMIC_UNIT_OF_MASS = 0.0000000028e-31
- float pycodata.ATOMIC_UNIT_OF_MOMENTUM = 1.99285191410e-24
- float pycodata.U_ATOMIC_UNIT_OF_MOMENTUM = 0.00000000030e-24
- float pycodata.ATOMIC_UNIT_OF_PERMITTIVITY = 1.11265005545e-10
- float pycodata.U_ATOMIC_UNIT_OF_PERMITTIVITY = 0.00000000017e-10
- float pycodata.ATOMIC_UNIT_OF_TIME = 2.4188843265857e-17
- float pycodata.U_ATOMIC_UNIT_OF_TIME = 0.0000000000047e-17
- float pycodata.ATOMIC_UNIT_OF_VELOCITY = 2.18769126364e6
- float pycodata.U_ATOMIC_UNIT_OF_VELOCITY = 0.00000000033e6
- float pycodata.AVOGADRO_CONSTANT = 6.02214076e23
- float pycodata.U_AVOGADRO_CONSTANT = 0.0e0
- float pycodata.BOHR_MAGNETON = 9.2740100783e-24
- float pycodata.U_BOHR_MAGNETON = 0.0000000028e-24
- float pycodata.BOHR_MAGNETON_IN_EV_T = 5.7883818060e-5
- float pycodata.U_BOHR_MAGNETON_IN_EV_T = 0.0000000017e-5
- float pycodata.BOHR_MAGNETON_IN_HZ_T = 1.39962449361e10
- float pycodata.U_BOHR_MAGNETON_IN_HZ_T = 0.00000000042e10
- float pycodata.BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 46.686447783e0
- float pycodata.U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.000000014e0
- float pycodata.BOHR_MAGNETON_IN_K_T = 0.67171381563e0
- float pycodata.U_BOHR_MAGNETON_IN_K_T = 0.00000000020e0
- float pycodata.BOHR_RADIUS = 5.29177210903e-11
- float pycodata.U_BOHR_RADIUS = 0.00000000080e-11
- float pycodata.BOLTZMANN_CONSTANT = 1.380649e-23
- float pycodata.U_BOLTZMANN_CONSTANT = 0.0e0
- float pycodata.BOLTZMANN_CONSTANT_IN_EV_K = 8.617333262e-5
- float pycodata.U_BOLTZMANN_CONSTANT_IN_EV_K = 0.0e0
- float pycodata.BOLTZMANN_CONSTANT_IN_HZ_K = 2.083661912e10
- float pycodata.U_BOLTZMANN_CONSTANT_IN_HZ_K = 0.0e0
- float pycodata.BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 69.50348004e0
- float pycodata.U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN = 0.0e0
- float pycodata.CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 376.730313668e0
- float pycodata.U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 0.000000057e0
- float pycodata.CLASSICAL_ELECTRON_RADIUS = 2.8179403262e-15
- float pycodata.U_CLASSICAL_ELECTRON_RADIUS = 0.0000000013e-15
- float pycodata.COMPTON_WAVELENGTH = 2.42631023867e-12
- float pycodata.U_COMPTON_WAVELENGTH = 0.00000000073e-12
- float pycodata.CONDUCTANCE_QUANTUM = 7.748091729e-5
- float pycodata.U_CONDUCTANCE_QUANTUM = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_AMPERE_90 = 1.00000008887e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_AMPERE_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_COULOMB_90 = 1.00000008887e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_COULOMB_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_FARAD_90 = 0.99999998220e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_FARAD_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_HENRY_90 = 1.00000001779e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_HENRY_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 483597.9e9
- float pycodata.U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_OHM_90 = 1.00000001779e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_OHM_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_VOLT_90 = 1.00000010666e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_VOLT_90 = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 25812.807e0

- float pycodata.U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 0.0e0
- float pycodata.CONVENTIONAL_VALUE_OF_WATT_90 = 1.00000019553e0
- float pycodata.U_CONVENTIONAL_VALUE_OF_WATT_90 = 0.0e0
- float pycodata.COPPER_X_UNIT = 1.00207697e-13
- float pycodata.U_COPPER_X_UNIT = 0.00000028e-13
- float pycodata.DEUTERON_ELECTRON_MAG__MOM__RATIO = -4.664345551e-4
- float pycodata.U_DEUTERON_ELECTRON_MAG__MOM__RATIO = 0.000000012e-4
- float pycodata.DEUTERON_ELECTRON_MASS_RATIO = 3670.48296788e0
- float pycodata.U_DEUTERON_ELECTRON_MASS_RATIO = 0.00000013e0
- float pycodata.DEUTERON_G_FACTOR = 0.8574382338e0
- float pycodata.U_DEUTERON_G_FACTOR = 0.0000000022e0
- float pycodata.DEUTERON_MAG__MOM = 4.330735094e-27
- float pycodata.U_DEUTERON_MAG__MOM = 0.000000011e-27
- float pycodata.DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 4.669754570e-4
- float pycodata.U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000012e-4
- float pycodata.DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.8574382338e0
- float pycodata.U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000022e0
- float pycodata.DEUTERON_MASS = 3.3435837724e-27
- float pycodata.U_DEUTERON_MASS = 0.0000000010e-27
- float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT = 3.00506323102e-10
- float pycodata.U_DEUTERON_MASS_ENERGY_EQUIVALENT = 0.00000000091e-10
- float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 1875.61294257e0
- float pycodata.U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000057e0
- float pycodata.DEUTERON_MASS_IN_U = 2.013553212745e0
- float pycodata.U_DEUTERON_MASS_IN_U = 0.000000000040e0
- float pycodata.DEUTERON_MOLAR_MASS = 2.01355321205e-3
- float pycodata.U_DEUTERON_MOLAR_MASS = 0.00000000061e-3
- float pycodata.DEUTERON_NEUTRON_MAG__MOM__RATIO = -0.44820653e0
- float pycodata.U_DEUTERON_NEUTRON_MAG__MOM__RATIO = 0.00000011e0
- float pycodata.DEUTERON_PROTON_MAG__MOM__RATIO = 0.30701220939e0
- float pycodata.U_DEUTERON_PROTON_MAG__MOM__RATIO = 0.00000000079e0
- float pycodata.DEUTERON_PROTON_MASS_RATIO = 1.99900750139e0
- float pycodata.U_DEUTERON_PROTON_MASS_RATIO = 0.00000000011e0
- float pycodata.DEUTERON_RELATIVE_ATOMIC_MASS = 2.013553212745e0
- float pycodata.U_DEUTERON_RELATIVE_ATOMIC_MASS = 0.000000000040e0
- float pycodata.DEUTERON_RMS_CHARGE_RADIUS = 2.12799e-15
- float pycodata.U_DEUTERON_RMS_CHARGE_RADIUS = 0.00074e-15
- float pycodata.ELECTRON_CHARGE_TO_MASS_QUOTIENT = -1.75882001076e11
- float pycodata.U_ELECTRON_CHARGE_TO_MASS_QUOTIENT = 0.00000000053e11
- float pycodata.ELECTRON_DEUTERON_MAG__MOM__RATIO = -2143.9234915e0
- float pycodata.U_ELECTRON_DEUTERON_MAG__MOM__RATIO = 0.0000056e0
- float pycodata.ELECTRON_DEUTERON_MASS_RATIO = 2.724437107462e-4
- float pycodata.U_ELECTRON_DEUTERON_MASS_RATIO = 0.000000000096e-4
- float pycodata.ELECTRON_G_FACTOR = -2.00231930436256e0
- float pycodata.U_ELECTRON_G_FACTOR = 0.00000000000035e0
- float pycodata.ELECTRON_GYROMAG__RATIO = 1.76085963023e11
- float pycodata.U_ELECTRON_GYROMAG__RATIO = 0.00000000053e11
- float pycodata.ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 28024.9514242e0
- float pycodata.U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000085e0
- float pycodata.ELECTRON_HELION_MASS_RATIO = 1.819543074573e-4
- float pycodata.U_ELECTRON_HELION_MASS_RATIO = 0.000000000079e-4
- float pycodata.ELECTRON_MAG__MOM = -9.2847647043e-24
- float pycodata.U_ELECTRON_MAG__MOM = 0.0000000028e-24
- float pycodata.ELECTRON_MAG__MOM__ANOMALY = 1.15965218128e-3
- float pycodata.U_ELECTRON_MAG__MOM__ANOMALY = 0.00000000018e-3

- float pycodata.ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.00115965218128e0
- float pycodata.U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000000018e0
- float pycodata.ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1838.28197188e0
- float pycodata.U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000011e0
- float pycodata.ELECTRON_MASS = 9.1093837015e-31
- float pycodata.U_ELECTRON_MASS = 0.0000000028e-31
- float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT = 8.1871057769e-14
- float pycodata.U_ELECTRON_MASS_ENERGY_EQUIVALENT = 0.0000000025e-14
- float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.51099895000e0
- float pycodata.U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000000015e0
- float pycodata.ELECTRON_MASS_IN_U = 5.48579909065e-4
- float pycodata.U_ELECTRON_MASS_IN_U = 0.00000000016e-4
- float pycodata.ELECTRON_MOLAR_MASS = 5.4857990888e-7
- float pycodata.U_ELECTRON_MOLAR_MASS = 0.0000000017e-7
- float pycodata.ELECTRON_MUON_MAG__MOM__RATIO = 206.7669883e0
- float pycodata.U_ELECTRON_MUON_MAG__MOM__RATIO = 0.0000046e0
- float pycodata.ELECTRON_MUON_MASS_RATIO = 4.83633169e-3
- float pycodata.U_ELECTRON_MUON_MASS_RATIO = 0.00000011e-3
- float pycodata.ELECTRON_NEUTRON_MAG__MOM__RATIO = 960.92050e0
- float pycodata.U_ELECTRON_NEUTRON_MAG__MOM__RATIO = 0.00023e0
- float pycodata.ELECTRON_NEUTRON_MASS_RATIO = 5.4386734424e-4
- float pycodata.U_ELECTRON_NEUTRON_MASS_RATIO = 0.0000000026e-4
- float pycodata.ELECTRON_PROTON_MAG__MOM__RATIO = -658.21068789e0
- float pycodata.U_ELECTRON_PROTON_MAG__MOM__RATIO = 0.00000020e0
- float pycodata.ELECTRON_PROTON_MASS_RATIO = 5.44617021487e-4
- float pycodata.U_ELECTRON_PROTON_MASS_RATIO = 0.00000000033e-4
- float pycodata.ELECTRON_RELATIVE_ATOMIC_MASS = 5.48579909065e-4
- float pycodata.U_ELECTRON_RELATIVE_ATOMIC_MASS = 0.00000000016e-4
- float pycodata.ELECTRON_TAU_MASS_RATIO = 2.87585e-4
- float pycodata.U_ELECTRON_TAU_MASS_RATIO = 0.00019e-4
- float pycodata.ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 1.370933554787e-4
- float pycodata.U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO = 0.000000000045e-4
- float pycodata.ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 864.058257e0
- float pycodata.U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO = 0.000010e0
- float pycodata.ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -658.2275971e0
- float pycodata.U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000072e0
- float pycodata.ELECTRON_TRITON_MASS_RATIO = 1.819200062251e-4
- float pycodata.U_ELECTRON_TRITON_MASS_RATIO = 0.000000000090e-4
- float pycodata.ELECTRON_VOLT = 1.602176634e-19
- float pycodata.U_ELECTRON_VOLT = 0.0e0
- float pycodata.ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.07354410233e-9
- float pycodata.U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000032e-9
- float pycodata.ELECTRON_VOLT_HARTREE_RELATIONSHIP = 3.6749322175655e-2
- float pycodata.U_ELECTRON_VOLT_HARTREE_RELATIONSHIP = 0.0000000000071e-2
- float pycodata.ELECTRON_VOLT_HERTZ_RELATIONSHIP = 2.417989242e14
- float pycodata.U_ELECTRON_VOLT_HERTZ_RELATIONSHIP = 0.0e0
- float pycodata.ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 8.065543937e5
- float pycodata.U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 0.0e0
- float pycodata.ELECTRON_VOLT_JOULE_RELATIONSHIP = 1.602176634e-19
- float pycodata.U_ELECTRON_VOLT_JOULE_RELATIONSHIP = 0.0e0
- float pycodata.ELECTRON_VOLT_KELVIN_RELATIONSHIP = 1.160451812e4
- float pycodata.U_ELECTRON_VOLT_KELVIN_RELATIONSHIP = 0.0e0
- float pycodata.ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 1.782661921e-36
- float pycodata.U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 0.0e0
- float pycodata.ELEMENTARY_CHARGE = 1.602176634e-19

- float pycodata.U_ELEMENTARY_CHARGE = 0.0e0
- float pycodata.ELEMENTARY_CHARGE_OVER_H_BAR = 1.519267447e15
- float pycodata.U_ELEMENTARY_CHARGE_OVER_H_BAR = 0.0e0
- float pycodata.FARADAY_CONSTANT = 96485.33212e0
- float pycodata.U_FARADAY_CONSTANT = 0.0e0
- float pycodata.FERMI_COUPLING_CONSTANT = 1.1663787e-5
- float pycodata.U_FERMI_COUPLING_CONSTANT = 0.0000006e-5
- float pycodata.FINE_STRUCTURE_CONSTANT = 7.2973525693e-3
- float pycodata.U_FINE_STRUCTURE_CONSTANT = 0.0000000011e-3
- float pycodata.FIRST_RADIATION_CONSTANT = 3.741771852e-16
- float pycodata.U_FIRST_RADIATION_CONSTANT = 0.0e0
- float pycodata.FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 1.191042972e-16
- float pycodata.U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE = 0.0e0
- float pycodata.HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 2.92126232205e-8
- float pycodata.U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000088e-8
- float pycodata.HARTREE_ELECTRON_VOLT_RELATIONSHIP = 27.211386245988e0
- float pycodata.U_HARTREE_ELECTRON_VOLT_RELATIONSHIP = 0.000000000053e0
- float pycodata.HARTREE_ENERGY = 4.3597447222071e-18
- float pycodata.U_HARTREE_ENERGY = 0.0000000000085e-18
- float pycodata.HARTREE_ENERGY_IN_EV = 27.211386245988e0
- float pycodata.U_HARTREE_ENERGY_IN_EV = 0.000000000053e0
- float pycodata.HARTREE_HERTZ_RELATIONSHIP = 6.579683920502e15
- float pycodata.U_HARTREE_HERTZ_RELATIONSHIP = 0.000000000013e15
- float pycodata.HARTREE_INVERSE_METER_RELATIONSHIP = 2.1947463136320e7
- float pycodata.U_HARTREE_INVERSE_METER_RELATIONSHIP = 0.0000000000043e7
- float pycodata.HARTREE_JOULE_RELATIONSHIP = 4.3597447222071e-18
- float pycodata.U_HARTREE_JOULE_RELATIONSHIP = 0.0000000000085e-18
- float pycodata.HARTREE_KELVIN_RELATIONSHIP = 3.1577502480407e5
- float pycodata.U_HARTREE_KELVIN_RELATIONSHIP = 0.0000000000061e5
- float pycodata.HARTREE_KILOGRAM_RELATIONSHIP = 4.8508702095432e-35
- float pycodata.U_HARTREE_KILOGRAM_RELATIONSHIP = 0.0000000000094e-35
- float pycodata.HELION_ELECTRON_MASS_RATIO = 5495.88528007e0
- float pycodata.U_HELION_ELECTRON_MASS_RATIO = 0.00000024e0
- float pycodata.HELION_G_FACTOR = -4.255250615e0
- float pycodata.U_HELION_G_FACTOR = 0.000000050e0
- float pycodata.HELION_MAG__MOM = -1.074617532e-26
- float pycodata.U_HELION_MAG__MOM = 0.000000013e-26
- float pycodata.HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158740958e-3
- float pycodata.U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
- float pycodata.HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127625307e0
- float pycodata.U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.000000025e0
- float pycodata.HELION_MASS = 5.0064127796e-27
- float pycodata.U_HELION_MASS = 0.0000000015e-27
- float pycodata.HELION_MASS_ENERGY_EQUIVALENT = 4.4995394125e-10
- float pycodata.U_HELION_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
- float pycodata.HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.39160743e0
- float pycodata.U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
- float pycodata.HELION_MASS_IN_U = 3.014932247175e0
- float pycodata.U_HELION_MASS_IN_U = 0.000000000097e0
- float pycodata.HELION_MOLAR_MASS = 3.01493224613e-3
- float pycodata.U_HELION_MOLAR_MASS = 0.00000000091e-3
- float pycodata.HELION_PROTON_MASS_RATIO = 2.99315267167e0
- float pycodata.U_HELION_PROTON_MASS_RATIO = 0.00000000013e0
- float pycodata.HELION_RELATIVE_ATOMIC_MASS = 3.014932247175e0
- float pycodata.U_HELION_RELATIVE_ATOMIC_MASS = 0.000000000097e0

- float pycodata.HELION_SHIELDING_SHIFT = 5.996743e-5
- float pycodata.U_HELION_SHIELDING_SHIFT = 0.000010e-5
- float pycodata.HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 4.4398216652e-24
- float pycodata.U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000013e-24
- float pycodata.HERTZ_ELECTRON_VOLT_RELATIONSHIP = 4.135667696e-15
- float pycodata.U_HERTZ_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float pycodata.HERTZ_HARTREE_RELATIONSHIP = 1.5198298460570e-16
- float pycodata.U_HERTZ_HARTREE_RELATIONSHIP = 0.0000000000029e-16
- float pycodata.HERTZ_INVERSE_METER_RELATIONSHIP = 3.335640951e-9
- float pycodata.U_HERTZ_INVERSE_METER_RELATIONSHIP = 0.0e0
- float pycodata.HERTZ_JOULE_RELATIONSHIP = 6.62607015e-34
- float pycodata.U_HERTZ_JOULE_RELATIONSHIP = 0.0e0
- float pycodata.HERTZ_KELVIN_RELATIONSHIP = 4.799243073e-11
- float pycodata.U_HERTZ_KELVIN_RELATIONSHIP = 0.0e0
- float pycodata.HERTZ_KILOGRAM_RELATIONSHIP = 7.372497323e-51
- float pycodata.U_HERTZ_KILOGRAM_RELATIONSHIP = 0.0e0
- float pycodata.HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 9192631770.0e0
- float pycodata.U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 0.0e0
- float pycodata.INVERSE_FINE_STRUCTURE_CONSTANT = 137.035999084e0
- float pycodata.U_INVERSE_FINE_STRUCTURE_CONSTANT = 0.000000021e0
- float pycodata.INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 1.33102505010e-15
- float pycodata.U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.00000000040e-15
- float pycodata.INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 1.239841984e-6
- float pycodata.U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float pycodata.INVERSE_METER_HARTREE_RELATIONSHIP = 4.5563352529120e-8
- float pycodata.U_INVERSE_METER_HARTREE_RELATIONSHIP = 0.0000000000088e-8
- float pycodata.INVERSE_METER_HERTZ_RELATIONSHIP = 299792458.0e0
- float pycodata.U_INVERSE_METER_HERTZ_RELATIONSHIP = 0.0e0
- float pycodata.INVERSE_METER_JOULE_RELATIONSHIP = 1.986445857e-25
- float pycodata.U_INVERSE_METER_JOULE_RELATIONSHIP = 0.0e0
- float pycodata.INVERSE_METER_KELVIN_RELATIONSHIP = 1.438776877e-2
- float pycodata.U_INVERSE_METER_KELVIN_RELATIONSHIP = 0.0e0
- float pycodata.INVERSE_METER_KILOGRAM_RELATIONSHIP = 2.210219094e-42
- float pycodata.U_INVERSE_METER_KILOGRAM_RELATIONSHIP = 0.0e0
- float pycodata.INVERSE_OF_CONDUCTANCE_QUANTUM = 12906.40372e0
- float pycodata.U_INVERSE_OF_CONDUCTANCE_QUANTUM = 0.0e0
- float pycodata.JOSEPHSON_CONSTANT = 483597.8484e9
- float pycodata.U_JOSEPHSON_CONSTANT = 0.0e0
- float pycodata.JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.7005352565e9
- float pycodata.U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000020e9
- float pycodata.JOULE_ELECTRON_VOLT_RELATIONSHIP = 6.241509074e18
- float pycodata.U_JOULE_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float pycodata.JOULE_HARTREE_RELATIONSHIP = 2.2937122783963e17
- float pycodata.U_JOULE_HARTREE_RELATIONSHIP = 0.0000000000045e17
- float pycodata.JOULE_HERTZ_RELATIONSHIP = 1.509190179e33
- float pycodata.U_JOULE_HERTZ_RELATIONSHIP = 0.0e0
- float pycodata.JOULE_INVERSE_METER_RELATIONSHIP = 5.034116567e24
- float pycodata.U_JOULE_INVERSE_METER_RELATIONSHIP = 0.0e0
- float pycodata.JOULE_KELVIN_RELATIONSHIP = 7.242970516e22
- float pycodata.U_JOULE_KELVIN_RELATIONSHIP = 0.0e0
- float pycodata.JOULE_KILOGRAM_RELATIONSHIP = 1.112650056e-17
- float pycodata.U_JOULE_KILOGRAM_RELATIONSHIP = 0.0e0
- float pycodata.KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 9.2510873014e-14
- float pycodata.U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000028e-14
- float pycodata.KELVIN_ELECTRON_VOLT_RELATIONSHIP = 8.617333262e-5

- float pycodata.U_KELVIN_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float pycodata.KELVIN_HARTREE_RELATIONSHIP = 3.1668115634556e-6
- float pycodata.U_KELVIN_HARTREE_RELATIONSHIP = 0.0000000000061e-6
- float pycodata.KELVIN_HERTZ_RELATIONSHIP = 2.083661912e10
- float pycodata.U_KELVIN_HERTZ_RELATIONSHIP = 0.0e0
- float pycodata.KELVIN_INVERSE_METER_RELATIONSHIP = 69.50348004e0
- float pycodata.U_KELVIN_INVERSE_METER_RELATIONSHIP = 0.0e0
- float pycodata.KELVIN_JOULE_RELATIONSHIP = 1.380649e-23
- float pycodata.U_KELVIN_JOULE_RELATIONSHIP = 0.0e0
- float pycodata.KELVIN_KILOGRAM_RELATIONSHIP = 1.536179187e-40
- float pycodata.U_KELVIN_KILOGRAM_RELATIONSHIP = 0.0e0
- float pycodata.KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.0221407621e26
- float pycodata.U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000018e26
- float pycodata.KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 5.609588603e35
- float pycodata.U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
- float pycodata.KILOGRAM_HARTREE_RELATIONSHIP = 2.0614857887409e34
- float pycodata.U_KILOGRAM_HARTREE_RELATIONSHIP = 0.0000000000040e34
- float pycodata.KILOGRAM_HERTZ_RELATIONSHIP = 1.356392489e50
- float pycodata.U_KILOGRAM_HERTZ_RELATIONSHIP = 0.0e0
- float pycodata.KILOGRAM_INVERSE_METER_RELATIONSHIP = 4.524438335e41
- float pycodata.U_KILOGRAM_INVERSE_METER_RELATIONSHIP = 0.0e0
- float pycodata.KILOGRAM_JOULE_RELATIONSHIP = 8.987551787e16
- float pycodata.U_KILOGRAM_JOULE_RELATIONSHIP = 0.0e0
- float pycodata.KILOGRAM_KELVIN_RELATIONSHIP = 6.509657260e39
- float pycodata.U_KILOGRAM_KELVIN_RELATIONSHIP = 0.0e0
- float pycodata.LATTICE_PARAMETER_OF_SILICON = 5.431020511e-10
- float pycodata.U_LATTICE_PARAMETER_OF_SILICON = 0.000000089e-10
- float pycodata.LATTICE_SPACING_OF_IDEAL_SI__220 = 1.920155716e-10
- float pycodata.U_LATTICE_SPACING_OF_IDEAL_SI__220 = 0.000000032e-10
- float pycodata.LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 2.651645804e25
- float pycodata.U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA = 0.0e0
- float pycodata.LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 2.686780111e25
- float pycodata.U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA = 0.0e0
- float pycodata.LUMINOUS_EFFICACY = 683.0e0
- float pycodata.U_LUMINOUS_EFFICACY = 0.0e0
- float pycodata.MAG__FLUX_QUANTUM = 2.067833848e-15
- float pycodata.U_MAG__FLUX_QUANTUM = 0.0e0
- float pycodata.MOLAR_GAS_CONSTANT = 8.314462618e0
- float pycodata.U_MOLAR_GAS_CONSTANT = 0.0e0
- float pycodata.MOLAR_MASS_CONSTANT = 0.99999999965e-3
- float pycodata.U_MOLAR_MASS_CONSTANT = 0.00000000030e-3
- float pycodata.MOLAR_MASS_OF_CARBON_12 = 11.9999999958e-3
- float pycodata.U_MOLAR_MASS_OF_CARBON_12 = 0.0000000036e-3
- float pycodata.MOLAR_PLANCK_CONSTANT = 3.990312712e-10
- float pycodata.U_MOLAR_PLANCK_CONSTANT = 0.0e0
- float pycodata.MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 22.71095464e-3
- float pycodata.U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA = 0.0e0
- float pycodata.MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 22.41396954e-3
- float pycodata.U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA = 0.0e0
- float pycodata.MOLAR_VOLUME_OF_SILICON = 1.205883199e-5
- float pycodata.U_MOLAR_VOLUME_OF_SILICON = 0.000000060e-5
- float pycodata.MOLYBDENUM_X_UNIT = 1.00209952e-13
- float pycodata.U_MOLYBDENUM_X_UNIT = 0.00000053e-13
- float pycodata.MUON_COMPTON_WAVELENGTH = 1.173444110e-14
- float pycodata.U_MUON_COMPTON_WAVELENGTH = 0.000000026e-14

- float pycodata.MUON_ELECTRON_MASS_RATIO = 206.7682830e0
- float pycodata.U_MUON_ELECTRON_MASS_RATIO = 0.0000046e0
- float pycodata.MUON_G_FACTOR = -2.0023318418e0
- float pycodata.U_MUON_G_FACTOR = 0.0000000013e0
- float pycodata.MUON_MAG__MOM = -4.49044830e-26
- float pycodata.U_MUON_MAG__MOM = 0.00000010e-26
- float pycodata.MUON_MAG__MOM__ANOMALY = 1.16592089e-3
- float pycodata.U_MUON_MAG__MOM__ANOMALY = 0.00000063e-3
- float pycodata.MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -4.84197047e-3
- float pycodata.U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000011e-3
- float pycodata.MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -8.89059703e0
- float pycodata.U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000020e0
- float pycodata.MUON_MASS = 1.883531627e-28
- float pycodata.U_MUON_MASS = 0.000000042e-28
- float pycodata.MUON_MASS_ENERGY_EQUIVALENT = 1.692833804e-11
- float pycodata.U_MUON_MASS_ENERGY_EQUIVALENT = 0.000000038e-11
- float pycodata.MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 105.6583755e0
- float pycodata.U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.0000023e0
- float pycodata.MUON_MASS_IN_U = 0.1134289259e0
- float pycodata.U_MUON_MASS_IN_U = 0.0000000025e0
- float pycodata.MUON_MOLAR_MASS = 1.134289259e-4
- float pycodata.U_MUON_MOLAR_MASS = 0.000000025e-4
- float pycodata.MUON_NEUTRON_MASS_RATIO = 0.1124545170e0
- float pycodata.U_MUON_NEUTRON_MASS_RATIO = 0.0000000025e0
- float pycodata.MUON_PROTON_MAG__MOM__RATIO = -3.183345142e0
- float pycodata.U_MUON_PROTON_MAG__MOM__RATIO = 0.000000071e0
- float pycodata.MUON_PROTON_MASS_RATIO = 0.1126095264e0
- float pycodata.U_MUON_PROTON_MASS_RATIO = 0.0000000025e0
- float pycodata.MUON_TAU_MASS_RATIO = 5.94635e-2
- float pycodata.U_MUON_TAU_MASS_RATIO = 0.00040e-2
- float pycodata.NATURAL_UNIT_OF_ACTION = 1.054571817e-34
- float pycodata.U_NATURAL_UNIT_OF_ACTION = 0.0e0
- float pycodata.NATURAL_UNIT_OF_ACTION_IN_EV_S = 6.582119569e-16
- float pycodata.U_NATURAL_UNIT_OF_ACTION_IN_EV_S = 0.0e0
- float pycodata.NATURAL_UNIT_OF_ENERGY = 8.1871057769e-14
- float pycodata.U_NATURAL_UNIT_OF_ENERGY = 0.0000000025e-14
- float pycodata.NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.51099895000e0
- float pycodata.U_NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.00000000015e0
- float pycodata.NATURAL_UNIT_OF_LENGTH = 3.8615926796e-13
- float pycodata.U_NATURAL_UNIT_OF_LENGTH = 0.0000000012e-13
- float pycodata.NATURAL_UNIT_OF_MASS = 9.1093837015e-31
- float pycodata.U_NATURAL_UNIT_OF_MASS = 0.0000000028e-31
- float pycodata.NATURAL_UNIT_OF_MOMENTUM = 2.73092453075e-22
- float pycodata.U_NATURAL_UNIT_OF_MOMENTUM = 0.00000000082e-22
- float pycodata.NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.51099895000e0
- float pycodata.U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C = 0.00000000015e0
- float pycodata.NATURAL_UNIT_OF_TIME = 1.28808866819e-21
- float pycodata.U_NATURAL_UNIT_OF_TIME = 0.00000000039e-21
- float pycodata.NATURAL_UNIT_OF_VELOCITY = 299792458.0e0
- float pycodata.U_NATURAL_UNIT_OF_VELOCITY = 0.0e0
- float pycodata.NEUTRON_COMPTON_WAVELENGTH = 1.31959090581e-15
- float pycodata.U_NEUTRON_COMPTON_WAVELENGTH = 0.00000000075e-15
- float pycodata.NEUTRON_ELECTRON_MAG__MOM__RATIO = 1.04066882e-3
- float pycodata.U_NEUTRON_ELECTRON_MAG__MOM__RATIO = 0.00000025e-3
- float pycodata.NEUTRON_ELECTRON_MASS_RATIO = 1838.68366173e0

- float pycodata.U_NEUTRON_ELECTRON_MASS_RATIO = 0.00000089e0
- float pycodata.NEUTRON_G_FACTOR = -3.82608545e0
- float pycodata.U_NEUTRON_G_FACTOR = 0.00000090e0
- float pycodata.NEUTRON_GYROMAG__RATIO = 1.83247171e8
- float pycodata.U_NEUTRON_GYROMAG__RATIO = 0.00000043e8
- float pycodata.NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 29.1646931e0
- float pycodata.U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 0.0000069e0
- float pycodata.NEUTRON_MAG__MOM = -9.6623651e-27
- float pycodata.U_NEUTRON_MAG__MOM = 0.0000023e-27
- float pycodata.NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.04187563e-3
- float pycodata.U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000025e-3
- float pycodata.NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -1.91304273e0
- float pycodata.U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000045e0
- float pycodata.NEUTRON_MASS = 1.67492749804e-27
- float pycodata.U_NEUTRON_MASS = 0.00000000095e-27
- float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT = 1.50534976287e-10
- float pycodata.U_NEUTRON_MASS_ENERGY_EQUIVALENT = 0.00000000086e-10
- float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 939.56542052e0
- float pycodata.U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000054e0
- float pycodata.NEUTRON_MASS_IN_U = 1.00866491595e0
- float pycodata.U_NEUTRON_MASS_IN_U = 0.00000000049e0
- float pycodata.NEUTRON_MOLAR_MASS = 1.00866491560e-3
- float pycodata.U_NEUTRON_MOLAR_MASS = 0.00000000057e-3
- float pycodata.NEUTRON_MUON_MASS_RATIO = 8.89248406e0
- float pycodata.U_NEUTRON_MUON_MASS_RATIO = 0.00000020e0
- float pycodata.NEUTRON_PROTON_MAG__MOM__RATIO = -0.68497934e0
- float pycodata.U_NEUTRON_PROTON_MAG__MOM__RATIO = 0.00000016e0
- float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE = 2.30557435e-30
- float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE = 0.00000082e-30
- float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 2.07214689e-13
- float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT = 0.00000074e-13
- float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 1.↩ 29333236e0
- float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV = 0.↩ 00000046e0
- float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 1.38844933e-3
- float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U = 0.00000049e-3
- float pycodata.NEUTRON_PROTON_MASS_RATIO = 1.00137841931e0
- float pycodata.U_NEUTRON_PROTON_MASS_RATIO = 0.00000000049e0
- float pycodata.NEUTRON_RELATIVE_ATOMIC_MASS = 1.00866491595e0
- float pycodata.U_NEUTRON_RELATIVE_ATOMIC_MASS = 0.00000000049e0
- float pycodata.NEUTRON_TAU_MASS_RATIO = 0.528779e0
- float pycodata.U_NEUTRON_TAU_MASS_RATIO = 0.000036e0
- float pycodata.NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.68499694e0
- float pycodata.U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.00000016e0
- float pycodata.NEWTONIAN_CONSTANT_OF_GRAVITATION = 6.67430e-11
- float pycodata.U_NEWTONIAN_CONSTANT_OF_GRAVITATION = 0.00015e-11
- float pycodata.NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 6.70883e-39
- float pycodata.U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C = 0.00015e-39
- float pycodata.NUCLEAR_MAGNETON = 5.0507837461e-27
- float pycodata.U_NUCLEAR_MAGNETON = 0.0000000015e-27
- float pycodata.NUCLEAR_MAGNETON_IN_EV_T = 3.15245125844e-8
- float pycodata.U_NUCLEAR_MAGNETON_IN_EV_T = 0.00000000096e-8
- float pycodata.NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 2.54262341353e-2
- float pycodata.U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA = 0.00000000078e-2

- float pycodata.NUCLEAR_MAGNETON_IN_K_T = 3.6582677756e-4
- float pycodata.U_NUCLEAR_MAGNETON_IN_K_T = 0.0000000011e-4
- float pycodata.NUCLEAR_MAGNETON_IN_MHZ_T = 7.6225932291e0
- float pycodata.U_NUCLEAR_MAGNETON_IN_MHZ_T = 0.0000000023e0
- float pycodata.PLANCK_CONSTANT = 6.62607015e-34
- float pycodata.U_PLANCK_CONSTANT = 0.0e0
- float pycodata.PLANCK_CONSTANT_IN_EV_HZ = 4.135667696e-15
- float pycodata.U_PLANCK_CONSTANT_IN_EV_HZ = 0.0e0
- float pycodata.PLANCK_LENGTH = 1.616255e-35
- float pycodata.U_PLANCK_LENGTH = 0.000018e-35
- float pycodata.PLANCK_MASS = 2.176434e-8
- float pycodata.U_PLANCK_MASS = 0.000024e-8
- float pycodata.PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 1.220890e19
- float pycodata.U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 0.000014e19
- float pycodata.PLANCK_TEMPERATURE = 1.416784e32
- float pycodata.U_PLANCK_TEMPERATURE = 0.000016e32
- float pycodata.PLANCK_TIME = 5.391247e-44
- float pycodata.U_PLANCK_TIME = 0.000060e-44
- float pycodata.PROTON_CHARGE_TO_MASS_QUOTIENT = 9.5788331560e7
- float pycodata.U_PROTON_CHARGE_TO_MASS_QUOTIENT = 0.0000000029e7
- float pycodata.PROTON_COMPTON_WAVELENGTH = 1.32140985539e-15
- float pycodata.U_PROTON_COMPTON_WAVELENGTH = 0.00000000040e-15
- float pycodata.PROTON_ELECTRON_MASS_RATIO = 1836.15267343e0
- float pycodata.U_PROTON_ELECTRON_MASS_RATIO = 0.00000011e0
- float pycodata.PROTON_G_FACTOR = 5.5856946893e0
- float pycodata.U_PROTON_G_FACTOR = 0.0000000016e0
- float pycodata.PROTON_GYROMAG__RATIO = 2.6752218744e8
- float pycodata.U_PROTON_GYROMAG__RATIO = 0.0000000011e8
- float pycodata.PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.577478518e0
- float pycodata.U_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.000000018e0
- float pycodata.PROTON_MAG__MOM = 1.41060679736e-26
- float pycodata.U_PROTON_MAG__MOM = 0.00000000060e-26
- float pycodata.PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.52103220230e-3
- float pycodata.U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.00000000046e-3
- float pycodata.PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.79284734463e0
- float pycodata.U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.00000000082e0
- float pycodata.PROTON_MAG__SHIELDING_CORRECTION = 2.5689e-5
- float pycodata.U_PROTON_MAG__SHIELDING_CORRECTION = 0.0011e-5
- float pycodata.PROTON_MASS = 1.67262192369e-27
- float pycodata.U_PROTON_MASS = 0.00000000051e-27
- float pycodata.PROTON_MASS_ENERGY_EQUIVALENT = 1.50327761598e-10
- float pycodata.U_PROTON_MASS_ENERGY_EQUIVALENT = 0.00000000046e-10
- float pycodata.PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 938.27208816e0
- float pycodata.U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000029e0
- float pycodata.PROTON_MASS_IN_U = 1.007276466621e0
- float pycodata.U_PROTON_MASS_IN_U = 0.000000000053e0
- float pycodata.PROTON_MOLAR_MASS = 1.00727646627e-3
- float pycodata.U_PROTON_MOLAR_MASS = 0.00000000031e-3
- float pycodata.PROTON_MUON_MASS_RATIO = 8.88024337e0
- float pycodata.U_PROTON_MUON_MASS_RATIO = 0.00000020e0
- float pycodata.PROTON_NEUTRON_MAG__MOM__RATIO = -1.45989805e0
- float pycodata.U_PROTON_NEUTRON_MAG__MOM__RATIO = 0.00000034e0
- float pycodata.PROTON_NEUTRON_MASS_RATIO = 0.99862347812e0
- float pycodata.U_PROTON_NEUTRON_MASS_RATIO = 0.00000000049e0
- float pycodata.PROTON_RELATIVE_ATOMIC_MASS = 1.007276466621e0

- float pycodata.U_PROTON_RELATIVE_ATOMIC_MASS = 0.000000000053e0
- float pycodata.PROTON_RMS_CHARGE_RADIUS = 8.414e-16
- float pycodata.U_PROTON_RMS_CHARGE_RADIUS = 0.019e-16
- float pycodata.PROTON_TAU_MASS_RATIO = 0.528051e0
- float pycodata.U_PROTON_TAU_MASS_RATIO = 0.000036e0
- float pycodata.QUANTUM_OF_CIRCULATION = 3.6369475516e-4
- float pycodata.U_QUANTUM_OF_CIRCULATION = 0.0000000011e-4
- float pycodata.QUANTUM_OF_CIRCULATION_TIMES_2 = 7.2738951032e-4
- float pycodata.U_QUANTUM_OF_CIRCULATION_TIMES_2 = 0.0000000022e-4
- float pycodata.REDUCED_COMPTON_WAVELENGTH = 3.8615926796e-13
- float pycodata.U_REDUCED_COMPTON_WAVELENGTH = 0.0000000012e-13
- float pycodata.REDUCED_MUON_COMPTON_WAVELENGTH = 1.867594306e-15
- float pycodata.U_REDUCED_MUON_COMPTON_WAVELENGTH = 0.000000042e-15
- float pycodata.REDUCED_NEUTRON_COMPTON_WAVELENGTH = 2.1001941552e-16
- float pycodata.U_REDUCED_NEUTRON_COMPTON_WAVELENGTH = 0.0000000012e-16
- float pycodata.REDUCED_PLANCK_CONSTANT = 1.054571817e-34
- float pycodata.U_REDUCED_PLANCK_CONSTANT = 0.0e0
- float pycodata.REDUCED_PLANCK_CONSTANT_IN_EV_S = 6.582119569e-16
- float pycodata.U_REDUCED_PLANCK_CONSTANT_IN_EV_S = 0.0e0
- float pycodata.REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 197.3269804e0
- float pycodata.U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM = 0.0e0
- float pycodata.REDUCED_PROTON_COMPTON_WAVELENGTH = 2.10308910336e-16
- float pycodata.U_REDUCED_PROTON_COMPTON_WAVELENGTH = 0.00000000064e-16
- float pycodata.REDUCED_TAU_COMPTON_WAVELENGTH = 1.110538e-16
- float pycodata.U_REDUCED_TAU_COMPTON_WAVELENGTH = 0.000075e-16
- float pycodata.RYDBERG_CONSTANT = 10973731.568160e0
- float pycodata.U_RYDBERG_CONSTANT = 0.000021e0
- float pycodata.RYDBERG_CONSTANT_TIMES_C_IN_HZ = 3.2898419602508e15
- float pycodata.U_RYDBERG_CONSTANT_TIMES_C_IN_HZ = 0.0000000000064e15
- float pycodata.RYDBERG_CONSTANT_TIMES_HC_IN_EV = 13.605693122994e0
- float pycodata.U_RYDBERG_CONSTANT_TIMES_HC_IN_EV = 0.000000000026e0
- float pycodata.RYDBERG_CONSTANT_TIMES_HC_IN_J = 2.1798723611035e-18
- float pycodata.U_RYDBERG_CONSTANT_TIMES_HC_IN_J = 0.0000000000042e-18
- float pycodata.SACKUR_TETRODE_CONSTANT__1_K__100_KPA = -1.15170753706e0
- float pycodata.U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA = 0.00000000045e0
- float pycodata.SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = -1.16487052358e0
- float pycodata.U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA = 0.00000000045e0
- float pycodata.SECOND_RADIATION_CONSTANT = 1.438776877e-2
- float pycodata.U_SECOND_RADIATION_CONSTANT = 0.0e0
- float pycodata.SHIELDED_HELION_GYROMAG__RATIO = 2.037894569e8
- float pycodata.U_SHIELDED_HELION_GYROMAG__RATIO = 0.000000024e8
- float pycodata.SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 32.43409942e0
- float pycodata.U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T = 0.00000038e0
- float pycodata.SHIELDED_HELION_MAG__MOM = -1.074553090e-26
- float pycodata.U_SHIELDED_HELION_MAG__MOM = 0.000000013e-26
- float pycodata.SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = -1.158671471e-3
- float pycodata.U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000014e-3
- float pycodata.SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = -2.127497719e0
- float pycodata.U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.↩ 000000025e0
- float pycodata.SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = -0.7617665618e0
- float pycodata.U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO = 0.0000000089e0
- float pycodata.SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = -0.7617861313e0
- float pycodata.U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO = 0.0000000033e0
- float pycodata.SHIELDED_PROTON_GYROMAG__RATIO = 2.675153151e8

- float pycodata.U_SHIELDED_PROTON_GYROMAG__RATIO = 0.000000029e8
- float pycodata.SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.57638474e0
- float pycodata.U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T = 0.00000046e0
- float pycodata.SHIELDED_PROTON_MAG__MOM = 1.410570560e-26
- float pycodata.U_SHIELDED_PROTON_MAG__MOM = 0.000000015e-26
- float pycodata.SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.520993128e-3
- float pycodata.U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.000000017e-3
- float pycodata.SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.792775599e0
- float pycodata.U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.↩ 000000030e0
- float pycodata.SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 2.0200e-8
- float pycodata.U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD = 0.0020e-8
- float pycodata.SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 2.4140e-8
- float pycodata.U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT = 0.0020e-8
- float pycodata.SPEED_OF_LIGHT_IN_VACUUM = 299792458.0e0
- float pycodata.U_SPEED_OF_LIGHT_IN_VACUUM = 0.0e0
- float pycodata.STANDARD_ACCELERATION_OF_GRAVITY = 9.80665e0
- float pycodata.U_STANDARD_ACCELERATION_OF_GRAVITY = 0.0e0
- float pycodata.STANDARD_ATMOSPHERE = 101325.0e0
- float pycodata.U_STANDARD_ATMOSPHERE = 0.0e0
- float pycodata.STANDARD_STATE_PRESSURE = 100000.0e0
- float pycodata.U_STANDARD_STATE_PRESSURE = 0.0e0
- float pycodata.STEFAN_BOLTZMANN_CONSTANT = 5.670374419e-8
- float pycodata.U_STEFAN_BOLTZMANN_CONSTANT = 0.0e0
- float pycodata.TAU_COMPTON_WAVELENGTH = 6.97771e-16
- float pycodata.U_TAU_COMPTON_WAVELENGTH = 0.00047e-16
- float pycodata.TAU_ELECTRON_MASS_RATIO = 3477.23e0
- float pycodata.U_TAU_ELECTRON_MASS_RATIO = 0.23e0
- float pycodata.TAU_ENERGY_EQUIVALENT = 1776.86e0
- float pycodata.U_TAU_ENERGY_EQUIVALENT = 0.12e0
- float pycodata.TAU_MASS = 3.16754e-27
- float pycodata.U_TAU_MASS = 0.00021e-27
- float pycodata.TAU_MASS_ENERGY_EQUIVALENT = 2.84684e-10
- float pycodata.U_TAU_MASS_ENERGY_EQUIVALENT = 0.00019e-10
- float pycodata.TAU_MASS_IN_U = 1.90754e0
- float pycodata.U_TAU_MASS_IN_U = 0.00013e0
- float pycodata.TAU_MOLAR_MASS = 1.90754e-3
- float pycodata.U_TAU_MOLAR_MASS = 0.00013e-3
- float pycodata.TAU_MUON_MASS_RATIO = 16.8170e0
- float pycodata.U_TAU_MUON_MASS_RATIO = 0.0011e0
- float pycodata.TAU_NEUTRON_MASS_RATIO = 1.89115e0
- float pycodata.U_TAU_NEUTRON_MASS_RATIO = 0.00013e0
- float pycodata.TAU_PROTON_MASS_RATIO = 1.89376e0
- float pycodata.U_TAU_PROTON_MASS_RATIO = 0.00013e0
- float pycodata.THOMSON_CROSS_SECTION = 6.6524587321e-29
- float pycodata.U_THOMSON_CROSS_SECTION = 0.0000000060e-29
- float pycodata.TRITON_ELECTRON_MASS_RATIO = 5496.92153573e0
- float pycodata.U_TRITON_ELECTRON_MASS_RATIO = 0.00000027e0
- float pycodata.TRITON_G_FACTOR = 5.957924931e0
- float pycodata.U_TRITON_G_FACTOR = 0.000000012e0
- float pycodata.TRITON_MAG__MOM = 1.5046095202e-26
- float pycodata.U_TRITON_MAG__MOM = 0.0000000030e-26
- float pycodata.TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 1.6223936651e-3
- float pycodata.U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO = 0.0000000032e-3
- float pycodata.TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 2.9789624656e0

- float pycodata.U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO = 0.0000000059e0
- float pycodata.TRITON_MASS = 5.0073567446e-27
- float pycodata.U_TRITON_MASS = 0.0000000015e-27
- float pycodata.TRITON_MASS_ENERGY_EQUIVALENT = 4.5003878060e-10
- float pycodata.U_TRITON_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
- float pycodata.TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.92113298e0
- float pycodata.U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.00000085e0
- float pycodata.TRITON_MASS_IN_U = 3.01550071621e0
- float pycodata.U_TRITON_MASS_IN_U = 0.00000000012e0
- float pycodata.TRITON_MOLAR_MASS = 3.01550071517e-3
- float pycodata.U_TRITON_MOLAR_MASS = 0.00000000092e-3
- float pycodata.TRITON_PROTON_MASS_RATIO = 2.99371703414e0
- float pycodata.U_TRITON_PROTON_MASS_RATIO = 0.00000000015e0
- float pycodata.TRITON_RELATIVE_ATOMIC_MASS = 3.01550071621e0
- float pycodata.U_TRITON_RELATIVE_ATOMIC_MASS = 0.00000000012e0
- float pycodata.TRITON_TO_PROTON_MAG__MOM__RATIO = 1.0666399191e0
- float pycodata.U_TRITON_TO_PROTON_MAG__MOM__RATIO = 0.0000000021e0
- float pycodata.UNIFIED_ATOMIC_MASS_UNIT = 1.66053906660e-27
- float pycodata.U_UNIFIED_ATOMIC_MASS_UNIT = 0.00000000050e-27
- float pycodata.VACUUM_ELECTRIC_PERMITTIVITY = 8.8541878128e-12
- float pycodata.U_VACUUM_ELECTRIC_PERMITTIVITY = 0.0000000013e-12
- float pycodata.VACUUM_MAG__PERMEABILITY = 1.25663706212e-6
- float pycodata.U_VACUUM_MAG__PERMEABILITY = 0.00000000019e-6
- float pycodata.VON_KLITZING_CONSTANT = 25812.80745e0
- float pycodata.U_VON_KLITZING_CONSTANT = 0.0e0
- float pycodata.WEAK_MIXING_ANGLE = 0.22290e0
- float pycodata.U_WEAK_MIXING_ANGLE = 0.00030e0
- float pycodata.WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 5.878925757e10
- float pycodata.U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 0.0e0
- float pycodata.WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 2.897771955e-3
- float pycodata.U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 0.0e0
- float pycodata.W_TO_Z_MASS_RATIO = 0.88153e0
- float pycodata.U_W_TO_Z_MASS_RATIO = 0.00017e0

16.20 pycodata.py

Go to the documentation of this file.

```
00001 """Codata module - autogenerated"""
00002
00003 ALPHA_PARTICLE_ELECTRON_MASS_RATIO=7294.29954142e0 #
00004 U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO=0.00000024e0 #
00005
00006 ALPHA_PARTICLE_MASS=6.6446573357e-27 # kg
00007 U_ALPHA_PARTICLE_MASS=0.0000000020e-27 # kg
00008
00009 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=5.9719201914e-10 # J
00010 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=0.0000000018e-10 # J
00011
00012 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=3727.3794066e0 # MeV
00013 U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000011e0 # MeV
00014
00015 ALPHA_PARTICLE_MASS_IN_U=4.001506179127e0 # u
00016 U_ALPHA_PARTICLE_MASS_IN_U=0.000000000063e0 # u
00017
00018 ALPHA_PARTICLE_MOLAR_MASS=4.0015061777e-3 # kg mol^-1
00019 U_ALPHA_PARTICLE_MOLAR_MASS=0.0000000012e-3 # kg mol^-1
00020
00021 ALPHA_PARTICLE_PROTON_MASS_RATIO=3.97259969009e0 #
00022 U_ALPHA_PARTICLE_PROTON_MASS_RATIO=0.00000000022e0 #
00023
00024 ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=4.001506179127e0 #
00025 U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=0.000000000063e0 #
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00026
00027 ANGSTROM_STAR=1.00001495e-10 # m
00028 U_ANGSTROM_STAR=0.00000090e-10 # m
00029
00030 ATOMIC_MASS_CONSTANT=1.66053906660e-27 # kg
00031 U_ATOMIC_MASS_CONSTANT=0.00000000050e-27 # kg
00032
00033 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=1.49241808560e-10 # J
00034 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=0.00000000045e-10 # J
00035
00036 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=931.49410242e0 # MeV
00037 U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=0.00000028e0 # MeV
00038
00039 ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=9.3149410242e8 # eV
00040 U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=0.0000000028e8 # eV
00041
00042 ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=3.4231776874e7 # E_h
00043 U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=0.0000000010e7 # E_h
00044
00045 ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=2.25234271871e23 # Hz
00046 U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=0.00000000068e23 # Hz
00047
00048 ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=7.5130066104e14 # m^-1
00049 U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=0.0000000023e14 # m^-1
00050
00051 ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=1.49241808560e-10 # J
00052 U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=0.00000000045e-10 # J
00053
00054 ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=1.08095401916e13 # K
00055 U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=0.00000000033e13 # K
00056
00057 ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=1.66053906660e-27 # kg
00058 U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=0.00000000050e-27 # kg
00059
00060 ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=3.2063613061e-53 # C^3 m^3 J^-2
00061 U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=0.0000000015e-53 # C^3 m^3 J^-2
00062
00063 ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=6.2353799905e-65 # C^4 m^4 J^-3
00064 U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=0.0000000038e-65 # C^4 m^4 J^-3
00065
00066 ATOMIC_UNIT_OF_ACTION=1.054571817e-34 # J s
00067 U_ATOMIC_UNIT_OF_ACTION=0.0e0 # J s
00068
00069 ATOMIC_UNIT_OF_CHARGE=1.602176634e-19 # C
00070 U_ATOMIC_UNIT_OF_CHARGE=0.0e0 # C
00071
00072 ATOMIC_UNIT_OF_CHARGE_DENSITY=1.08120238457e12 # C m^-3
00073 U_ATOMIC_UNIT_OF_CHARGE_DENSITY=0.00000000049e12 # C m^-3
00074
00075 ATOMIC_UNIT_OF_CURRENT=6.623618237510e-3 # A
00076 U_ATOMIC_UNIT_OF_CURRENT=0.000000000013e-3 # A
00077
00078 ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=8.4783536255e-30 # C m
00079 U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=0.0000000013e-30 # C m
00080
00081 ATOMIC_UNIT_OF_ELECTRIC_FIELD=5.14220674763e11 # V m^-1
00082 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD=0.00000000078e11 # V m^-1
00083
00084 ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=9.7173624292e21 # V m^-2
00085 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=0.0000000029e21 # V m^-2
00086
00087 ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=1.64877727436e-41 # C^2 m^2 J^-1
00088 U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=0.00000000050e-41 # C^2 m^2 J^-1
00089
00090 ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=27.211386245988e0 # V
00091 U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=0.000000000053e0 # V
00092
00093 ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=4.4865515246e-40 # C m^2
00094 U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=0.0000000014e-40 # C m^2
00095
00096 ATOMIC_UNIT_OF_ENERGY=4.3597447222071e-18 # J
00097 U_ATOMIC_UNIT_OF_ENERGY=0.0000000000085e-18 # J
00098
00099 ATOMIC_UNIT_OF_FORCE=8.2387234983e-8 # N
00100 U_ATOMIC_UNIT_OF_FORCE=0.0000000012e-8 # N
00101
00102 ATOMIC_UNIT_OF_LENGTH=5.29177210903e-11 # m
00103 U_ATOMIC_UNIT_OF_LENGTH=0.00000000080e-11 # m
00104
00105 ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=1.85480201566e-23 # J T^-1
00106 U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=0.00000000056e-23 # J T^-1
00107
00108 ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=2.35051756758e5 # T
00109 U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=0.00000000071e5 # T
00110
00111 ATOMIC_UNIT_OF_MAGNETIZABILITY=7.8910366008e-29 # J T^-2
00112 U_ATOMIC_UNIT_OF_MAGNETIZABILITY=0.0000000048e-29 # J T^-2
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00113
00114 ATOMIC_UNIT_OF_MASS=9.1093837015e-31 # kg
00115 U_ATOMIC_UNIT_OF_MASS=0.0000000028e-31 # kg
00116
00117 ATOMIC_UNIT_OF_MOMENTUM=1.99285191410e-24 # kg m s^-1
00118 U_ATOMIC_UNIT_OF_MOMENTUM=0.00000000030e-24 # kg m s^-1
00119
00120 ATOMIC_UNIT_OF_PERMITTIVITY=1.11265005545e-10 # F m^-1
00121 U_ATOMIC_UNIT_OF_PERMITTIVITY=0.00000000017e-10 # F m^-1
00122
00123 ATOMIC_UNIT_OF_TIME=2.4188843265857e-17 # s
00124 U_ATOMIC_UNIT_OF_TIME=0.0000000000047e-17 # s
00125
00126 ATOMIC_UNIT_OF_VELOCITY=2.18769126364e6 # m s^-1
00127 U_ATOMIC_UNIT_OF_VELOCITY=0.00000000033e6 # m s^-1
00128
00129 AVOGADRO_CONSTANT=6.02214076e23 # mol^-1
00130 U_AVOGADRO_CONSTANT=0.0e0 # mol^-1
00131
00132 BOHR_MAGNETON=9.2740100783e-24 # J T^-1
00133 U_BOHR_MAGNETON=0.0000000028e-24 # J T^-1
00134
00135 BOHR_MAGNETON_IN_EV_T=5.7883818060e-5 # eV T^-1
00136 U_BOHR_MAGNETON_IN_EV_T=0.0000000017e-5 # eV T^-1
00137
00138 BOHR_MAGNETON_IN_HZ_T=1.39962449361e10 # Hz T^-1
00139 U_BOHR_MAGNETON_IN_HZ_T=0.00000000042e10 # Hz T^-1
00140
00141 BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=46.686447783e0 # m^-1 T^-1
00142 U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.000000014e0 # m^-1 T^-1
00143
00144 BOHR_MAGNETON_IN_K_T=0.67171381563e0 # K T^-1
00145 U_BOHR_MAGNETON_IN_K_T=0.00000000020e0 # K T^-1
00146
00147 BOHR_RADIUS=5.29177210903e-11 # m
00148 U_BOHR_RADIUS=0.00000000080e-11 # m
00149
00150 BOLTZMANN_CONSTANT=1.380649e-23 # J K^-1
00151 U_BOLTZMANN_CONSTANT=0.0e0 # J K^-1
00152
00153 BOLTZMANN_CONSTANT_IN_EV_K=8.617333262e-5 # eV K^-1
00154 U_BOLTZMANN_CONSTANT_IN_EV_K=0.0e0 # eV K^-1
00155
00156 BOLTZMANN_CONSTANT_IN_HZ_K=2.083661912e10 # Hz K^-1
00157 U_BOLTZMANN_CONSTANT_IN_HZ_K=0.0e0 # Hz K^-1
00158
00159 BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=69.50348004e0 # m^-1 K^-1
00160 U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=0.0e0 # m^-1 K^-1
00161
00162 CHARACTERISTIC_IMPEDANCE_OF_VACUUM=376.730313668e0 # ohm
00163 U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM=0.000000057e0 # ohm
00164
00165 CLASSICAL_ELECTRON_RADIUS=2.8179403262e-15 # m
00166 U_CLASSICAL_ELECTRON_RADIUS=0.0000000013e-15 # m
00167
00168 COMPTON_WAVELENGTH=2.42631023867e-12 # m
00169 U_COMPTON_WAVELENGTH=0.00000000073e-12 # m
00170
00171 CONDUCTANCE_QUANTUM=7.748091729e-5 # S
00172 U_CONDUCTANCE_QUANTUM=0.0e0 # S
00173
00174 CONVENTIONAL_VALUE_OF_AMPERE_90=1.00000008887e0 # A
00175 U_CONVENTIONAL_VALUE_OF_AMPERE_90=0.0e0 # A
00176
00177 CONVENTIONAL_VALUE_OF_COULOMB_90=1.00000008887e0 # C
00178 U_CONVENTIONAL_VALUE_OF_COULOMB_90=0.0e0 # C
00179
00180 CONVENTIONAL_VALUE_OF_FARAD_90=0.99999998220e0 # F
00181 U_CONVENTIONAL_VALUE_OF_FARAD_90=0.0e0 # F
00182
00183 CONVENTIONAL_VALUE_OF_HENRY_90=1.00000001779e0 # H
00184 U_CONVENTIONAL_VALUE_OF_HENRY_90=0.0e0 # H
00185
00186 CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=483597.9e9 # Hz V^-1
00187 U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=0.0e0 # Hz V^-1
00188
00189 CONVENTIONAL_VALUE_OF_OHM_90=1.00000001779e0 # ohm
00190 U_CONVENTIONAL_VALUE_OF_OHM_90=0.0e0 # ohm
00191
00192 CONVENTIONAL_VALUE_OF_VOLT_90=1.00000010666e0 # V
00193 U_CONVENTIONAL_VALUE_OF_VOLT_90=0.0e0 # V
00194
00195 CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=25812.807e0 # ohm
00196 U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=0.0e0 # ohm
00197
00198 CONVENTIONAL_VALUE_OF_WATT_90=1.00000019553e0 # W
00199 U_CONVENTIONAL_VALUE_OF_WATT_90=0.0e0 # W
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00200
00201 COPPER_X_UNIT=1.00207697e-13 # m
00202 U_COPPER_X_UNIT=0.00000028e-13 # m
00203
00204 DEUTERON_ELECTRON_MAG__MOM__RATIO=-4.664345551e-4 #
00205 U_DEUTERON_ELECTRON_MAG__MOM__RATIO=0.000000012e-4 #
00206
00207 DEUTERON_ELECTRON_MASS_RATIO=3670.48296788e0 #
00208 U_DEUTERON_ELECTRON_MASS_RATIO=0.00000013e0 #
00209
00210 DEUTERON_G_FACTOR=0.8574382338e0 #
00211 U_DEUTERON_G_FACTOR=0.0000000022e0 #
00212
00213 DEUTERON_MAG__MOM=4.330735094e-27 # J T^-1
00214 U_DEUTERON_MAG__MOM=0.000000011e-27 # J T^-1
00215
00216 DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=4.669754570e-4 #
00217 U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000012e-4 #
00218
00219 DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.8574382338e0 #
00220 U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000022e0 #
00221
00222 DEUTERON_MASS=3.3435837724e-27 # kg
00223 U_DEUTERON_MASS=0.0000000010e-27 # kg
00224
00225 DEUTERON_MASS_ENERGY_EQUIVALENT=3.00506323102e-10 # J
00226 U_DEUTERON_MASS_ENERGY_EQUIVALENT=0.00000000091e-10 # J
00227
00228 DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=1875.61294257e0 # MeV
00229 U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000057e0 # MeV
00230
00231 DEUTERON_MASS_IN_U=2.013553212745e0 # u
00232 U_DEUTERON_MASS_IN_U=0.000000000040e0 # u
00233
00234 DEUTERON_MOLAR_MASS=2.01355321205e-3 # kg mol^-1
00235 U_DEUTERON_MOLAR_MASS=0.00000000061e-3 # kg mol^-1
00236
00237 DEUTERON_NEUTRON_MAG__MOM__RATIO=-0.44820653e0 #
00238 U_DEUTERON_NEUTRON_MAG__MOM__RATIO=0.00000011e0 #
00239
00240 DEUTERON_PROTON_MAG__MOM__RATIO=0.30701220939e0 #
00241 U_DEUTERON_PROTON_MAG__MOM__RATIO=0.00000000079e0 #
00242
00243 DEUTERON_PROTON_MASS_RATIO=1.99900750139e0 #
00244 U_DEUTERON_PROTON_MASS_RATIO=0.00000000011e0 #
00245
00246 DEUTERON_RELATIVE_ATOMIC_MASS=2.013553212745e0 #
00247 U_DEUTERON_RELATIVE_ATOMIC_MASS=0.000000000040e0 #
00248
00249 DEUTERON_RMS_CHARGE_RADIUS=2.12799e-15 # m
00250 U_DEUTERON_RMS_CHARGE_RADIUS=0.00074e-15 # m
00251
00252 ELECTRON_CHARGE_TO_MASS_QUOTIENT=-1.75882001076e11 # C kg^-1
00253 U_ELECTRON_CHARGE_TO_MASS_QUOTIENT=0.00000000053e11 # C kg^-1
00254
00255 ELECTRON_DEUTERON_MAG__MOM__RATIO=-2143.9234915e0 #
00256 U_ELECTRON_DEUTERON_MAG__MOM__RATIO=0.0000056e0 #
00257
00258 ELECTRON_DEUTERON_MASS_RATIO=2.724437107462e-4 #
00259 U_ELECTRON_DEUTERON_MASS_RATIO=0.000000000096e-4 #
00260
00261 ELECTRON_G_FACTOR=-2.00231930436256e0 #
00262 U_ELECTRON_G_FACTOR=0.00000000000035e0 #
00263
00264 ELECTRON_GYROMAG__RATIO=1.76085963023e11 # s^-1 T^-1
00265 U_ELECTRON_GYROMAG__RATIO=0.00000000053e11 # s^-1 T^-1
00266
00267 ELECTRON_GYROMAG__RATIO_IN_MHZ_T=28024.9514242e0 # MHz T^-1
00268 U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000085e0 # MHz T^-1
00269
00270 ELECTRON_HELION_MASS_RATIO=1.819543074573e-4 #
00271 U_ELECTRON_HELION_MASS_RATIO=0.000000000079e-4 #
00272
00273 ELECTRON_MAG__MOM=-9.2847647043e-24 # J T^-1
00274 U_ELECTRON_MAG__MOM=0.0000000028e-24 # J T^-1
00275
00276 ELECTRON_MAG__MOM__ANOMALY=1.15965218128e-3 #
00277 U_ELECTRON_MAG__MOM__ANOMALY=0.00000000018e-3 #
00278
00279 ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.00115965218128e0 #
00280 U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000000018e0 #
00281
00282 ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1838.28197188e0 #
00283 U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000011e0 #
00284
00285 ELECTRON_MASS=9.1093837015e-31 # kg
00286 U_ELECTRON_MASS=0.0000000028e-31 # kg
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00287
00288 ELECTRON_MASS_ENERGY_EQUIVALENT=8.1871057769e-14 # J
00289 U_ELECTRON_MASS_ENERGY_EQUIVALENT=0.0000000025e-14 # J
00290
00291 ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.51099895000e0 # MeV
00292 U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000000015e0 # MeV
00293
00294 ELECTRON_MASS_IN_U=5.48579909065e-4 # u
00295 U_ELECTRON_MASS_IN_U=0.00000000016e-4 # u
00296
00297 ELECTRON_MOLAR_MASS=5.4857990888e-7 # kg mol^-1
00298 U_ELECTRON_MOLAR_MASS=0.0000000017e-7 # kg mol^-1
00299
00300 ELECTRON_MUON_MAG__MOM__RATIO=206.7669883e0 #
00301 U_ELECTRON_MUON_MAG__MOM__RATIO=0.0000046e0 #
00302
00303 ELECTRON_MUON_MASS_RATIO=4.83633169e-3 #
00304 U_ELECTRON_MUON_MASS_RATIO=0.00000011e-3 #
00305
00306 ELECTRON_NEUTRON_MAG__MOM__RATIO=960.92050e0 #
00307 U_ELECTRON_NEUTRON_MAG__MOM__RATIO=0.00023e0 #
00308
00309 ELECTRON_NEUTRON_MASS_RATIO=5.4386734424e-4 #
00310 U_ELECTRON_NEUTRON_MASS_RATIO=0.0000000026e-4 #
00311
00312 ELECTRON_PROTON_MAG__MOM__RATIO=-658.21068789e0 #
00313 U_ELECTRON_PROTON_MAG__MOM__RATIO=0.00000020e0 #
00314
00315 ELECTRON_PROTON_MASS_RATIO=5.44617021487e-4 #
00316 U_ELECTRON_PROTON_MASS_RATIO=0.00000000033e-4 #
00317
00318 ELECTRON_RELATIVE_ATOMIC_MASS=5.48579909065e-4 #
00319 U_ELECTRON_RELATIVE_ATOMIC_MASS=0.00000000016e-4 #
00320
00321 ELECTRON_TAU_MASS_RATIO=2.87585e-4 #
00322 U_ELECTRON_TAU_MASS_RATIO=0.00019e-4 #
00323
00324 ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=1.370933554787e-4 #
00325 U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=0.000000000045e-4 #
00326
00327 ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=864.058257e0 #
00328 U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=0.000010e0 #
00329
00330 ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-658.2275971e0 #
00331 U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000072e0 #
00332
00333 ELECTRON_TRITON_MASS_RATIO=1.819200062251e-4 #
00334 U_ELECTRON_TRITON_MASS_RATIO=0.000000000090e-4 #
00335
00336 ELECTRON_VOLT=1.602176634e-19 # J
00337 U_ELECTRON_VOLT=0.0e0 # J
00338
00339 ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=1.07354410233e-9 # u
00340 U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000032e-9 # u
00341
00342 ELECTRON_VOLT_HARTREE_RELATIONSHIP=3.6749322175655e-2 # E_h
00343 U_ELECTRON_VOLT_HARTREE_RELATIONSHIP=0.0000000000071e-2 # E_h
00344
00345 ELECTRON_VOLT_HERTZ_RELATIONSHIP=2.417989242e14 # Hz
00346 U_ELECTRON_VOLT_HERTZ_RELATIONSHIP=0.0e0 # Hz
00347
00348 ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=8.065543937e5 # m^-1
00349 U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1
00350
00351 ELECTRON_VOLT_JOULE_RELATIONSHIP=1.602176634e-19 # J
00352 U_ELECTRON_VOLT_JOULE_RELATIONSHIP=0.0e0 # J
00353
00354 ELECTRON_VOLT_KELVIN_RELATIONSHIP=1.160451812e4 # K
00355 U_ELECTRON_VOLT_KELVIN_RELATIONSHIP=0.0e0 # K
00356
00357 ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=1.782661921e-36 # kg
00358 U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=0.0e0 # kg
00359
00360 ELEMENTARY_CHARGE=1.602176634e-19 # C
00361 U_ELEMENTARY_CHARGE=0.0e0 # C
00362
00363 ELEMENTARY_CHARGE_OVER_H_BAR=1.519267447e15 # A J^-1
00364 U_ELEMENTARY_CHARGE_OVER_H_BAR=0.0e0 # A J^-1
00365
00366 FARADAY_CONSTANT=96485.33212e0 # C mol^-1
00367 U_FARADAY_CONSTANT=0.0e0 # C mol^-1
00368
00369 FERMI_COUPLING_CONSTANT=1.1663787e-5 # GeV^-2
00370 U_FERMI_COUPLING_CONSTANT=0.0000006e-5 # GeV^-2
00371
00372 FINE_STRUCTURE_CONSTANT=7.2973525693e-3 #
00373 U_FINE_STRUCTURE_CONSTANT=0.0000000011e-3 #
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00374
00375 FIRST_RADIATION_CONSTANT=3.741771852e-16 # W m^2
00376 U_FIRST_RADIATION_CONSTANT=0.0e0 # W m^2
00377
00378 FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=1.191042972e-16 # W m^2 sr^-1
00379 U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=0.0e0 # W m^2 sr^-1
00380
00381 HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=2.92126232205e-8 # u
00382 U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000088e-8 # u
00383
00384 HARTREE_ELECTRON_VOLT_RELATIONSHIP=27.211386245988e0 # eV
00385 U_HARTREE_ELECTRON_VOLT_RELATIONSHIP=0.000000000053e0 # eV
00386
00387 HARTREE_ENERGY=4.3597447222071e-18 # J
00388 U_HARTREE_ENERGY=0.0000000000085e-18 # J
00389
00390 HARTREE_ENERGY_IN_EV=27.211386245988e0 # eV
00391 U_HARTREE_ENERGY_IN_EV=0.000000000053e0 # eV
00392
00393 HARTREE_HERTZ_RELATIONSHIP=6.579683920502e15 # Hz
00394 U_HARTREE_HERTZ_RELATIONSHIP=0.000000000013e15 # Hz
00395
00396 HARTREE_INVERSE_METER_RELATIONSHIP=2.1947463136320e7 # m^-1
00397 U_HARTREE_INVERSE_METER_RELATIONSHIP=0.0000000000043e7 # m^-1
00398
00399 HARTREE_JOULE_RELATIONSHIP=4.3597447222071e-18 # J
00400 U_HARTREE_JOULE_RELATIONSHIP=0.0000000000085e-18 # J
00401
00402 HARTREE_KELVIN_RELATIONSHIP=3.1577502480407e5 # K
00403 U_HARTREE_KELVIN_RELATIONSHIP=0.0000000000061e5 # K
00404
00405 HARTREE_KILOGRAM_RELATIONSHIP=4.8508702095432e-35 # kg
00406 U_HARTREE_KILOGRAM_RELATIONSHIP=0.0000000000094e-35 # kg
00407
00408 HELION_ELECTRON_MASS_RATIO=5495.88528007e0 #
00409 U_HELION_ELECTRON_MASS_RATIO=0.00000024e0 #
00410
00411 HELION_G_FACTOR=-4.255250615e0 #
00412 U_HELION_G_FACTOR=0.000000050e0 #
00413
00414 HELION_MAG__MOM=-1.074617532e-26 # J T^-1
00415 U_HELION_MAG__MOM=0.000000013e-26 # J T^-1
00416
00417 HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158740958e-3 #
00418 U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3 #
00419
00420 HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127625307e0 #
00421 U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0 #
00422
00423 HELION_MASS=5.0064127796e-27 # kg
00424 U_HELION_MASS=0.0000000015e-27 # kg
00425
00426 HELION_MASS_ENERGY_EQUIVALENT=4.4995394125e-10 # J
00427 U_HELION_MASS_ENERGY_EQUIVALENT=0.0000000014e-10 # J
00428
00429 HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.39160743e0 # MeV
00430 U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0 # MeV
00431
00432 HELION_MASS_IN_U=3.014932247175e0 # u
00433 U_HELION_MASS_IN_U=0.000000000097e0 # u
00434
00435 HELION_MOLAR_MASS=3.01493224613e-3 # kg mol^-1
00436 U_HELION_MOLAR_MASS=0.00000000091e-3 # kg mol^-1
00437
00438 HELION_PROTON_MASS_RATIO=2.99315267167e0 #
00439 U_HELION_PROTON_MASS_RATIO=0.00000000013e0 #
00440
00441 HELION_RELATIVE_ATOMIC_MASS=3.014932247175e0 #
00442 U_HELION_RELATIVE_ATOMIC_MASS=0.000000000097e0 #
00443
00444 HELION_SHIELDING_SHIFT=5.996743e-5 #
00445 U_HELION_SHIELDING_SHIFT=0.000010e-5 #
00446
00447 HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=4.4398216652e-24 # u
00448 U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000013e-24 # u
00449
00450 HERTZ_ELECTRON_VOLT_RELATIONSHIP=4.135667696e-15 # eV
00451 U_HERTZ_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
00452
00453 HERTZ_HARTREE_RELATIONSHIP=1.5198298460570e-16 # E_h
00454 U_HERTZ_HARTREE_RELATIONSHIP=0.0000000000029e-16 # E_h
00455
00456 HERTZ_INVERSE_METER_RELATIONSHIP=3.335640951e-9 # m^-1
00457 U_HERTZ_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1
00458
00459 HERTZ_JOULE_RELATIONSHIP=6.62607015e-34 # J
00460 U_HERTZ_JOULE_RELATIONSHIP=0.0e0 # J
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00461
00462 HERTZ_KELVIN_RELATIONSHIP=4.799243073e-11 # K
00463 U_HERTZ_KELVIN_RELATIONSHIP=0.0e0 # K
00464
00465 HERTZ_KILOGRAM_RELATIONSHIP=7.372497323e-51 # kg
00466 U_HERTZ_KILOGRAM_RELATIONSHIP=0.0e0 # kg
00467
00468 HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=9192631770.0e0 # Hz
00469 U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=0.0e0 # Hz
00470
00471 INVERSE_FINE_STRUCTURE_CONSTANT=137.035999084e0 #
00472 U_INVERSE_FINE_STRUCTURE_CONSTANT=0.000000021e0 #
00473
00474 INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=1.33102505010e-15 # u
00475 U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000040e-15 # u
00476
00477 INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=1.239841984e-6 # eV
00478 U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
00479
00480 INVERSE_METER_HARTREE_RELATIONSHIP=4.5563352529120e-8 # E_h
00481 U_INVERSE_METER_HARTREE_RELATIONSHIP=0.0000000000088e-8 # E_h
00482
00483 INVERSE_METER_HERTZ_RELATIONSHIP=299792458.0e0 # Hz
00484 U_INVERSE_METER_HERTZ_RELATIONSHIP=0.0e0 # Hz
00485
00486 INVERSE_METER_JOULE_RELATIONSHIP=1.986445857e-25 # J
00487 U_INVERSE_METER_JOULE_RELATIONSHIP=0.0e0 # J
00488
00489 INVERSE_METER_KELVIN_RELATIONSHIP=1.438776877e-2 # K
00490 U_INVERSE_METER_KELVIN_RELATIONSHIP=0.0e0 # K
00491
00492 INVERSE_METER_KILOGRAM_RELATIONSHIP=2.210219094e-42 # kg
00493 U_INVERSE_METER_KILOGRAM_RELATIONSHIP=0.0e0 # kg
00494
00495 INVERSE_OF_CONDUCTANCE_QUANTUM=12906.40372e0 # ohm
00496 U_INVERSE_OF_CONDUCTANCE_QUANTUM=0.0e0 # ohm
00497
00498 JOSEPHSON_CONSTANT=483597.8484e9 # Hz V^-1
00499 U_JOSEPHSON_CONSTANT=0.0e0 # Hz V^-1
00500
00501 JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=6.7005352565e9 # u
00502 U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000020e9 # u
00503
00504 JOULE_ELECTRON_VOLT_RELATIONSHIP=6.241509074e18 # eV
00505 U_JOULE_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
00506
00507 JOULE_HARTREE_RELATIONSHIP=2.2937122783963e17 # E_h
00508 U_JOULE_HARTREE_RELATIONSHIP=0.0000000000045e17 # E_h
00509
00510 JOULE_HERTZ_RELATIONSHIP=1.509190179e33 # Hz
00511 U_JOULE_HERTZ_RELATIONSHIP=0.0e0 # Hz
00512
00513 JOULE_INVERSE_METER_RELATIONSHIP=5.034116567e24 # m^-1
00514 U_JOULE_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1
00515
00516 JOULE_KELVIN_RELATIONSHIP=7.242970516e22 # K
00517 U_JOULE_KELVIN_RELATIONSHIP=0.0e0 # K
00518
00519 JOULE_KILOGRAM_RELATIONSHIP=1.112650056e-17 # kg
00520 U_JOULE_KILOGRAM_RELATIONSHIP=0.0e0 # kg
00521
00522 KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=9.2510873014e-14 # u
00523 U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000028e-14 # u
00524
00525 KELVIN_ELECTRON_VOLT_RELATIONSHIP=8.617333262e-5 # eV
00526 U_KELVIN_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
00527
00528 KELVIN_HARTREE_RELATIONSHIP=3.1668115634556e-6 # E_h
00529 U_KELVIN_HARTREE_RELATIONSHIP=0.0000000000061e-6 # E_h
00530
00531 KELVIN_HERTZ_RELATIONSHIP=2.083661912e10 # Hz
00532 U_KELVIN_HERTZ_RELATIONSHIP=0.0e0 # Hz
00533
00534 KELVIN_INVERSE_METER_RELATIONSHIP=69.50348004e0 # m^-1
00535 U_KELVIN_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1
00536
00537 KELVIN_JOULE_RELATIONSHIP=1.380649e-23 # J
00538 U_KELVIN_JOULE_RELATIONSHIP=0.0e0 # J
00539
00540 KELVIN_KILOGRAM_RELATIONSHIP=1.536179187e-40 # kg
00541 U_KELVIN_KILOGRAM_RELATIONSHIP=0.0e0 # kg
00542
00543 KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=6.0221407621e26 # u
00544 U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000018e26 # u
00545
00546 KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=5.609588603e35 # eV
00547 U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
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00548
00549 KILOGRAM_HARTREE_RELATIONSHIP=2.0614857887409e34 # E_h
00550 U_KILOGRAM_HARTREE_RELATIONSHIP=0.0000000000040e34 # E_h
00551
00552 KILOGRAM_HERTZ_RELATIONSHIP=1.356392489e50 # Hz
00553 U_KILOGRAM_HERTZ_RELATIONSHIP=0.0e0 # Hz
00554
00555 KILOGRAM_INVERSE_METER_RELATIONSHIP=4.524438335e41 # m^-1
00556 U_KILOGRAM_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1
00557
00558 KILOGRAM_JOULE_RELATIONSHIP=8.987551787e16 # J
00559 U_KILOGRAM_JOULE_RELATIONSHIP=0.0e0 # J
00560
00561 KILOGRAM_KELVIN_RELATIONSHIP=6.509657260e39 # K
00562 U_KILOGRAM_KELVIN_RELATIONSHIP=0.0e0 # K
00563
00564 LATTICE_PARAMETER_OF_SILICON=5.431020511e-10 # m
00565 U_LATTICE_PARAMETER_OF_SILICON=0.000000089e-10 # m
00566
00567 LATTICE_SPACING_OF_IDEAL_SI__220=1.920155716e-10 # m
00568 U_LATTICE_SPACING_OF_IDEAL_SI__220=0.000000032e-10 # m
00569
00570 LOSCHMIDT_CONSTANT__273_15_K__100_KPA=2.651645804e25 # m^-3
00571 U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA=0.0e0 # m^-3
00572
00573 LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=2.686780111e25 # m^-3
00574 U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=0.0e0 # m^-3
00575
00576 LUMINOUS_EFFICACY=683.0e0 # lm W^-1
00577 U_LUMINOUS_EFFICACY=0.0e0 # lm W^-1
00578
00579 MAG__FLUX_QUANTUM=2.067833848e-15 # Wb
00580 U_MAG__FLUX_QUANTUM=0.0e0 # Wb
00581
00582 MOLAR_GAS_CONSTANT=8.314462618e0 # J mol^-1 K^-1
00583 U_MOLAR_GAS_CONSTANT=0.0e0 # J mol^-1 K^-1
00584
00585 MOLAR_MASS_CONSTANT=0.99999999965e-3 # kg mol^-1
00586 U_MOLAR_MASS_CONSTANT=0.00000000030e-3 # kg mol^-1
00587
00588 MOLAR_MASS_OF_CARBON_12=11.9999999958e-3 # kg mol^-1
00589 U_MOLAR_MASS_OF_CARBON_12=0.0000000036e-3 # kg mol^-1
00590
00591 MOLAR_PLANCK_CONSTANT=3.990312712e-10 # J Hz^-1 mol^-1
00592 U_MOLAR_PLANCK_CONSTANT=0.0e0 # J Hz^-1 mol^-1
00593
00594 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=22.71095464e-3 # m^3 mol^-1
00595 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=0.0e0 # m^3 mol^-1
00596
00597 MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=22.41396954e-3 # m^3 mol^-1
00598 U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=0.0e0 # m^3 mol^-1
00599
00600 MOLAR_VOLUME_OF_SILICON=1.205883199e-5 # m^3 mol^-1
00601 U_MOLAR_VOLUME_OF_SILICON=0.000000060e-5 # m^3 mol^-1
00602
00603 MOLYBDENUM_X_UNIT=1.00209952e-13 # m
00604 U_MOLYBDENUM_X_UNIT=0.00000053e-13 # m
00605
00606 MUON_COMPTON_WAVELENGTH=1.173444110e-14 # m
00607 U_MUON_COMPTON_WAVELENGTH=0.000000026e-14 # m
00608
00609 MUON_ELECTRON_MASS_RATIO=206.7682830e0 #
00610 U_MUON_ELECTRON_MASS_RATIO=0.0000046e0 #
00611
00612 MUON_G_FACTOR=-2.0023318418e0 #
00613 U_MUON_G_FACTOR=0.0000000013e0 #
00614
00615 MUON_MAG__MOM=-4.49044830e-26 # J T^-1
00616 U_MUON_MAG__MOM=0.00000010e-26 # J T^-1
00617
00618 MUON_MAG__MOM__ANOMALY=1.16592089e-3 #
00619 U_MUON_MAG__MOM__ANOMALY=0.00000063e-3 #
00620
00621 MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-4.84197047e-3 #
00622 U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000011e-3 #
00623
00624 MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-8.89059703e0 #
00625 U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000020e0 #
00626
00627 MUON_MASS=1.883531627e-28 # kg
00628 U_MUON_MASS=0.000000042e-28 # kg
00629
00630 MUON_MASS_ENERGY_EQUIVALENT=1.692833804e-11 # J
00631 U_MUON_MASS_ENERGY_EQUIVALENT=0.000000038e-11 # J
00632
00633 MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=105.6583755e0 # MeV
00634 U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000023e0 # MeV
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00635
00636 MUON_MASS_IN_U=0.1134289259e0 # u
00637 U_MUON_MASS_IN_U=0.0000000025e0 # u
00638
00639 MUON_MOLAR_MASS=1.134289259e-4 # kg mol^-1
00640 U_MUON_MOLAR_MASS=0.000000025e-4 # kg mol^-1
00641
00642 MUON_NEUTRON_MASS_RATIO=0.1124545170e0 #
00643 U_MUON_NEUTRON_MASS_RATIO=0.0000000025e0 #
00644
00645 MUON_PROTON_MAG__MOM__RATIO=-3.183345142e0 #
00646 U_MUON_PROTON_MAG__MOM__RATIO=0.000000071e0 #
00647
00648 MUON_PROTON_MASS_RATIO=0.1126095264e0 #
00649 U_MUON_PROTON_MASS_RATIO=0.0000000025e0 #
00650
00651 MUON_TAU_MASS_RATIO=5.94635e-2 #
00652 U_MUON_TAU_MASS_RATIO=0.00040e-2 #
00653
00654 NATURAL_UNIT_OF_ACTION=1.054571817e-34 # J s
00655 U_NATURAL_UNIT_OF_ACTION=0.0e0 # J s
00656
00657 NATURAL_UNIT_OF_ACTION_IN_EV_S=6.582119569e-16 # eV s
00658 U_NATURAL_UNIT_OF_ACTION_IN_EV_S=0.0e0 # eV s
00659
00660 NATURAL_UNIT_OF_ENERGY=8.1871057769e-14 # J
00661 U_NATURAL_UNIT_OF_ENERGY=0.0000000025e-14 # J
00662
00663 NATURAL_UNIT_OF_ENERGY_IN_MEV=0.51099895000e0 # MeV
00664 U_NATURAL_UNIT_OF_ENERGY_IN_MEV=0.00000000015e0 # MeV
00665
00666 NATURAL_UNIT_OF_LENGTH=3.8615926796e-13 # m
00667 U_NATURAL_UNIT_OF_LENGTH=0.0000000012e-13 # m
00668
00669 NATURAL_UNIT_OF_MASS=9.1093837015e-31 # kg
00670 U_NATURAL_UNIT_OF_MASS=0.0000000028e-31 # kg
00671
00672 NATURAL_UNIT_OF_MOMENTUM=2.73092453075e-22 # kg m s^-1
00673 U_NATURAL_UNIT_OF_MOMENTUM=0.00000000082e-22 # kg m s^-1
00674
00675 NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.51099895000e0 # MeV/c
00676 U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.00000000015e0 # MeV/c
00677
00678 NATURAL_UNIT_OF_TIME=1.28808866819e-21 # s
00679 U_NATURAL_UNIT_OF_TIME=0.00000000039e-21 # s
00680
00681 NATURAL_UNIT_OF_VELOCITY=299792458.0e0 # m s^-1
00682 U_NATURAL_UNIT_OF_VELOCITY=0.0e0 # m s^-1
00683
00684 NEUTRON_COMPTON_WAVELENGTH=1.31959090581e-15 # m
00685 U_NEUTRON_COMPTON_WAVELENGTH=0.00000000075e-15 # m
00686
00687 NEUTRON_ELECTRON_MAG__MOM__RATIO=1.04066882e-3 #
00688 U_NEUTRON_ELECTRON_MAG__MOM__RATIO=0.00000025e-3 #
00689
00690 NEUTRON_ELECTRON_MASS_RATIO=1838.68366173e0 #
00691 U_NEUTRON_ELECTRON_MASS_RATIO=0.00000089e0 #
00692
00693 NEUTRON_G_FACTOR=-3.82608545e0 #
00694 U_NEUTRON_G_FACTOR=0.00000090e0 #
00695
00696 NEUTRON_GYROMAG__RATIO=1.83247171e8 # s^-1 T^-1
00697 U_NEUTRON_GYROMAG__RATIO=0.00000043e8 # s^-1 T^-1
00698
00699 NEUTRON_GYROMAG__RATIO_IN_MHZ_T=29.1646931e0 # MHz T^-1
00700 U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000069e0 # MHz T^-1
00701
00702 NEUTRON_MAG__MOM=-9.6623651e-27 # J T^-1
00703 U_NEUTRON_MAG__MOM=0.0000023e-27 # J T^-1
00704
00705 NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.04187563e-3 #
00706 U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000025e-3 #
00707
00708 NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1.91304273e0 #
00709 U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000045e0 #
00710
00711 NEUTRON_MASS=1.67492749804e-27 # kg
00712 U_NEUTRON_MASS=0.00000000095e-27 # kg
00713
00714 NEUTRON_MASS_ENERGY_EQUIVALENT=1.50534976287e-10 # J
00715 U_NEUTRON_MASS_ENERGY_EQUIVALENT=0.00000000086e-10 # J
00716
00717 NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=939.56542052e0 # MeV
00718 U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000054e0 # MeV
00719
00720 NEUTRON_MASS_IN_U=1.00866491595e0 # u
00721 U_NEUTRON_MASS_IN_U=0.00000000049e0 # u
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00722
00723 NEUTRON_MOLAR_MASS=1.00866491560e-3 # kg mol^-1
00724 U_NEUTRON_MOLAR_MASS=0.00000000057e-3 # kg mol^-1
00725
00726 NEUTRON_MUON_MASS_RATIO=8.89248406e0 #
00727 U_NEUTRON_MUON_MASS_RATIO=0.00000020e0 #
00728
00729 NEUTRON_PROTON_MAG__MOM__RATIO=-0.68497934e0 #
00730 U_NEUTRON_PROTON_MAG__MOM__RATIO=0.00000016e0 #
00731
00732 NEUTRON_PROTON_MASS_DIFFERENCE=2.30557435e-30 # kg
00733 U_NEUTRON_PROTON_MASS_DIFFERENCE=0.00000082e-30 # kg
00734
00735 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=2.07214689e-13 # J
00736 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=0.00000074e-13 # J
00737
00738 NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=1.29333236e0 # MeV
00739 U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=0.00000046e0 # MeV
00740
00741 NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=1.38844933e-3 # u
00742 U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=0.00000049e-3 # u
00743
00744 NEUTRON_PROTON_MASS_RATIO=1.00137841931e0 #
00745 U_NEUTRON_PROTON_MASS_RATIO=0.00000000049e0 #
00746
00747 NEUTRON_RELATIVE_ATOMIC_MASS=1.00866491595e0 #
00748 U_NEUTRON_RELATIVE_ATOMIC_MASS=0.00000000049e0 #
00749
00750 NEUTRON_TAU_MASS_RATIO=0.528779e0 #
00751 U_NEUTRON_TAU_MASS_RATIO=0.000036e0 #
00752
00753 NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.68499694e0 #
00754 U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.00000016e0 #
00755
00756 NEWTONIAN_CONSTANT_OF_GRAVITATION=6.67430e-11 # m^3 kg^-1 s^-2
00757 U_NEWTONIAN_CONSTANT_OF_GRAVITATION=0.00015e-11 # m^3 kg^-1 s^-2
00758
00759 NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=6.70883e-39 # (GeV/c^2)^-2
00760 U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=0.00015e-39 # (GeV/c^2)^-2
00761
00762 NUCLEAR_MAGNETON=5.0507837461e-27 # J T^-1
00763 U_NUCLEAR_MAGNETON=0.0000000015e-27 # J T^-1
00764
00765 NUCLEAR_MAGNETON_IN_EV_T=3.15245125844e-8 # eV T^-1
00766 U_NUCLEAR_MAGNETON_IN_EV_T=0.00000000096e-8 # eV T^-1
00767
00768 NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=2.54262341353e-2 # m^-1 T^-1
00769 U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.00000000078e-2 # m^-1 T^-1
00770
00771 NUCLEAR_MAGNETON_IN_K_T=3.6582677756e-4 # K T^-1
00772 U_NUCLEAR_MAGNETON_IN_K_T=0.0000000011e-4 # K T^-1
00773
00774 NUCLEAR_MAGNETON_IN_MHZ_T=7.6225932291e0 # MHz T^-1
00775 U_NUCLEAR_MAGNETON_IN_MHZ_T=0.0000000023e0 # MHz T^-1
00776
00777 PLANCK_CONSTANT=6.62607015e-34 # J Hz^-1
00778 U_PLANCK_CONSTANT=0.0e0 # J Hz^-1
00779
00780 PLANCK_CONSTANT_IN_EV_HZ=4.135667696e-15 # eV Hz^-1
00781 U_PLANCK_CONSTANT_IN_EV_HZ=0.0e0 # eV Hz^-1
00782
00783 PLANCK_LENGTH=1.616255e-35 # m
00784 U_PLANCK_LENGTH=0.000018e-35 # m
00785
00786 PLANCK_MASS=2.176434e-8 # kg
00787 U_PLANCK_MASS=0.000024e-8 # kg
00788
00789 PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=1.220890e19 # GeV
00790 U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=0.000014e19 # GeV
00791
00792 PLANCK_TEMPERATURE=1.416784e32 # K
00793 U_PLANCK_TEMPERATURE=0.000016e32 # K
00794
00795 PLANCK_TIME=5.391247e-44 # s
00796 U_PLANCK_TIME=0.000060e-44 # s
00797
00798 PROTON_CHARGE_TO_MASS_QUOTIENT=9.5788331560e7 # C kg^-1
00799 U_PROTON_CHARGE_TO_MASS_QUOTIENT=0.0000000029e7 # C kg^-1
00800
00801 PROTON_COMPTON_WAVELENGTH=1.32140985539e-15 # m
00802 U_PROTON_COMPTON_WAVELENGTH=0.00000000040e-15 # m
00803
00804 PROTON_ELECTRON_MASS_RATIO=1836.15267343e0 #
00805 U_PROTON_ELECTRON_MASS_RATIO=0.00000011e0 #
00806
00807 PROTON_G_FACTOR=5.5856946893e0 #
00808 U_PROTON_G_FACTOR=0.0000000016e0 #
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00809
00810 PROTON_GYROMAG__RATIO=2.6752218744e8 # s^-1 T^-1
00811 U_PROTON_GYROMAG__RATIO=0.0000000011e8 # s^-1 T^-1
00812
00813 PROTON_GYROMAG__RATIO_IN_MHZ_T=42.577478518e0 # MHz T^-1
00814 U_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.000000018e0 # MHz T^-1
00815
00816 PROTON_MAG__MOM=1.41060679736e-26 # J T^-1
00817 U_PROTON_MAG__MOM=0.00000000060e-26 # J T^-1
00818
00819 PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.52103220230e-3 #
00820 U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000046e-3 #
00821
00822 PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.79284734463e0 #
00823 U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000000082e0 #
00824
00825 PROTON_MAG__SHIELDING_CORRECTION=2.5689e-5 #
00826 U_PROTON_MAG__SHIELDING_CORRECTION=0.0011e-5 #
00827
00828 PROTON_MASS=1.67262192369e-27 # kg
00829 U_PROTON_MASS=0.00000000051e-27 # kg
00830
00831 PROTON_MASS_ENERGY_EQUIVALENT=1.50327761598e-10 # J
00832 U_PROTON_MASS_ENERGY_EQUIVALENT=0.00000000046e-10 # J
00833
00834 PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=938.27208816e0 # MeV
00835 U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000029e0 # MeV
00836
00837 PROTON_MASS_IN_U=1.007276466621e0 # u
00838 U_PROTON_MASS_IN_U=0.000000000053e0 # u
00839
00840 PROTON_MOLAR_MASS=1.00727646627e-3 # kg mol^-1
00841 U_PROTON_MOLAR_MASS=0.00000000031e-3 # kg mol^-1
00842
00843 PROTON_MUON_MASS_RATIO=8.88024337e0 #
00844 U_PROTON_MUON_MASS_RATIO=0.00000020e0 #
00845
00846 PROTON_NEUTRON_MAG__MOM__RATIO=-1.45989805e0 #
00847 U_PROTON_NEUTRON_MAG__MOM__RATIO=0.00000034e0 #
00848
00849 PROTON_NEUTRON_MASS_RATIO=0.99862347812e0 #
00850 U_PROTON_NEUTRON_MASS_RATIO=0.00000000049e0 #
00851
00852 PROTON_RELATIVE_ATOMIC_MASS=1.007276466621e0 #
00853 U_PROTON_RELATIVE_ATOMIC_MASS=0.000000000053e0 #
00854
00855 PROTON_RMS_CHARGE_RADIUS=8.414e-16 # m
00856 U_PROTON_RMS_CHARGE_RADIUS=0.019e-16 # m
00857
00858 PROTON_TAU_MASS_RATIO=0.528051e0 #
00859 U_PROTON_TAU_MASS_RATIO=0.000036e0 #
00860
00861 QUANTUM_OF_CIRCULATION=3.6369475516e-4 # m^2 s^-1
00862 U_QUANTUM_OF_CIRCULATION=0.0000000011e-4 # m^2 s^-1
00863
00864 QUANTUM_OF_CIRCULATION_TIMES_2=7.2738951032e-4 # m^2 s^-1
00865 U_QUANTUM_OF_CIRCULATION_TIMES_2=0.0000000022e-4 # m^2 s^-1
00866
00867 REDUCED_COMPTON_WAVELENGTH=3.8615926796e-13 # m
00868 U_REDUCED_COMPTON_WAVELENGTH=0.0000000012e-13 # m
00869
00870 REDUCED_MUON_COMPTON_WAVELENGTH=1.867594306e-15 # m
00871 U_REDUCED_MUON_COMPTON_WAVELENGTH=0.000000042e-15 # m
00872
00873 REDUCED_NEUTRON_COMPTON_WAVELENGTH=2.1001941552e-16 # m
00874 U_REDUCED_NEUTRON_COMPTON_WAVELENGTH=0.0000000012e-16 # m
00875
00876 REDUCED_PLANCK_CONSTANT=1.054571817e-34 # J s
00877 U_REDUCED_PLANCK_CONSTANT=0.0e0 # J s
00878
00879 REDUCED_PLANCK_CONSTANT_IN_EV_S=6.582119569e-16 # eV s
00880 U_REDUCED_PLANCK_CONSTANT_IN_EV_S=0.0e0 # eV s
00881
00882 REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=197.3269804e0 # MeV fm
00883 U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=0.0e0 # MeV fm
00884
00885 REDUCED_PROTON_COMPTON_WAVELENGTH=2.10308910336e-16 # m
00886 U_REDUCED_PROTON_COMPTON_WAVELENGTH=0.00000000064e-16 # m
00887
00888 REDUCED_TAU_COMPTON_WAVELENGTH=1.110538e-16 # m
00889 U_REDUCED_TAU_COMPTON_WAVELENGTH=0.000075e-16 # m
00890
00891 RYDBERG_CONSTANT=10973731.568160e0 # m^-1
00892 U_RYDBERG_CONSTANT=0.000021e0 # m^-1
00893
00894 RYDBERG_CONSTANT_TIMES_C_IN_HZ=3.2898419602508e15 # Hz
00895 U_RYDBERG_CONSTANT_TIMES_C_IN_HZ=0.0000000000064e15 # Hz
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00896
00897 RYDBERG_CONSTANT_TIMES_HC_IN_EV=13.605693122994e0 # eV
00898 U_RYDBERG_CONSTANT_TIMES_HC_IN_EV=0.000000000026e0 # eV
00899
00900 RYDBERG_CONSTANT_TIMES_HC_IN_J=2.1798723611035e-18 # J
00901 U_RYDBERG_CONSTANT_TIMES_HC_IN_J=0.0000000000042e-18 # J
00902
00903 SACKUR_TETRODE_CONSTANT__1_K__100_KPA=-1.15170753706e0 #
00904 U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA=0.00000000045e0 #
00905
00906 SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=-1.16487052358e0 #
00907 U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=0.00000000045e0 #
00908
00909 SECOND_RADIATION_CONSTANT=1.438776877e-2 # m K
00910 U_SECOND_RADIATION_CONSTANT=0.0e0 # m K
00911
00912 SHIELDED_HELION_GYROMAG__RATIO=2.037894569e8 # s^-1 T^-1
00913 U_SHIELDED_HELION_GYROMAG__RATIO=0.000000024e8 # s^-1 T^-1
00914
00915 SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=32.43409942e0 # MHz T^-1
00916 U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=0.00000038e0 # MHz T^-1
00917
00918 SHIELDED_HELION_MAG__MOM=-1.074553090e-26 # J T^-1
00919 U_SHIELDED_HELION_MAG__MOM=0.000000013e-26 # J T^-1
00920
00921 SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158671471e-3 #
00922 U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3 #
00923
00924 SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127497719e0 #
00925 U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0 #
00926
00927 SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=-0.7617665618e0 #
00928 U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=0.0000000089e0 #
00929
00930 SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.7617861313e0 #
00931 U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000000033e0 #
00932
00933 SHIELDED_PROTON_GYROMAG__RATIO=2.675153151e8 # s^-1 T^-1
00934 U_SHIELDED_PROTON_GYROMAG__RATIO=0.000000029e8 # s^-1 T^-1
00935
00936 SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=42.57638474e0 # MHz T^-1
00937 U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.00000046e0 # MHz T^-1
00938
00939 SHIELDED_PROTON_MAG__MOM=1.410570560e-26 # J T^-1
00940 U_SHIELDED_PROTON_MAG__MOM=0.000000015e-26 # J T^-1
00941
00942 SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.520993128e-3 #
00943 U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000017e-3 #
00944
00945 SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.792775599e0 #
00946 U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000030e0 #
00947
00948 SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=2.0200e-8 #
00949 U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=0.0020e-8 #
00950
00951 SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=2.4140e-8 #
00952 U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=0.0020e-8 #
00953
00954 SPEED_OF_LIGHT_IN_VACUUM=299792458.0e0 # m s^-1
00955 U_SPEED_OF_LIGHT_IN_VACUUM=0.0e0 # m s^-1
00956
00957 STANDARD_ACCELERATION_OF_GRAVITY=9.80665e0 # m s^-2
00958 U_STANDARD_ACCELERATION_OF_GRAVITY=0.0e0 # m s^-2
00959
00960 STANDARD_ATMOSPHERE=101325.0e0 # Pa
00961 U_STANDARD_ATMOSPHERE=0.0e0 # Pa
00962
00963 STANDARD_STATE_PRESSURE=100000.0e0 # Pa
00964 U_STANDARD_STATE_PRESSURE=0.0e0 # Pa
00965
00966 STEFAN_BOLTZMANN_CONSTANT=5.670374419e-8 # W m^-2 K^-4
00967 U_STEFAN_BOLTZMANN_CONSTANT=0.0e0 # W m^-2 K^-4
00968
00969 TAU_COMPTON_WAVELENGTH=6.97771e-16 # m
00970 U_TAU_COMPTON_WAVELENGTH=0.00047e-16 # m
00971
00972 TAU_ELECTRON_MASS_RATIO=3477.23e0 #
00973 U_TAU_ELECTRON_MASS_RATIO=0.23e0 #
00974
00975 TAU_ENERGY_EQUIVALENT=1776.86e0 # MeV
00976 U_TAU_ENERGY_EQUIVALENT=0.12e0 # MeV
00977
00978 TAU_MASS=3.16754e-27 # kg
00979 U_TAU_MASS=0.00021e-27 # kg
00980
00981 TAU_MASS_ENERGY_EQUIVALENT=2.84684e-10 # J
00982 U_TAU_MASS_ENERGY_EQUIVALENT=0.00019e-10 # J
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00983
00984 TAU_MASS_IN_U=1.90754e0 # u
00985 U_TAU_MASS_IN_U=0.00013e0 # u
00986
00987 TAU_MOLAR_MASS=1.90754e-3 # kg mol^-1
00988 U_TAU_MOLAR_MASS=0.00013e-3 # kg mol^-1
00989
00990 TAU_MUON_MASS_RATIO=16.8170e0 #
00991 U_TAU_MUON_MASS_RATIO=0.0011e0 #
00992
00993 TAU_NEUTRON_MASS_RATIO=1.89115e0 #
00994 U_TAU_NEUTRON_MASS_RATIO=0.00013e0 #
00995
00996 TAU_PROTON_MASS_RATIO=1.89376e0 #
00997 U_TAU_PROTON_MASS_RATIO=0.00013e0 #
00998
00999 THOMSON_CROSS_SECTION=6.6524587321e-29 # m^2
01000 U_THOMSON_CROSS_SECTION=0.0000000060e-29 # m^2
01001
01002 TRITON_ELECTRON_MASS_RATIO=5496.92153573e0 #
01003 U_TRITON_ELECTRON_MASS_RATIO=0.00000027e0 #
01004
01005 TRITON_G_FACTOR=5.957924931e0 #
01006 U_TRITON_G_FACTOR=0.000000012e0 #
01007
01008 TRITON_MAG__MOM=1.5046095202e-26 # J T^-1
01009 U_TRITON_MAG__MOM=0.0000000030e-26 # J T^-1
01010
01011 TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.6223936651e-3 #
01012 U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.0000000032e-3 #
01013
01014 TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.9789624656e0 #
01015 U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000059e0 #
01016
01017 TRITON_MASS=5.0073567446e-27 # kg
01018 U_TRITON_MASS=0.0000000015e-27 # kg
01019
01020 TRITON_MASS_ENERGY_EQUIVALENT=4.5003878060e-10 # J
01021 U_TRITON_MASS_ENERGY_EQUIVALENT=0.0000000014e-10 # J
01022
01023 TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.92113298e0 # MeV
01024 U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0 # MeV
01025
01026 TRITON_MASS_IN_U=3.01550071621e0 # u
01027 U_TRITON_MASS_IN_U=0.00000000012e0 # u
01028
01029 TRITON_MOLAR_MASS=3.01550071517e-3 # kg mol^-1
01030 U_TRITON_MOLAR_MASS=0.00000000092e-3 # kg mol^-1
01031
01032 TRITON_PROTON_MASS_RATIO=2.99371703414e0 #
01033 U_TRITON_PROTON_MASS_RATIO=0.00000000015e0 #
01034
01035 TRITON_RELATIVE_ATOMIC_MASS=3.01550071621e0 #
01036 U_TRITON_RELATIVE_ATOMIC_MASS=0.00000000012e0 #
01037
01038 TRITON_TO_PROTON_MAG__MOM__RATIO=1.0666399191e0 #
01039 U_TRITON_TO_PROTON_MAG__MOM__RATIO=0.0000000021e0 #
01040
01041 UNIFIED_ATOMIC_MASS_UNIT=1.66053906660e-27 # kg
01042 U_UNIFIED_ATOMIC_MASS_UNIT=0.00000000050e-27 # kg
01043
01044 VACUUM_ELECTRIC_PERMITTIVITY=8.8541878128e-12 # F m^-1
01045 U_VACUUM_ELECTRIC_PERMITTIVITY=0.0000000013e-12 # F m^-1
01046
01047 VACUUM_MAG__PERMEABILITY=1.25663706212e-6 # N A^-2
01048 U_VACUUM_MAG__PERMEABILITY=0.00000000019e-6 # N A^-2
01049
01050 VON_KLITZING_CONSTANT=25812.80745e0 # ohm
01051 U_VON_KLITZING_CONSTANT=0.0e0 # ohm
01052
01053 WEAK_MIXING_ANGLE=0.22290e0 #
01054 U_WEAK_MIXING_ANGLE=0.00030e0 #
01055
01056 WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=5.878925757e10 # Hz K^-1
01057 U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=0.0e0 # Hz K^-1
01058
01059 WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=2.897771955e-3 # m K
01060 U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=0.0e0 # m K
01061
01062 W_TO_Z_MASS_RATIO=0.88153e0 #
01063 U_W_TO_Z_MASS_RATIO=0.00017e0 #
01064
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