# Codata

0.6.0

Generated by Doxygen 1.9.6

# 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/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

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Version 3, 29 June 2007



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    d) Convey the object code by offering access from a designated
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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.

## 6.2 Download

`Codata Releases`

## 6.3 Contributors

Milan Skocic

## 6.4 Commits

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

## 7.2 Download

`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

`Codata Releases`

## 9.3 Contributors

Milan Skocic

## 9.4 Commits

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

Milan Skocic

## 10.4 Commits

**Full Changelog**: https://github.com/MilanSkocic/codata/compare/0.4.0...0.5.0

Chapter 11

# Codata 0.6.0 Release Note

## 11.1 Changes

- Created documentation.
- Fixed missing uncertainties for Cpython.

## 11.2 Download

Codata Releases

## 11.3 Contributors

Milan Skocic

## 11.4 Commits

**Full Changelog**: https://github.com/MilanSkocic/codata/compare/0.4.0...0.5.0

# Chapter 12

# Modules Index

## 12.1 Modules List

Here is a list of all modules with brief descriptions:

# Chapter 13

# Data Type Index

## 13.1 Data Types List

Here are the data types with brief descriptions:

# Chapter 14

# File Index

## 14.1 File List

Here is a list of all files with brief descriptions:

# Chapter 15

# Module Documentation

## 15.1 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

## 15.1.1 Detailed Description

Codata constants - autogenerated.

## 15.1.2 Variable Documentation

### 15.1.2.1 alpha_particle_electron_mass_ratio

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

Definition at line 10 of file fcodata.f90.

### 15.1.2.2 alpha_particle_mass

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

kg

Definition at line 15 of file fcodata.f90.

#### 15.1.2.3 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.

#### 15.1.2.4 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.

#### 15.1.2.5 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.

#### 15.1.2.6 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.

#### 15.1.2.7 alpha_particle_proton_mass_ratio

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

Definition at line 40 of file fcodata.f90.

#### 15.1.2.8 alpha_particle_relative_atomic_mass

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

Definition at line 45 of file fcodata.f90.

#### 15.1.2.9 angstrom_star

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

m

Definition at line 50 of file fcodata.f90.

#### 15.1.2.10 atomic_mass_constant

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

kg

Definition at line 55 of file fcodata.f90.

#### 15.1.2.11 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.

#### 15.1.2.12 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.

#### 15.1.2.13 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.

#### 15.1.2.14 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.

#### 15.1.2.15 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.

#### 15.1.2.16 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.

#### 15.1.2.17 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.

#### 15.1.2.18 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.

#### 15.1.2.19 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.

#### 15.1.2.20 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.

#### 15.1.2.21 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.

#### 15.1.2.22 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.

#### 15.1.2.23 atomic_unit_of_charge

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

C.

Definition at line 120 of file fcodata.f90.

#### 15.1.2.24 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.

#### 15.1.2.25 atomic_unit_of_current

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

A.

Definition at line 130 of file fcodata.f90.

#### 15.1.2.26 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.

#### 15.1.2.27 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.

#### 15.1.2.28 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.

#### 15.1.2.29 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.

#### 15.1.2.30 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.

#### 15.1.2.31 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.

#### 15.1.2.32 atomic_unit_of_energy

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

J.

Definition at line 165 of file fcodata.f90.

#### 15.1.2.33 atomic_unit_of_force

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

N.

Definition at line 170 of file fcodata.f90.

#### 15.1.2.34 atomic_unit_of_length

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

m

Definition at line 175 of file fcodata.f90.

#### 15.1.2.35 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.

#### 15.1.2.36 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.

#### 15.1.2.37 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.

#### 15.1.2.38 atomic_unit_of_mass

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

kg

Definition at line 195 of file fcodata.f90.

#### 15.1.2.39 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.

#### 15.1.2.40 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.

#### 15.1.2.41 atomic_unit_of_time

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

s

Definition at line 210 of file fcodata.f90.

#### 15.1.2.42 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.

#### 15.1.2.43 avogadro_constant

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

mol^-1

Definition at line 220 of file fcodata.f90.

#### 15.1.2.44 bohr_magneton

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

J T^-1.

Definition at line 225 of file fcodata.f90.

#### 15.1.2.45 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.

#### 15.1.2.46 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.

#### 15.1.2.47 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.

#### 15.1.2.48 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.

#### 15.1.2.49 bohr_radius

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

m

Definition at line 250 of file fcodata.f90.

#### 15.1.2.50 boltzmann_constant

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

J K^-1.

Definition at line 255 of file fcodata.f90.

#### 15.1.2.51 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.

#### 15.1.2.52 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.

#### 15.1.2.53 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.

#### 15.1.2.54 characteristic_impedance_of_vacuum

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

ohm

Definition at line 275 of file fcodata.f90.

#### 15.1.2.55 classical_electron_radius

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

m

Definition at line 280 of file fcodata.f90.

#### 15.1.2.56 compton_wavelength

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

m

Definition at line 285 of file fcodata.f90.

#### 15.1.2.57 conductance_quantum

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

S.

Definition at line 290 of file fcodata.f90.

#### 15.1.2.58 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.

#### 15.1.2.59 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.

#### 15.1.2.60 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.

#### 15.1.2.61 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.

#### 15.1.2.62 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.

#### 15.1.2.63 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.

#### 15.1.2.64 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.

#### 15.1.2.65 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.

#### 15.1.2.66 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.

#### 15.1.2.67 copper_x_unit

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

m

Definition at line 340 of file fcodata.f90.

#### 15.1.2.68 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.

#### 15.1.2.69 deuteron_electron_mass_ratio

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

Definition at line 350 of file fcodata.f90.

#### 15.1.2.70 deuteron_g_factor

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

Definition at line 355 of file fcodata.f90.

#### 15.1.2.71 deuteron_mag__mom

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

J T^-1.

Definition at line 360 of file fcodata.f90.

#### 15.1.2.72 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.

#### 15.1.2.73 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.

#### 15.1.2.74 deuteron_mass

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

kg

Definition at line 375 of file fcodata.f90.

#### 15.1.2.75 deuteron_mass_energy_equivalent

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

J.

Definition at line 380 of file fcodata.f90.

#### 15.1.2.76 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.

#### 15.1.2.77 deuteron_mass_in_u

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

u

Definition at line 390 of file fcodata.f90.

#### 15.1.2.78 deuteron_molar_mass

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

kg mol^-1

Definition at line 395 of file fcodata.f90.

#### 15.1.2.79 deuteron_neutron_mag__mom__ratio

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

Definition at line 400 of file fcodata.f90.

#### 15.1.2.80 deuteron_proton_mag__mom__ratio

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

Definition at line 405 of file fcodata.f90.

#### 15.1.2.81 deuteron_proton_mass_ratio

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

Definition at line 410 of file fcodata.f90.

#### 15.1.2.82 deuteron_relative_atomic_mass

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

Definition at line 415 of file fcodata.f90.

#### 15.1.2.83 deuteron_rms_charge_radius

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

m

Definition at line 420 of file fcodata.f90.

#### 15.1.2.84 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.

#### 15.1.2.85 electron_deuteron_mag__mom__ratio

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

Definition at line 430 of file fcodata.f90.

#### 15.1.2.86 electron_deuteron_mass_ratio

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

Definition at line 435 of file fcodata.f90.

#### 15.1.2.87 electron_g_factor

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

Definition at line 440 of file fcodata.f90.

#### 15.1.2.88 electron_gyromag__ratio

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

s^-1 T^-1

Definition at line 445 of file fcodata.f90.

#### 15.1.2.89 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.

#### 15.1.2.90 electron_helion_mass_ratio

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

Definition at line 455 of file fcodata.f90.

#### 15.1.2.91 electron_mag__mom

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

J T^-1.

Definition at line 460 of file fcodata.f90.

#### 15.1.2.92 electron_mag__mom__anomaly

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

Definition at line 465 of file fcodata.f90.

#### 15.1.2.93 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.

#### 15.1.2.94 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.

#### 15.1.2.95 electron_mass

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

kg

Definition at line 480 of file fcodata.f90.

#### 15.1.2.96 electron_mass_energy_equivalent

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

J.

Definition at line 485 of file fcodata.f90.

#### 15.1.2.97 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.

#### 15.1.2.98 electron_mass_in_u

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

u

Definition at line 495 of file fcodata.f90.

#### 15.1.2.99 electron_molar_mass

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

kg mol^-1

Definition at line 500 of file fcodata.f90.

#### 15.1.2.100 electron_muon_mag__mom__ratio

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

Definition at line 505 of file fcodata.f90.

#### 15.1.2.101 electron_muon_mass_ratio

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

Definition at line 510 of file fcodata.f90.

#### 15.1.2.102 electron_neutron_mag__mom__ratio

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

Definition at line 515 of file fcodata.f90.

#### 15.1.2.103 electron_neutron_mass_ratio

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

Definition at line 520 of file fcodata.f90.

#### 15.1.2.104 electron_proton_mag__mom__ratio

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

Definition at line 525 of file fcodata.f90.

#### 15.1.2.105 electron_proton_mass_ratio

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

Definition at line 530 of file fcodata.f90.

#### 15.1.2.106 electron_relative_atomic_mass

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

Definition at line 535 of file fcodata.f90.

#### 15.1.2.107 electron_tau_mass_ratio

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

Definition at line 540 of file fcodata.f90.

#### 15.1.2.108 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.

#### 15.1.2.109 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.

#### 15.1.2.110 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.

#### 15.1.2.111 electron_triton_mass_ratio

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

Definition at line 560 of file fcodata.f90.

#### 15.1.2.112 electron_volt

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

J.

Definition at line 565 of file fcodata.f90.

#### 15.1.2.113 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.

#### 15.1.2.114 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.

#### 15.1.2.115 electron_volt_hertz_relationship

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

Hz.

Definition at line 580 of file fcodata.f90.

#### 15.1.2.116 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.

#### 15.1.2.117 electron_volt_joule_relationship

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

J.

Definition at line 590 of file fcodata.f90.

#### 15.1.2.118 electron_volt_kelvin_relationship

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

K.

Definition at line 595 of file fcodata.f90.

#### 15.1.2.119 electron_volt_kilogram_relationship

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

kg

Definition at line 600 of file fcodata.f90.

#### 15.1.2.120 elementary_charge

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

C.

Definition at line 605 of file fcodata.f90.

#### 15.1.2.121 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.

#### 15.1.2.122 faraday_constant

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

C mol^-1.

Definition at line 615 of file fcodata.f90.

#### 15.1.2.123 fermi_coupling_constant

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

GeV^-2.

Definition at line 620 of file fcodata.f90.

#### 15.1.2.124 fine_structure_constant

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

Definition at line 625 of file fcodata.f90.

#### 15.1.2.125 first_radiation_constant

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

W m^2.

Definition at line 630 of file fcodata.f90.

#### 15.1.2.126 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.

#### 15.1.2.127 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.

#### 15.1.2.128 hartree_electron_volt_relationship

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

eV

Definition at line 645 of file fcodata.f90.

#### 15.1.2.129 hartree_energy

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

J.

Definition at line 650 of file fcodata.f90.

#### 15.1.2.130 hartree_energy_in_ev

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

eV

Definition at line 655 of file fcodata.f90.

#### 15.1.2.131 hartree_hertz_relationship

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

Hz.

Definition at line 660 of file fcodata.f90.

#### 15.1.2.132 hartree_inverse_meter_relationship

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

m^-1

Definition at line 665 of file fcodata.f90.

#### 15.1.2.133 hartree_joule_relationship

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

J.

Definition at line 670 of file fcodata.f90.

#### 15.1.2.134 hartree_kelvin_relationship

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

K.

Definition at line 675 of file fcodata.f90.

#### 15.1.2.135 hartree_kilogram_relationship

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

kg

Definition at line 680 of file fcodata.f90.

#### 15.1.2.136 helion_electron_mass_ratio

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

Definition at line 685 of file fcodata.f90.

#### 15.1.2.137 helion_g_factor

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

Definition at line 690 of file fcodata.f90.

#### 15.1.2.138 helion_mag__mom

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

J T^-1.

Definition at line 695 of file fcodata.f90.

#### 15.1.2.139 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.

#### 15.1.2.140 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.

#### 15.1.2.141 helion_mass

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

kg

Definition at line 710 of file fcodata.f90.

#### 15.1.2.142 helion_mass_energy_equivalent

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

J.

Definition at line 715 of file fcodata.f90.

#### 15.1.2.143 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.

#### 15.1.2.144 helion_mass_in_u

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

u

Definition at line 725 of file fcodata.f90.

#### 15.1.2.145 helion_molar_mass

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

kg mol^-1

Definition at line 730 of file fcodata.f90.

#### 15.1.2.146 helion_proton_mass_ratio

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

Definition at line 735 of file fcodata.f90.

#### 15.1.2.147 helion_relative_atomic_mass

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

Definition at line 740 of file fcodata.f90.

#### 15.1.2.148 helion_shielding_shift

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

Definition at line 745 of file fcodata.f90.

#### 15.1.2.149 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.

#### 15.1.2.150 hertz_electron_volt_relationship

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

eV

Definition at line 755 of file fcodata.f90.

#### 15.1.2.151 hertz_hartree_relationship

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

E_h.

Definition at line 760 of file fcodata.f90.

#### 15.1.2.152 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.

#### 15.1.2.153 hertz_joule_relationship

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

J.

Definition at line 770 of file fcodata.f90.

#### 15.1.2.154 hertz_kelvin_relationship

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

K.

Definition at line 775 of file fcodata.f90.

#### 15.1.2.155 hertz_kilogram_relationship

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

kg

Definition at line 780 of file fcodata.f90.

#### 15.1.2.156 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.

#### 15.1.2.157 inverse_fine_structure_constant

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

Definition at line 790 of file fcodata.f90.

#### 15.1.2.158 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.

#### 15.1.2.159 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.

#### 15.1.2.160 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.

#### 15.1.2.161 inverse_meter_hertz_relationship

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

Hz.

Definition at line 810 of file fcodata.f90.

#### 15.1.2.162 inverse_meter_joule_relationship

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

J.

Definition at line 815 of file fcodata.f90.

#### 15.1.2.163 inverse_meter_kelvin_relationship

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

K.

Definition at line 820 of file fcodata.f90.

#### 15.1.2.164 inverse_meter_kilogram_relationship

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

kg

Definition at line 825 of file fcodata.f90.

#### 15.1.2.165 inverse_of_conductance_quantum

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

ohm

Definition at line 830 of file fcodata.f90.

#### 15.1.2.166 josephson_constant

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

Hz V^-1.

Definition at line 835 of file fcodata.f90.

#### 15.1.2.167 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.

#### 15.1.2.168 joule_electron_volt_relationship

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

eV

Definition at line 845 of file fcodata.f90.

#### 15.1.2.169 joule_hartree_relationship

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

E_h.

Definition at line 850 of file fcodata.f90.

#### 15.1.2.170 joule_hertz_relationship

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

Hz.

Definition at line 855 of file fcodata.f90.

#### 15.1.2.171 joule_inverse_meter_relationship

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

m^-1

Definition at line 860 of file fcodata.f90.

#### 15.1.2.172 joule_kelvin_relationship

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

K.

Definition at line 865 of file fcodata.f90.

#### 15.1.2.173 joule_kilogram_relationship

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

kg

Definition at line 870 of file fcodata.f90.

#### 15.1.2.174 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.

#### 15.1.2.175 kelvin_electron_volt_relationship

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

eV

Definition at line 880 of file fcodata.f90.

#### 15.1.2.176 kelvin_hartree_relationship

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

E_h.

Definition at line 885 of file fcodata.f90.

#### 15.1.2.177 kelvin_hertz_relationship

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

Hz.

Definition at line 890 of file fcodata.f90.

#### 15.1.2.178 kelvin_inverse_meter_relationship

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

m^-1

Definition at line 895 of file fcodata.f90.

#### 15.1.2.179 kelvin_joule_relationship

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

J.

Definition at line 900 of file fcodata.f90.

#### 15.1.2.180 kelvin_kilogram_relationship

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

kg

Definition at line 905 of file fcodata.f90.

#### 15.1.2.181 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.

#### 15.1.2.182 kilogram_electron_volt_relationship

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

eV

Definition at line 915 of file fcodata.f90.

#### 15.1.2.183 kilogram_hartree_relationship

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

E_h.

Definition at line 920 of file fcodata.f90.

#### 15.1.2.184 kilogram_hertz_relationship

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

Hz.

Definition at line 925 of file fcodata.f90.

#### 15.1.2.185 kilogram_inverse_meter_relationship

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

m^-1

Definition at line 930 of file fcodata.f90.

#### 15.1.2.186 kilogram_joule_relationship

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

J.

Definition at line 935 of file fcodata.f90.

#### 15.1.2.187 kilogram_kelvin_relationship

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

K.

Definition at line 940 of file fcodata.f90.

#### 15.1.2.188 lattice_parameter_of_silicon

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

m

Definition at line 945 of file fcodata.f90.

#### 15.1.2.189 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.

#### 15.1.2.190 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.

#### 15.1.2.191 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.

#### 15.1.2.192 luminous_efficacy

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

lm W^-1

Definition at line 965 of file fcodata.f90.

#### 15.1.2.193 mag__flux_quantum

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

Wb.

Definition at line 970 of file fcodata.f90.

#### 15.1.2.194 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.

#### 15.1.2.195 molar_mass_constant

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

kg mol^-1

Definition at line 980 of file fcodata.f90.

#### 15.1.2.196 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.

#### 15.1.2.197 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.

#### 15.1.2.198 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.

#### 15.1.2.199 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.

#### 15.1.2.200 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.

#### 15.1.2.201 molybdenum_x_unit

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

m

Definition at line 1010 of file fcodata.f90.

#### 15.1.2.202 muon_compton_wavelength

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

m

Definition at line 1015 of file fcodata.f90.

#### 15.1.2.203 muon_electron_mass_ratio

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

Definition at line 1020 of file fcodata.f90.

#### 15.1.2.204 muon_g_factor

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

Definition at line 1025 of file fcodata.f90.

#### 15.1.2.205 muon_mag__mom

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

J T^-1.

Definition at line 1030 of file fcodata.f90.

#### 15.1.2.206 muon_mag__mom__anomaly

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

Definition at line 1035 of file fcodata.f90.

#### 15.1.2.207 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.

#### 15.1.2.208 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.

#### 15.1.2.209 muon_mass

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

kg

Definition at line 1050 of file fcodata.f90.

#### 15.1.2.210 muon_mass_energy_equivalent

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

J.

Definition at line 1055 of file fcodata.f90.

#### 15.1.2.211 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.

#### 15.1.2.212 muon_mass_in_u

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

u

Definition at line 1065 of file fcodata.f90.

#### 15.1.2.213 muon_molar_mass

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

kg mol^-1

Definition at line 1070 of file fcodata.f90.

#### 15.1.2.214 muon_neutron_mass_ratio

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

Definition at line 1075 of file fcodata.f90.

#### 15.1.2.215 muon_proton_mag__mom__ratio

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

Definition at line 1080 of file fcodata.f90.

#### 15.1.2.216 muon_proton_mass_ratio

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

Definition at line 1085 of file fcodata.f90.

#### 15.1.2.217 muon_tau_mass_ratio

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

Definition at line 1090 of file fcodata.f90.

#### 15.1.2.218 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.

#### 15.1.2.219 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.

#### 15.1.2.220 natural_unit_of_energy

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

J.

Definition at line 1105 of file fcodata.f90.

#### 15.1.2.221 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.

#### 15.1.2.222 natural_unit_of_length

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

m

Definition at line 1115 of file fcodata.f90.

#### 15.1.2.223 natural_unit_of_mass

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

kg

Definition at line 1120 of file fcodata.f90.

#### 15.1.2.224 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.

#### 15.1.2.225 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.

#### 15.1.2.226 natural_unit_of_time

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

s

Definition at line 1135 of file fcodata.f90.

#### 15.1.2.227 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.

#### 15.1.2.228 neutron_compton_wavelength

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

m

Definition at line 1145 of file fcodata.f90.

#### 15.1.2.229 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.

#### 15.1.2.230 neutron_electron_mass_ratio

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

Definition at line 1155 of file fcodata.f90.

#### 15.1.2.231 neutron_g_factor

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

Definition at line 1160 of file fcodata.f90.

#### 15.1.2.232 neutron_gyromag__ratio

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

s^-1 T^-1

Definition at line 1165 of file fcodata.f90.

#### 15.1.2.233 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.

#### 15.1.2.234 neutron_mag__mom

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

J T^-1.

Definition at line 1175 of file fcodata.f90.

#### 15.1.2.235 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.

### 15.1.2.236 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.

### 15.1.2.237 neutron_mass

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

kg

Definition at line 1190 of file fcodata.f90.

### 15.1.2.238 neutron_mass_energy_equivalent

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

J.

Definition at line 1195 of file fcodata.f90.

### 15.1.2.239 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.

### 15.1.2.240 neutron_mass_in_u

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

u

Definition at line 1205 of file fcodata.f90.

#### 15.1.2.241 neutron_molar_mass

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

kg mol^-1

Definition at line 1210 of file fcodata.f90.

#### 15.1.2.242 neutron_muon_mass_ratio

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

Definition at line 1215 of file fcodata.f90.

#### 15.1.2.243 neutron_proton_mag__mom__ratio

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

Definition at line 1220 of file fcodata.f90.

#### 15.1.2.244 neutron_proton_mass_difference

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

kg

Definition at line 1225 of file fcodata.f90.

#### 15.1.2.245 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.

#### 15.1.2.246 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.

#### 15.1.2.247 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.

#### 15.1.2.248 neutron_proton_mass_ratio

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

Definition at line 1245 of file fcodata.f90.

#### 15.1.2.249 neutron_relative_atomic_mass

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

Definition at line 1250 of file fcodata.f90.

#### 15.1.2.250 neutron_tau_mass_ratio

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

Definition at line 1255 of file fcodata.f90.

#### 15.1.2.251 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.

#### 15.1.2.252 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.

#### 15.1.2.253 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.

#### 15.1.2.254 nuclear_magneton

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

J T^-1.

Definition at line 1275 of file fcodata.f90.

#### 15.1.2.255 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.

#### 15.1.2.256 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.

#### 15.1.2.257 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.

#### 15.1.2.258 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.

#### 15.1.2.259 planck_constant

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

J Hz^-1.

Definition at line 1300 of file fcodata.f90.

#### 15.1.2.260 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.

#### 15.1.2.261 planck_length

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

m

Definition at line 1310 of file fcodata.f90.

#### 15.1.2.262 planck_mass

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

kg

Definition at line 1315 of file fcodata.f90.

#### 15.1.2.263 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.

#### 15.1.2.264 planck_temperature

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

K.

Definition at line 1325 of file fcodata.f90.

#### 15.1.2.265 planck_time

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

s

Definition at line 1330 of file fcodata.f90.

#### 15.1.2.266 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.

#### 15.1.2.267 proton_compton_wavelength

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

m

Definition at line 1340 of file fcodata.f90.

#### 15.1.2.268 proton_electron_mass_ratio

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

Definition at line 1345 of file fcodata.f90.

#### 15.1.2.269 proton_g_factor

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

Definition at line 1350 of file fcodata.f90.

#### 15.1.2.270 proton_gyromag__ratio

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

s^-1 T^-1

Definition at line 1355 of file fcodata.f90.

#### 15.1.2.271 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.

#### 15.1.2.272 proton_mag__mom

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

J T^-1.

Definition at line 1365 of file fcodata.f90.

#### 15.1.2.273 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.

#### 15.1.2.274 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.

#### 15.1.2.275 proton_mag__shielding_correction

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

Definition at line 1380 of file fcodata.f90.

#### 15.1.2.276 proton_mass

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

kg

Definition at line 1385 of file fcodata.f90.

#### 15.1.2.277 proton_mass_energy_equivalent

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

J.

Definition at line 1390 of file fcodata.f90.

#### 15.1.2.278 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.

#### 15.1.2.279 proton_mass_in_u

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

u

Definition at line 1400 of file fcodata.f90.

#### 15.1.2.280 proton_molar_mass

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

kg mol^-1

Definition at line 1405 of file fcodata.f90.

#### 15.1.2.281 proton_muon_mass_ratio

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

Definition at line 1410 of file fcodata.f90.

#### 15.1.2.282 proton_neutron_mag__mom__ratio

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

Definition at line 1415 of file fcodata.f90.

#### 15.1.2.283 proton_neutron_mass_ratio

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

Definition at line 1420 of file fcodata.f90.

#### 15.1.2.284 proton_relative_atomic_mass

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

Definition at line 1425 of file fcodata.f90.

#### 15.1.2.285 proton_rms_charge_radius

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

m

Definition at line 1430 of file fcodata.f90.

#### 15.1.2.286 proton_tau_mass_ratio

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

Definition at line 1435 of file fcodata.f90.

#### 15.1.2.287 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.

#### 15.1.2.288 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.

#### 15.1.2.289 reduced_compton_wavelength

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

m

Definition at line 1450 of file fcodata.f90.

#### 15.1.2.290 reduced_muon_compton_wavelength

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

m

Definition at line 1455 of file fcodata.f90.

#### 15.1.2.291 reduced_neutron_compton_wavelength

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

m

Definition at line 1460 of file fcodata.f90.

#### 15.1.2.292 reduced_planck_constant

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

J s.

Definition at line 1465 of file fcodata.f90.

#### 15.1.2.293 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.

#### 15.1.2.294 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.

#### 15.1.2.295 reduced_proton_compton_wavelength

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

m

Definition at line 1480 of file fcodata.f90.

#### 15.1.2.296 reduced_tau_compton_wavelength

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

m

Definition at line 1485 of file fcodata.f90.

#### 15.1.2.297 rydberg_constant

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

m^-1

Definition at line 1490 of file fcodata.f90.

#### 15.1.2.298 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.

#### 15.1.2.299 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.

#### 15.1.2.300 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.

#### 15.1.2.301 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.

#### 15.1.2.302 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.

#### 15.1.2.303 second_radiation_constant

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

m K

Definition at line 1520 of file fcodata.f90.

#### 15.1.2.304 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.

#### 15.1.2.305 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.

#### 15.1.2.306 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.

#### 15.1.2.307 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.

#### 15.1.2.308 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.

#### 15.1.2.309 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.

#### 15.1.2.310 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.

#### 15.1.2.311 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.

#### 15.1.2.312 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.

#### 15.1.2.313 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.

### 15.1.2.314 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.

### 15.1.2.315 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.

### 15.1.2.316 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.

### 15.1.2.317 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.

### 15.1.2.318 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.

### 15.1.2.319 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.

#### 15.1.2.320 standard_atmosphere

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

Pa.

Definition at line 1605 of file fcodata.f90.

#### 15.1.2.321 standard_state_pressure

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

Pa.

Definition at line 1610 of file fcodata.f90.

#### 15.1.2.322 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.

#### 15.1.2.323 tau_compton_wavelength

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

m

Definition at line 1620 of file fcodata.f90.

#### 15.1.2.324 tau_electron_mass_ratio

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

Definition at line 1625 of file fcodata.f90.

#### 15.1.2.325 tau_energy_equivalent

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

MeV.

Definition at line 1630 of file fcodata.f90.

#### 15.1.2.326 tau_mass

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

kg

Definition at line 1635 of file fcodata.f90.

#### 15.1.2.327 tau_mass_energy_equivalent

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

J.

Definition at line 1640 of file fcodata.f90.

#### 15.1.2.328 tau_mass_in_u

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

u

Definition at line 1645 of file fcodata.f90.

#### 15.1.2.329 tau_molar_mass

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

kg mol^-1

Definition at line 1650 of file fcodata.f90.

#### 15.1.2.330 tau_muon_mass_ratio

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

Definition at line 1655 of file fcodata.f90.

#### 15.1.2.331 tau_neutron_mass_ratio

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

Definition at line 1660 of file fcodata.f90.

#### 15.1.2.332 tau_proton_mass_ratio

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

Definition at line 1665 of file fcodata.f90.

#### 15.1.2.333 thomson_cross_section

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

m^2

Definition at line 1670 of file fcodata.f90.

#### 15.1.2.334 triton_electron_mass_ratio

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

Definition at line 1675 of file fcodata.f90.

#### 15.1.2.335 triton_g_factor

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

Definition at line 1680 of file fcodata.f90.

#### 15.1.2.336 triton_mag__mom

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

J T^-1.

Definition at line 1685 of file fcodata.f90.

#### 15.1.2.337 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.

#### 15.1.2.338 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.

#### 15.1.2.339 triton_mass

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

kg

Definition at line 1700 of file fcodata.f90.

#### 15.1.2.340 triton_mass_energy_equivalent

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

J.

Definition at line 1705 of file fcodata.f90.

#### 15.1.2.341 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.

#### 15.1.2.342 triton_mass_in_u

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

u

Definition at line 1715 of file fcodata.f90.

#### 15.1.2.343 triton_molar_mass

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

kg mol^-1

Definition at line 1720 of file fcodata.f90.

#### 15.1.2.344 triton_proton_mass_ratio

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

Definition at line 1725 of file fcodata.f90.

#### 15.1.2.345 triton_relative_atomic_mass

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

Definition at line 1730 of file fcodata.f90.

#### 15.1.2.346 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.

#### 15.1.2.347 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.

#### 15.1.2.348 u_alpha_particle_mass

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

kg

Definition at line 17 of file fcodata.f90.

#### 15.1.2.349 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.

#### 15.1.2.350 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.

#### 15.1.2.351 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.

#### 15.1.2.352 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.

#### 15.1.2.353 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.

#### 15.1.2.354 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.

#### 15.1.2.355 u_angstrom_star

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

m

Definition at line 52 of file fcodata.f90.

#### 15.1.2.356 u_atomic_mass_constant

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

kg

Definition at line 57 of file fcodata.f90.

#### 15.1.2.357 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.

#### 15.1.2.358 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.

#### 15.1.2.359 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.

#### 15.1.2.360 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.

#### 15.1.2.361 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.

#### 15.1.2.362 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.

#### 15.1.2.363 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.

#### 15.1.2.364 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.

#### 15.1.2.365 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.

#### 15.1.2.366 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.

#### 15.1.2.367 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.

#### 15.1.2.368 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.

#### 15.1.2.369 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.

#### 15.1.2.370 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.

#### 15.1.2.371 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.

#### 15.1.2.372 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.

#### 15.1.2.373 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.

#### 15.1.2.374 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.

#### 15.1.2.375 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.

#### 15.1.2.376 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.

#### 15.1.2.377 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.

#### 15.1.2.378 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.

#### 15.1.2.379 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.

#### 15.1.2.380 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.

#### 15.1.2.381 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.

#### 15.1.2.382 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.

#### 15.1.2.383 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.

#### 15.1.2.384 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.

#### 15.1.2.385 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.

#### 15.1.2.386 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.

#### 15.1.2.387 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.

#### 15.1.2.388 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.

#### 15.1.2.389 u_avogadro_constant

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

mol^-1

Definition at line 222 of file fcodata.f90.

#### 15.1.2.390 u_bohr_magneton

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

J T^-1.

Definition at line 227 of file fcodata.f90.

#### 15.1.2.391 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.

#### 15.1.2.392 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.

#### 15.1.2.393 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.

#### 15.1.2.394 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.

#### 15.1.2.395 u_bohr_radius

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

m

Definition at line 252 of file fcodata.f90.

#### 15.1.2.396 u_boltzmann_constant

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

J K^-1.

Definition at line 257 of file fcodata.f90.

#### 15.1.2.397 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.

#### 15.1.2.398 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.

#### 15.1.2.399 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.

#### 15.1.2.400 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.

#### 15.1.2.401 u_classical_electron_radius

```
real(real64), parameter codata::u_classical_electron_radius =0.0000000013d-15
```

m

Definition at line 282 of file fcodata.f90.

#### 15.1.2.402 u_compton_wavelength

```
real(real64), parameter codata::u_compton_wavelength =0.00000000073d-12
```

m

Definition at line 287 of file fcodata.f90.

#### 15.1.2.403 u_conductance_quantum

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

S.

Definition at line 292 of file fcodata.f90.

#### 15.1.2.404 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.

#### 15.1.2.405 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.

#### 15.1.2.406 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.

#### 15.1.2.407 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.

#### 15.1.2.408 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.

#### 15.1.2.409 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.

#### 15.1.2.410 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.

#### 15.1.2.411 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.

#### 15.1.2.412 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.

#### 15.1.2.413 u_copper_x_unit

```
real(real64), parameter codata::u_copper_x_unit =0.00000028d-13
```

m

Definition at line 342 of file fcodata.f90.

#### 15.1.2.414 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.

#### 15.1.2.415 u_deuteron_electron_mass_ratio

```
real(real64), parameter codata::u_deuteron_electron_mass_ratio =0.00000013d0
```

Definition at line 352 of file fcodata.f90.

#### 15.1.2.416 u_deuteron_g_factor

```
real(real64), parameter codata::u_deuteron_g_factor =0.0000000022d0
```

Definition at line 357 of file fcodata.f90.

#### 15.1.2.417 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.

#### 15.1.2.418 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.

#### 15.1.2.419 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.

#### 15.1.2.420 u_deuteron_mass

```
real(real64), parameter codata::u_deuteron_mass =0.0000000010d-27
```

kg

Definition at line 377 of file fcodata.f90.

#### 15.1.2.421 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.

#### 15.1.2.422 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.

#### 15.1.2.423 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.

#### 15.1.2.424 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.

#### 15.1.2.425 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.

#### 15.1.2.426 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.

#### 15.1.2.427 u_deuteron_proton_mass_ratio

`real(real64), parameter codata::u_deuteron_proton_mass_ratio =0.00000000011d0`

Definition at line 412 of file fcodata.f90.

#### 15.1.2.428 u_deuteron_relative_atomic_mass

`real(real64), parameter codata::u_deuteron_relative_atomic_mass =0.000000000040d0`

Definition at line 417 of file fcodata.f90.

#### 15.1.2.429 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.

#### 15.1.2.430 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.

#### 15.1.2.431 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.

#### 15.1.2.432 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.

#### 15.1.2.433 u_electron_g_factor

```
real(real64), parameter codata::u_electron_g_factor =0.00000000000035d0
```

Definition at line 442 of file fcodata.f90.

#### 15.1.2.434 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.

#### 15.1.2.435 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.

#### 15.1.2.436 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.

#### 15.1.2.437 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.

#### 15.1.2.438 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.

#### 15.1.2.439 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.

#### 15.1.2.440 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.

#### 15.1.2.441 u_electron_mass

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

kg

Definition at line 482 of file fcodata.f90.

#### 15.1.2.442 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.

#### 15.1.2.443 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.

#### 15.1.2.444 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.

#### 15.1.2.445 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.

#### 15.1.2.446 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.

#### 15.1.2.447 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.

#### 15.1.2.448 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.

#### 15.1.2.449 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.

#### 15.1.2.450 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.

#### 15.1.2.451 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.

#### 15.1.2.452 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.

#### 15.1.2.453 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.

#### 15.1.2.454 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.

#### 15.1.2.455 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.

#### 15.1.2.456 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.

#### 15.1.2.457 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.

#### 15.1.2.458 u_electron_volt

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

J.

Definition at line 567 of file fcodata.f90.

#### 15.1.2.459 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.

#### 15.1.2.460 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.

#### 15.1.2.461 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.

#### 15.1.2.462 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.

#### 15.1.2.463 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.

#### 15.1.2.464 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.

#### 15.1.2.465 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.

#### 15.1.2.466 u_elementary_charge

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

C.

Definition at line 607 of file fcodata.f90.

#### 15.1.2.467 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.

#### 15.1.2.468 u_faraday_constant

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

C mol^-1.

Definition at line 617 of file fcodata.f90.

#### 15.1.2.469 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.

#### 15.1.2.470 u_fine_structure_constant

`real(real64), parameter codata::u_fine_structure_constant =0.0000000011d-3`

Definition at line 627 of file fcodata.f90.

#### 15.1.2.471 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.

#### 15.1.2.472 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.

#### 15.1.2.473 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.

#### 15.1.2.474 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.

#### 15.1.2.475 u_hartree_energy

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

J.

Definition at line 652 of file fcodata.f90.

#### 15.1.2.476 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.

#### 15.1.2.477 u_hartree_hertz_relationship

```
real(real64), parameter codata::u_hartree_hertz_relationship =0.000000000013d15
```

Hz.

Definition at line 662 of file fcodata.f90.

#### 15.1.2.478 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.

#### 15.1.2.479 u_hartree_joule_relationship

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

J.

Definition at line 672 of file fcodata.f90.

#### 15.1.2.480 u_hartree_kelvin_relationship

```
real(real64), parameter codata::u_hartree_kelvin_relationship =0.0000000000061d5
```

K.

Definition at line 677 of file fcodata.f90.

#### 15.1.2.481 u_hartree_kilogram_relationship

`real(real64), parameter codata::u_hartree_kilogram_relationship =0.0000000000094d-35`

kg

Definition at line 682 of file fcodata.f90.

#### 15.1.2.482 u_helion_electron_mass_ratio

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

Definition at line 687 of file fcodata.f90.

#### 15.1.2.483 u_helion_g_factor

`real(real64), parameter codata::u_helion_g_factor =0.000000050d0`

Definition at line 692 of file fcodata.f90.

#### 15.1.2.484 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.

#### 15.1.2.485 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.

#### 15.1.2.486 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.

#### 15.1.2.487 u_helion_mass

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

kg

Definition at line 712 of file fcodata.f90.

#### 15.1.2.488 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.

#### 15.1.2.489 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.

#### 15.1.2.490 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.

#### 15.1.2.491 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.

#### 15.1.2.492 u_helion_proton_mass_ratio

`real(real64), parameter codata::u_helion_proton_mass_ratio =0.00000000013d0`

Definition at line 737 of file fcodata.f90.

#### 15.1.2.493 u_helion_relative_atomic_mass

`real(real64), parameter codata::u_helion_relative_atomic_mass =0.000000000097d0`

Definition at line 742 of file fcodata.f90.

#### 15.1.2.494 u_helion_shielding_shift

`real(real64), parameter codata::u_helion_shielding_shift =0.000010d-5`

Definition at line 747 of file fcodata.f90.

#### 15.1.2.495 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.

#### 15.1.2.496 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.

#### 15.1.2.497 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.

#### 15.1.2.498 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.

#### 15.1.2.499 u_hertz_joule_relationship

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

J.

Definition at line 772 of file fcodata.f90.

#### 15.1.2.500 u_hertz_kelvin_relationship

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

K.

Definition at line 777 of file fcodata.f90.

#### 15.1.2.501 u_hertz_kilogram_relationship

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

kg

Definition at line 782 of file fcodata.f90.

#### 15.1.2.502 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.

#### 15.1.2.503 u_inverse_fine_structure_constant

`real(real64), parameter codata::u_inverse_fine_structure_constant =0.000000021d0`

Definition at line 792 of file fcodata.f90.

#### 15.1.2.504 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.

#### 15.1.2.505 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.

#### 15.1.2.506 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.

#### 15.1.2.507 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.

#### 15.1.2.508 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.

#### 15.1.2.509 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.

#### 15.1.2.510 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.

#### 15.1.2.511 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.

#### 15.1.2.512 u_josephson_constant

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

Hz V^-1.

Definition at line 837 of file fcodata.f90.

#### 15.1.2.513 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.

#### 15.1.2.514 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.

#### 15.1.2.515 u_joule_hartree_relationship

```
real(real64), parameter codata::u_joule_hartree_relationship =0.0000000000045d17
```

E_h.

Definition at line 852 of file fcodata.f90.

#### 15.1.2.516 u_joule_hertz_relationship

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

Hz.

Definition at line 857 of file fcodata.f90.

#### 15.1.2.517 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.

#### 15.1.2.518 u_joule_kelvin_relationship

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

K.

Definition at line 867 of file fcodata.f90.

#### 15.1.2.519 u_joule_kilogram_relationship

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

kg

Definition at line 872 of file fcodata.f90.

#### 15.1.2.520 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.

#### 15.1.2.521 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.

#### 15.1.2.522 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.

#### 15.1.2.523 u_kelvin_hertz_relationship

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

Hz.

Definition at line 892 of file fcodata.f90.

#### 15.1.2.524 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.

#### 15.1.2.525 u_kelvin_joule_relationship

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

J.

Definition at line 902 of file fcodata.f90.

#### 15.1.2.526 u_kelvin_kilogram_relationship

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

kg

Definition at line 907 of file fcodata.f90.

#### 15.1.2.527 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.

#### 15.1.2.528 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.

#### 15.1.2.529 u_kilogram_hartree_relationship

```
real(real64), parameter codata::u_kilogram_hartree_relationship =0.0000000000040d34
```

E_h.

Definition at line 922 of file fcodata.f90.

#### 15.1.2.530 u_kilogram_hertz_relationship

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

Hz.

Definition at line 927 of file fcodata.f90.

#### 15.1.2.531 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.

#### 15.1.2.532 u_kilogram_joule_relationship

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

J.

Definition at line 937 of file fcodata.f90.

#### 15.1.2.533 u_kilogram_kelvin_relationship

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

K.

Definition at line 942 of file fcodata.f90.

#### 15.1.2.534 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.

#### 15.1.2.535 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.

#### 15.1.2.536 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.

#### 15.1.2.537 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.

#### 15.1.2.538 u_luminous_efficacy

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

lm W^-1

Definition at line 967 of file fcodata.f90.

#### 15.1.2.539 u_mag__flux_quantum

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

Wb.

Definition at line 972 of file fcodata.f90.

#### 15.1.2.540 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.

#### 15.1.2.541 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.

#### 15.1.2.542 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.

#### 15.1.2.543 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.

#### 15.1.2.544 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.

#### 15.1.2.545 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.

#### 15.1.2.546 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.

#### 15.1.2.547 u_molybdenum_x_unit

```
real(real64), parameter codata::u_molybdenum_x_unit =0.00000053d-13
```

m

Definition at line 1012 of file fcodata.f90.

#### 15.1.2.548 u_muon_compton_wavelength

```
real(real64), parameter codata::u_muon_compton_wavelength =0.000000026d-14
```

m

Definition at line 1017 of file fcodata.f90.

#### 15.1.2.549 u_muon_electron_mass_ratio

```
real(real64), parameter codata::u_muon_electron_mass_ratio =0.0000046d0
```

Definition at line 1022 of file fcodata.f90.

#### 15.1.2.550 u_muon_g_factor

```
real(real64), parameter codata::u_muon_g_factor =0.0000000013d0
```

Definition at line 1027 of file fcodata.f90.

#### 15.1.2.551 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.

#### 15.1.2.552 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.

#### 15.1.2.553 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.

#### 15.1.2.554 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.

#### 15.1.2.555 u_muon_mass

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

kg

Definition at line 1052 of file fcodata.f90.

#### 15.1.2.556 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.

#### 15.1.2.557 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.

#### 15.1.2.558 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.

#### 15.1.2.559 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.

#### 15.1.2.560 u_muon_neutron_mass_ratio

`real(real64), parameter codata::u_muon_neutron_mass_ratio =0.0000000025d0`

Definition at line 1077 of file fcodata.f90.

#### 15.1.2.561 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.

#### 15.1.2.562 u_muon_proton_mass_ratio

`real(real64), parameter codata::u_muon_proton_mass_ratio =0.0000000025d0`

Definition at line 1087 of file fcodata.f90.

#### 15.1.2.563 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.

#### 15.1.2.564 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.

#### 15.1.2.565 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.

#### 15.1.2.566 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.

#### 15.1.2.567 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.

#### 15.1.2.568 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.

#### 15.1.2.569 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.

#### 15.1.2.570 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.

#### 15.1.2.571 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.

#### 15.1.2.572 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.

#### 15.1.2.573 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.

#### 15.1.2.574 u_neutron_compton_wavelength

```
real(real64), parameter codata::u_neutron_compton_wavelength =0.00000000075d-15
```

m

Definition at line 1147 of file fcodata.f90.

#### 15.1.2.575 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.

#### 15.1.2.576 u_neutron_electron_mass_ratio

```
real(real64), parameter codata::u_neutron_electron_mass_ratio =0.00000089d0
```

Definition at line 1157 of file fcodata.f90.

#### 15.1.2.577 u_neutron_g_factor

```
real(real64), parameter codata::u_neutron_g_factor =0.00000090d0
```

Definition at line 1162 of file fcodata.f90.

#### 15.1.2.578 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.

#### 15.1.2.579 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.

#### 15.1.2.580 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.

#### 15.1.2.581 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.

#### 15.1.2.582 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.

#### 15.1.2.583 u_neutron_mass

```
real(real64), parameter codata::u_neutron_mass =0.00000000095d-27
```

kg

Definition at line 1192 of file fcodata.f90.

#### 15.1.2.584 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.

#### 15.1.2.585 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.

#### 15.1.2.586 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.

#### 15.1.2.587 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.

#### 15.1.2.588 u_neutron_muon_mass_ratio

```
real(real64), parameter codata::u_neutron_muon_mass_ratio =0.00000020d0
```

Definition at line 1217 of file fcodata.f90.

#### 15.1.2.589 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.

#### 15.1.2.590 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.

#### 15.1.2.591 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.

#### 15.1.2.592 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.

#### 15.1.2.593 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.

#### 15.1.2.594 u_neutron_proton_mass_ratio

```
real(real64), parameter codata::u_neutron_proton_mass_ratio =0.00000000049d0
```

Definition at line 1247 of file fcodata.f90.

#### 15.1.2.595 u_neutron_relative_atomic_mass

```
real(real64), parameter codata::u_neutron_relative_atomic_mass =0.00000000049d0
```

Definition at line 1252 of file fcodata.f90.

#### 15.1.2.596 u_neutron_tau_mass_ratio

```
real(real64), parameter codata::u_neutron_tau_mass_ratio =0.000036d0
```

Definition at line 1257 of file fcodata.f90.

#### 15.1.2.597 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.

#### 15.1.2.598 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.

#### 15.1.2.599 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.

#### 15.1.2.600 u_nuclear_magneton

```
real(real64), parameter codata::u_nuclear_magneton =0.0000000015d-27
```

J T^-1.

Definition at line 1277 of file fcodata.f90.

#### 15.1.2.601 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.

#### 15.1.2.602 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.

#### 15.1.2.603 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.

#### 15.1.2.604 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.

#### 15.1.2.605 u_planck_constant

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

J Hz^-1.

Definition at line 1302 of file fcodata.f90.

#### 15.1.2.606 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.

#### 15.1.2.607 u_planck_length

```
real(real64), parameter codata::u_planck_length =0.000018d-35
```

m

Definition at line 1312 of file fcodata.f90.

#### 15.1.2.608 u_planck_mass

```
real(real64), parameter codata::u_planck_mass =0.000024d-8
```

kg

Definition at line 1317 of file fcodata.f90.

#### 15.1.2.609 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.

#### 15.1.2.610 u_planck_temperature

```
real(real64), parameter codata::u_planck_temperature =0.000016d32
```

K.

Definition at line 1327 of file fcodata.f90.

#### 15.1.2.611 u_planck_time

```
real(real64), parameter codata::u_planck_time =0.000060d-44
```

s

Definition at line 1332 of file fcodata.f90.

#### 15.1.2.612 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.

#### 15.1.2.613 u_proton_compton_wavelength

```
real(real64), parameter codata::u_proton_compton_wavelength =0.00000000040d-15
```

m

Definition at line 1342 of file fcodata.f90.

#### 15.1.2.614 u_proton_electron_mass_ratio

```
real(real64), parameter codata::u_proton_electron_mass_ratio =0.00000011d0
```

Definition at line 1347 of file fcodata.f90.

#### 15.1.2.615 u_proton_g_factor

```
real(real64), parameter codata::u_proton_g_factor =0.0000000016d0
```

Definition at line 1352 of file fcodata.f90.

#### 15.1.2.616 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.

#### 15.1.2.617 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.

#### 15.1.2.618 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.

#### 15.1.2.619 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.

#### 15.1.2.620 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.

#### 15.1.2.621 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.

#### 15.1.2.622 u_proton_mass

```
real(real64), parameter codata::u_proton_mass =0.00000000051d-27
```

kg

Definition at line 1387 of file fcodata.f90.

#### 15.1.2.623 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.

#### 15.1.2.624 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.

#### 15.1.2.625 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.

#### 15.1.2.626 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.

#### 15.1.2.627 u_proton_muon_mass_ratio

```
real(real64), parameter codata::u_proton_muon_mass_ratio =0.00000020d0
```

Definition at line 1412 of file fcodata.f90.

#### 15.1.2.628 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.

#### 15.1.2.629 u_proton_neutron_mass_ratio

```
real(real64), parameter codata::u_proton_neutron_mass_ratio =0.00000000049d0
```

Definition at line 1422 of file fcodata.f90.

#### 15.1.2.630 u_proton_relative_atomic_mass

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

Definition at line 1427 of file fcodata.f90.

#### 15.1.2.631 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.

#### 15.1.2.632 u_proton_tau_mass_ratio

```
real(real64), parameter codata::u_proton_tau_mass_ratio =0.000036d0
```

Definition at line 1437 of file fcodata.f90.

#### 15.1.2.633 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.

#### 15.1.2.634 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.

#### 15.1.2.635 u_reduced_compton_wavelength

```
real(real64), parameter codata::u_reduced_compton_wavelength =0.0000000012d-13
```

m

Definition at line 1452 of file fcodata.f90.

#### 15.1.2.636 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.

#### 15.1.2.637 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.

#### 15.1.2.638 u_reduced_planck_constant

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

J s.

Definition at line 1467 of file fcodata.f90.

#### 15.1.2.639 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.

#### 15.1.2.640 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.

#### 15.1.2.641 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.

#### 15.1.2.642 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.

#### 15.1.2.643 u_rydberg_constant

```
real(real64), parameter codata::u_rydberg_constant =0.000021d0
```

m^-1

Definition at line 1492 of file fcodata.f90.

#### 15.1.2.644 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.

#### 15.1.2.645 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.

#### 15.1.2.646 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.

#### 15.1.2.647 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.

#### 15.1.2.648 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.

#### 15.1.2.649 u_second_radiation_constant

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

m K

Definition at line 1522 of file fcodata.f90.

#### 15.1.2.650 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.

#### 15.1.2.651 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.

#### 15.1.2.652 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.

#### 15.1.2.653 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.

#### 15.1.2.654 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.

#### 15.1.2.655 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.

#### 15.1.2.656 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.

#### 15.1.2.657 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.

#### 15.1.2.658 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.

#### 15.1.2.659 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.

#### 15.1.2.660 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.

#### 15.1.2.661 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.

#### 15.1.2.662 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.

#### 15.1.2.663 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.

#### 15.1.2.664 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.

#### 15.1.2.665 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.

#### 15.1.2.666 u_standard_atmosphere

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

Pa.

Definition at line 1607 of file fcodata.f90.

#### 15.1.2.667 u_standard_state_pressure

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

Pa.

Definition at line 1612 of file fcodata.f90.

#### 15.1.2.668 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.

#### 15.1.2.669 u_tau_compton_wavelength

```
real(real64), parameter codata::u_tau_compton_wavelength =0.00047d-16
```

m

Definition at line 1622 of file fcodata.f90.

#### 15.1.2.670 u_tau_electron_mass_ratio

```
real(real64), parameter codata::u_tau_electron_mass_ratio =0.23d0
```

Definition at line 1627 of file fcodata.f90.

#### 15.1.2.671 u_tau_energy_equivalent

```
real(real64), parameter codata::u_tau_energy_equivalent =0.12d0
```

MeV.

Definition at line 1632 of file fcodata.f90.

#### 15.1.2.672 u_tau_mass

```
real(real64), parameter codata::u_tau_mass =0.00021d-27
```

kg

Definition at line 1637 of file fcodata.f90.

#### 15.1.2.673 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.

#### 15.1.2.674 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.

#### 15.1.2.675 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.

#### 15.1.2.676 u_tau_muon_mass_ratio

```
real(real64), parameter codata::u_tau_muon_mass_ratio =0.0011d0
```

Definition at line 1657 of file fcodata.f90.

#### 15.1.2.677 u_tau_neutron_mass_ratio

```
real(real64), parameter codata::u_tau_neutron_mass_ratio =0.00013d0
```

Definition at line 1662 of file fcodata.f90.

#### 15.1.2.678 u_tau_proton_mass_ratio

```
real(real64), parameter codata::u_tau_proton_mass_ratio =0.00013d0
```

Definition at line 1667 of file fcodata.f90.

#### 15.1.2.679 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.

#### 15.1.2.680 u_triton_electron_mass_ratio

```
real(real64), parameter codata::u_triton_electron_mass_ratio =0.00000027d0
```

Definition at line 1677 of file fcodata.f90.

#### 15.1.2.681 u_triton_g_factor

```
real(real64), parameter codata::u_triton_g_factor =0.000000012d0
```

Definition at line 1682 of file fcodata.f90.

#### 15.1.2.682 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.

#### 15.1.2.683 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.

#### 15.1.2.684 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.

#### 15.1.2.685 u_triton_mass

```
real(real64), parameter codata::u_triton_mass =0.0000000015d-27
```

kg

Definition at line 1702 of file fcodata.f90.

#### 15.1.2.686 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.

#### 15.1.2.687 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.

#### 15.1.2.688 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.

#### 15.1.2.689 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.

#### 15.1.2.690 u_triton_proton_mass_ratio

`real(real64), parameter codata::u_triton_proton_mass_ratio =0.00000000015d0`

Definition at line 1727 of file fcodata.f90.

#### 15.1.2.691 u_triton_relative_atomic_mass

```
real(real64), parameter codata::u_triton_relative_atomic_mass =0.00000000012d0
```

Definition at line 1732 of file fcodata.f90.

#### 15.1.2.692 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.

#### 15.1.2.693 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.

#### 15.1.2.694 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.

#### 15.1.2.695 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.

#### 15.1.2.696 u_von_klitzing_constant

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

ohm

Definition at line 1757 of file fcodata.f90.

#### 15.1.2.697 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.

#### 15.1.2.698 u_weak_mixing_angle

```
real(real64), parameter codata::u_weak_mixing_angle =0.00030d0
```

Definition at line 1762 of file fcodata.f90.

#### 15.1.2.699 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.

#### 15.1.2.700 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.

#### 15.1.2.701 unified_atomic_mass_unit

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

kg

Definition at line 1740 of file fcodata.f90.

#### 15.1.2.702 vacuum_electric_permittivity

```
real(real64), parameter codata::vacuum_electric_permittivity =8.8541878128d-12
```

F m^-1.

Definition at line 1745 of file fcodata.f90.

#### 15.1.2.703 vacuum_mag__permeability

```
real(real64), parameter codata::vacuum_mag__permeability =1.25663706212d-6
```

N A^-2.

Definition at line 1750 of file fcodata.f90.

#### 15.1.2.704 von_klitzing_constant

```
real(real64), parameter codata::von_klitzing_constant =25812.80745d0
```

ohm

Definition at line 1755 of file fcodata.f90.

#### 15.1.2.705 w_to_z_mass_ratio

```
real(real64), parameter codata::w_to_z_mass_ratio =0.88153d0
```

Definition at line 1775 of file fcodata.f90.

#### 15.1.2.706 weak_mixing_angle

```
real(real64), parameter codata::weak_mixing_angle =0.22290d0
```

Definition at line 1760 of file fcodata.f90.

#### 15.1.2.707 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.

#### 15.1.2.708 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.

## 15.2 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 = 0.0000000078e-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

## 15.2.1 Detailed Description

```
Codata module - autogenerated
```

## 15.2.2 Variable Documentation

### 15.2.2.1 ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
float pycodata.ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 7294.29954142e0
```

Definition at line 3 of file pycodata.py.

### 15.2.2.2 ALPHA_PARTICLE_MASS

```
float pycodata.ALPHA_PARTICLE_MASS = 6.6446573357e-27
```

Definition at line 6 of file pycodata.py.

### 15.2.2.3 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
float pycodata.ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT = 5.9719201914e-10
```

Definition at line 9 of file pycodata.py.

### 15.2.2.4 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.

### 15.2.2.5 ALPHA_PARTICLE_MASS_IN_U

```
float pycodata.ALPHA_PARTICLE_MASS_IN_U = 4.001506179127e0
```

Definition at line 15 of file pycodata.py.

### 15.2.2.6 ALPHA_PARTICLE_MOLAR_MASS

```
float pycodata.ALPHA_PARTICLE_MOLAR_MASS = 4.0015061777e-3
```

Definition at line 18 of file pycodata.py.

### 15.2.2.7 ALPHA_PARTICLE_PROTON_MASS_RATIO

```
float pycodata.ALPHA_PARTICLE_PROTON_MASS_RATIO = 3.97259969009e0
```

Definition at line 21 of file pycodata.py.

### 15.2.2.8 ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
float pycodata.ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 4.001506179127e0
```

Definition at line 24 of file pycodata.py.

#### 15.2.2.9 ANGSTROM_STAR

```
float pycodata.ANGSTROM_STAR = 1.00001495e-10
```

Definition at line 27 of file pycodata.py.

#### 15.2.2.10 ATOMIC_MASS_CONSTANT

```
float pycodata.ATOMIC_MASS_CONSTANT = 1.66053906660e-27
```

Definition at line 30 of file pycodata.py.

#### 15.2.2.11 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
float pycodata.ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT = 1.49241808560e-10
```

Definition at line 33 of file pycodata.py.

#### 15.2.2.12 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.

#### 15.2.2.13 ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP = 9.3149410242e8
```

Definition at line 39 of file pycodata.py.

#### 15.2.2.14 ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 3.4231776874e7
```

Definition at line 42 of file pycodata.py.

#### 15.2.2.15 ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 2.25234271871e23
```

Definition at line 45 of file pycodata.py.

#### 15.2.2.16 ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP = 7.5130066104e14
```

Definition at line 48 of file pycodata.py.

#### 15.2.2.17 ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP = 1.49241808560e-10
```

Definition at line 51 of file pycodata.py.

#### 15.2.2.18 ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 1.08095401916e13
```

Definition at line 54 of file pycodata.py.

#### 15.2.2.19 ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
float pycodata.ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP = 1.66053906660e-27
```

Definition at line 57 of file pycodata.py.

#### 15.2.2.20 ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY = 3.2063613061e-53
```

Definition at line 60 of file pycodata.py.

#### 15.2.2.21 ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY = 6.2353799905e-65
```

Definition at line 63 of file pycodata.py.

#### 15.2.2.22 ATOMIC_UNIT_OF_ACTION

```
float pycodata.ATOMIC_UNIT_OF_ACTION = 1.054571817e-34
```

Definition at line 66 of file pycodata.py.

#### 15.2.2.23 ATOMIC_UNIT_OF_CHARGE

```
float pycodata.ATOMIC_UNIT_OF_CHARGE = 1.602176634e-19
```

Definition at line 69 of file pycodata.py.

#### 15.2.2.24 ATOMIC_UNIT_OF_CHARGE_DENSITY

```
float pycodata.ATOMIC_UNIT_OF_CHARGE_DENSITY = 1.08120238457e12
```

Definition at line 72 of file pycodata.py.

#### 15.2.2.25 ATOMIC_UNIT_OF_CURRENT

```
float pycodata.ATOMIC_UNIT_OF_CURRENT = 6.623618237510e-3
```

Definition at line 75 of file pycodata.py.

#### 15.2.2.26 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.

#### 15.2.2.27 ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD = 5.14220674763e11
```

Definition at line 81 of file pycodata.py.

#### 15.2.2.28 ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT = 9.7173624292e21
```

Definition at line 84 of file pycodata.py.

#### 15.2.2.29 ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY = 1.64877727436e-41
```

Definition at line 87 of file pycodata.py.

#### 15.2.2.30 ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
float pycodata.ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 27.211386245988e0
```

Definition at line 90 of file pycodata.py.

#### 15.2.2.31 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.

#### 15.2.2.32 ATOMIC_UNIT_OF_ENERGY

```
float pycodata.ATOMIC_UNIT_OF_ENERGY = 4.3597447222071e-18
```

Definition at line 96 of file pycodata.py.

#### 15.2.2.33 ATOMIC_UNIT_OF_FORCE

```
float pycodata.ATOMIC_UNIT_OF_FORCE = 8.2387234983e-8
```

Definition at line 99 of file pycodata.py.

#### 15.2.2.34 ATOMIC_UNIT_OF_LENGTH

```
float pycodata.ATOMIC_UNIT_OF_LENGTH = 5.29177210903e-11
```

Definition at line 102 of file pycodata.py.

#### 15.2.2.35 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.

#### 15.2.2.36 ATOMIC_UNIT_OF_MAG__FLUX_DENSITY

```
float pycodata.ATOMIC_UNIT_OF_MAG__FLUX_DENSITY = 2.35051756758e5
```

Definition at line 108 of file pycodata.py.

#### 15.2.2.37 ATOMIC_UNIT_OF_MAGNETIZABILITY

```
float pycodata.ATOMIC_UNIT_OF_MAGNETIZABILITY = 7.8910366008e-29
```

Definition at line 111 of file pycodata.py.

#### 15.2.2.38 ATOMIC_UNIT_OF_MASS

```
float pycodata.ATOMIC_UNIT_OF_MASS = 9.1093837015e-31
```

Definition at line 114 of file pycodata.py.

#### 15.2.2.39 ATOMIC_UNIT_OF_MOMENTUM

```
float pycodata.ATOMIC_UNIT_OF_MOMENTUM = 1.99285191410e-24
```

Definition at line 117 of file pycodata.py.

#### 15.2.2.40 ATOMIC_UNIT_OF_PERMITTIVITY

```
float pycodata.ATOMIC_UNIT_OF_PERMITTIVITY = 1.11265005545e-10
```

Definition at line 120 of file pycodata.py.

#### 15.2.2.41 ATOMIC_UNIT_OF_TIME

```
float pycodata.ATOMIC_UNIT_OF_TIME = 2.4188843265857e-17
```

Definition at line 123 of file pycodata.py.

#### 15.2.2.42 ATOMIC_UNIT_OF_VELOCITY

```
float pycodata.ATOMIC_UNIT_OF_VELOCITY = 2.18769126364e6
```

Definition at line 126 of file pycodata.py.

#### 15.2.2.43 AVOGADRO_CONSTANT

```
float pycodata.AVOGADRO_CONSTANT = 6.02214076e23
```

Definition at line 129 of file pycodata.py.

#### 15.2.2.44 BOHR_MAGNETON

```
float pycodata.BOHR_MAGNETON = 9.2740100783e-24
```

Definition at line 132 of file pycodata.py.

#### 15.2.2.45 BOHR_MAGNETON_IN_EV_T

```
float pycodata.BOHR_MAGNETON_IN_EV_T = 5.7883818060e-5
```

Definition at line 135 of file pycodata.py.

#### 15.2.2.46 BOHR_MAGNETON_IN_HZ_T

```
float pycodata.BOHR_MAGNETON_IN_HZ_T = 1.39962449361e10
```

Definition at line 138 of file pycodata.py.

#### 15.2.2.47 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.

#### 15.2.2.48 BOHR_MAGNETON_IN_K_T

```
float pycodata.BOHR_MAGNETON_IN_K_T = 0.67171381563e0
```

Definition at line 144 of file pycodata.py.

#### 15.2.2.49 BOHR_RADIUS

```
float pycodata.BOHR_RADIUS = 5.29177210903e-11
```

Definition at line 147 of file pycodata.py.

#### 15.2.2.50 BOLTZMANN_CONSTANT

```
float pycodata.BOLTZMANN_CONSTANT = 1.380649e-23
```

Definition at line 150 of file pycodata.py.

#### 15.2.2.51 BOLTZMANN_CONSTANT_IN_EV_K

```
float pycodata.BOLTZMANN_CONSTANT_IN_EV_K = 8.617333262e-5
```

Definition at line 153 of file pycodata.py.

#### 15.2.2.52 BOLTZMANN_CONSTANT_IN_HZ_K

```
float pycodata.BOLTZMANN_CONSTANT_IN_HZ_K = 2.083661912e10
```

Definition at line 156 of file pycodata.py.

#### 15.2.2.53 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.

#### 15.2.2.54 CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
float pycodata.CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 376.730313668e0
```

Definition at line 162 of file pycodata.py.

#### 15.2.2.55 CLASSICAL_ELECTRON_RADIUS

```
float pycodata.CLASSICAL_ELECTRON_RADIUS = 2.8179403262e-15
```

Definition at line 165 of file pycodata.py.

#### 15.2.2.56 COMPTON_WAVELENGTH

```
float pycodata.COMPTON_WAVELENGTH = 2.42631023867e-12
```

Definition at line 168 of file pycodata.py.

#### 15.2.2.57 CONDUCTANCE_QUANTUM

```
float pycodata.CONDUCTANCE_QUANTUM = 7.748091729e-5
```

Definition at line 171 of file pycodata.py.

#### 15.2.2.58 CONVENTIONAL_VALUE_OF_AMPERE_90

```
float pycodata.CONVENTIONAL_VALUE_OF_AMPERE_90 = 1.00000008887e0
```

Definition at line 174 of file pycodata.py.

#### 15.2.2.59 CONVENTIONAL_VALUE_OF_COULOMB_90

```
float pycodata.CONVENTIONAL_VALUE_OF_COULOMB_90 = 1.00000008887e0
```

Definition at line 177 of file pycodata.py.

#### 15.2.2.60 CONVENTIONAL_VALUE_OF_FARAD_90

```
float pycodata.CONVENTIONAL_VALUE_OF_FARAD_90 = 0.99999998220e0
```

Definition at line 180 of file pycodata.py.

#### 15.2.2.61 CONVENTIONAL_VALUE_OF_HENRY_90

```
float pycodata.CONVENTIONAL_VALUE_OF_HENRY_90 = 1.00000001779e0
```

Definition at line 183 of file pycodata.py.

#### 15.2.2.62 CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
float pycodata.CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 483597.9e9
```

Definition at line 186 of file pycodata.py.

#### 15.2.2.63 CONVENTIONAL_VALUE_OF_OHM_90

```
float pycodata.CONVENTIONAL_VALUE_OF_OHM_90 = 1.00000001779e0
```

Definition at line 189 of file pycodata.py.

#### 15.2.2.64 CONVENTIONAL_VALUE_OF_VOLT_90

```
float pycodata.CONVENTIONAL_VALUE_OF_VOLT_90 = 1.00000010666e0
```

Definition at line 192 of file pycodata.py.

#### 15.2.2.65 CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT

```
float pycodata.CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT = 25812.807e0
```

Definition at line 195 of file pycodata.py.

#### 15.2.2.66 CONVENTIONAL_VALUE_OF_WATT_90

```
float pycodata.CONVENTIONAL_VALUE_OF_WATT_90 = 1.00000019553e0
```

Definition at line 198 of file pycodata.py.

#### 15.2.2.67 COPPER_X_UNIT

```
float pycodata.COPPER_X_UNIT = 1.00207697e-13
```

Definition at line 201 of file pycodata.py.

#### 15.2.2.68 DEUTERON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_ELECTRON_MAG__MOM__RATIO = -4.664345551e-4
```

Definition at line 204 of file pycodata.py.

#### 15.2.2.69 DEUTERON_ELECTRON_MASS_RATIO

```
float pycodata.DEUTERON_ELECTRON_MASS_RATIO = 3670.48296788e0
```

Definition at line 207 of file pycodata.py.

#### 15.2.2.70 DEUTERON_G_FACTOR

```
float pycodata.DEUTERON_G_FACTOR = 0.8574382338e0
```

Definition at line 210 of file pycodata.py.

#### 15.2.2.71 DEUTERON_MAG__MOM

```
float pycodata.DEUTERON_MAG__MOM = 4.330735094e-27
```

Definition at line 213 of file pycodata.py.

#### 15.2.2.72 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.

#### 15.2.2.73 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.

#### 15.2.2.74 DEUTERON_MASS

```
float pycodata.DEUTERON_MASS = 3.3435837724e-27
```

Definition at line 222 of file pycodata.py.

#### 15.2.2.75 DEUTERON_MASS_ENERGY_EQUIVALENT

```
float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT = 3.00506323102e-10
```

Definition at line 225 of file pycodata.py.

#### 15.2.2.76 DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV = 1875.61294257e0
```

Definition at line 228 of file pycodata.py.

#### 15.2.2.77 DEUTERON_MASS_IN_U

```
float pycodata.DEUTERON_MASS_IN_U = 2.013553212745e0
```

Definition at line 231 of file pycodata.py.

#### 15.2.2.78 DEUTERON_MOLAR_MASS

```
float pycodata.DEUTERON_MOLAR_MASS = 2.01355321205e-3
```

Definition at line 234 of file pycodata.py.

#### 15.2.2.79 DEUTERON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_NEUTRON_MAG__MOM__RATIO = -0.44820653e0
```

Definition at line 237 of file pycodata.py.

#### 15.2.2.80 DEUTERON_PROTON_MAG__MOM__RATIO

```
float pycodata.DEUTERON_PROTON_MAG__MOM__RATIO = 0.30701220939e0
```

Definition at line 240 of file pycodata.py.

#### 15.2.2.81 DEUTERON_PROTON_MASS_RATIO

```
float pycodata.DEUTERON_PROTON_MASS_RATIO = 1.99900750139e0
```

Definition at line 243 of file pycodata.py.

#### 15.2.2.82 DEUTERON_RELATIVE_ATOMIC_MASS

```
float pycodata.DEUTERON_RELATIVE_ATOMIC_MASS = 2.013553212745e0
```

Definition at line 246 of file pycodata.py.

#### 15.2.2.83 DEUTERON_RMS_CHARGE_RADIUS

```
float pycodata.DEUTERON_RMS_CHARGE_RADIUS = 2.12799e-15
```

Definition at line 249 of file pycodata.py.

#### 15.2.2.84 ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.ELECTRON_CHARGE_TO_MASS_QUOTIENT = -1.75882001076e11
```

Definition at line 252 of file pycodata.py.

#### 15.2.2.85 ELECTRON_DEUTERON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_DEUTERON_MAG__MOM__RATIO = -2143.9234915e0
```

Definition at line 255 of file pycodata.py.

#### 15.2.2.86 ELECTRON_DEUTERON_MASS_RATIO

```
float pycodata.ELECTRON_DEUTERON_MASS_RATIO = 2.724437107462e-4
```

Definition at line 258 of file pycodata.py.

#### 15.2.2.87 ELECTRON_G_FACTOR

```
float pycodata.ELECTRON_G_FACTOR = -2.00231930436256e0
```

Definition at line 261 of file pycodata.py.

#### 15.2.2.88 ELECTRON_GYROMAG__RATIO

```
float pycodata.ELECTRON_GYROMAG__RATIO = 1.76085963023e11
```

Definition at line 264 of file pycodata.py.

#### 15.2.2.89 ELECTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.ELECTRON_GYROMAG__RATIO_IN_MHZ_T = 28024.9514242e0
```

Definition at line 267 of file pycodata.py.

#### 15.2.2.90 ELECTRON_HELION_MASS_RATIO

```
float pycodata.ELECTRON_HELION_MASS_RATIO = 1.819543074573e-4
```

Definition at line 270 of file pycodata.py.

#### 15.2.2.91 ELECTRON_MAG__MOM

```
float pycodata.ELECTRON_MAG__MOM = -9.2847647043e-24
```

Definition at line 273 of file pycodata.py.

#### 15.2.2.92 ELECTRON_MAG__MOM__ANOMALY

```
float pycodata.ELECTRON_MAG__MOM__ANOMALY = 1.15965218128e-3
```

Definition at line 276 of file pycodata.py.

#### 15.2.2.93 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.

#### 15.2.2.94 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.

#### 15.2.2.95 ELECTRON_MASS

```
float pycodata.ELECTRON_MASS = 9.1093837015e-31
```

Definition at line 285 of file pycodata.py.

#### 15.2.2.96 ELECTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT = 8.1871057769e-14
```

Definition at line 288 of file pycodata.py.

#### 15.2.2.97 ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 0.51099895000e0
```

Definition at line 291 of file pycodata.py.

#### 15.2.2.98 ELECTRON_MASS_IN_U

```
float pycodata.ELECTRON_MASS_IN_U = 5.48579909065e-4
```

Definition at line 294 of file pycodata.py.

#### 15.2.2.99 ELECTRON_MOLAR_MASS

```
float pycodata.ELECTRON_MOLAR_MASS = 5.4857990888e-7
```

Definition at line 297 of file pycodata.py.

#### 15.2.2.100 ELECTRON_MUON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_MUON_MAG__MOM__RATIO = 206.7669883e0
```

Definition at line 300 of file pycodata.py.

#### 15.2.2.101 ELECTRON_MUON_MASS_RATIO

```
float pycodata.ELECTRON_MUON_MASS_RATIO = 4.83633169e-3
```

Definition at line 303 of file pycodata.py.

#### 15.2.2.102 ELECTRON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_NEUTRON_MAG__MOM__RATIO = 960.92050e0
```

Definition at line 306 of file pycodata.py.

#### 15.2.2.103 ELECTRON_NEUTRON_MASS_RATIO

```
float pycodata.ELECTRON_NEUTRON_MASS_RATIO = 5.4386734424e-4
```

Definition at line 309 of file pycodata.py.

#### 15.2.2.104 ELECTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.ELECTRON_PROTON_MAG__MOM__RATIO = -658.21068789e0
```

Definition at line 312 of file pycodata.py.

#### 15.2.2.105 ELECTRON_PROTON_MASS_RATIO

```
float pycodata.ELECTRON_PROTON_MASS_RATIO = 5.44617021487e-4
```

Definition at line 315 of file pycodata.py.

#### 15.2.2.106 ELECTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.ELECTRON_RELATIVE_ATOMIC_MASS = 5.48579909065e-4
```

Definition at line 318 of file pycodata.py.

#### 15.2.2.107 ELECTRON_TAU_MASS_RATIO

```
float pycodata.ELECTRON_TAU_MASS_RATIO = 2.87585e-4
```

Definition at line 321 of file pycodata.py.

#### 15.2.2.108 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.

#### 15.2.2.109 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.

#### 15.2.2.110 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.

#### 15.2.2.111 ELECTRON_TRITON_MASS_RATIO

```
float pycodata.ELECTRON_TRITON_MASS_RATIO = 1.819200062251e-4
```

Definition at line 333 of file pycodata.py.

#### 15.2.2.112 ELECTRON_VOLT

```
float pycodata.ELECTRON_VOLT = 1.602176634e-19
```

Definition at line 336 of file pycodata.py.

#### 15.2.2.113 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.

#### 15.2.2.114 ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_HARTREE_RELATIONSHIP = 3.6749322175655e-2
```

Definition at line 342 of file pycodata.py.

#### 15.2.2.115 ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_HERTZ_RELATIONSHIP = 2.417989242e14
```

Definition at line 345 of file pycodata.py.

#### 15.2.2.116 ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 8.065543937e5
```

Definition at line 348 of file pycodata.py.

#### 15.2.2.117 ELECTRON_VOLT_JOULE_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_JOULE_RELATIONSHIP = 1.602176634e-19
```

Definition at line 351 of file pycodata.py.

#### 15.2.2.118 ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_KELVIN_RELATIONSHIP = 1.160451812e4
```

Definition at line 354 of file pycodata.py.

#### 15.2.2.119 ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
float pycodata.ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 1.782661921e-36
```

Definition at line 357 of file pycodata.py.

#### 15.2.2.120 ELEMENTARY_CHARGE

```
float pycodata.ELEMENTARY_CHARGE = 1.602176634e-19
```

Definition at line 360 of file pycodata.py.

#### 15.2.2.121 ELEMENTARY_CHARGE_OVER_H_BAR

```
float pycodata.ELEMENTARY_CHARGE_OVER_H_BAR = 1.519267447e15
```

Definition at line 363 of file pycodata.py.

#### 15.2.2.122 FARADAY_CONSTANT

```
float pycodata.FARADAY_CONSTANT = 96485.33212e0
```

Definition at line 366 of file pycodata.py.

#### 15.2.2.123 FERMI_COUPLING_CONSTANT

```
float pycodata.FERMI_COUPLING_CONSTANT = 1.1663787e-5
```

Definition at line 369 of file pycodata.py.

#### 15.2.2.124 FINE_STRUCTURE_CONSTANT

```
float pycodata.FINE_STRUCTURE_CONSTANT = 7.2973525693e-3
```

Definition at line 372 of file pycodata.py.

#### 15.2.2.125 FIRST_RADIATION_CONSTANT

```
float pycodata.FIRST_RADIATION_CONSTANT = 3.741771852e-16
```

Definition at line 375 of file pycodata.py.

#### 15.2.2.126 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.

#### 15.2.2.127 HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP = 2.92126232205e-8
```

Definition at line 381 of file pycodata.py.

#### 15.2.2.128 HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.HARTREE_ELECTRON_VOLT_RELATIONSHIP = 27.211386245988e0
```

Definition at line 384 of file pycodata.py.

#### 15.2.2.129 HARTREE_ENERGY

```
float pycodata.HARTREE_ENERGY = 4.3597447222071e-18
```

Definition at line 387 of file pycodata.py.

#### 15.2.2.130 HARTREE_ENERGY_IN_EV

```
float pycodata.HARTREE_ENERGY_IN_EV = 27.211386245988e0
```

Definition at line 390 of file pycodata.py.

#### 15.2.2.131 HARTREE_HERTZ_RELATIONSHIP

```
float pycodata.HARTREE_HERTZ_RELATIONSHIP = 6.579683920502e15
```

Definition at line 393 of file pycodata.py.

#### 15.2.2.132 HARTREE_INVERSE_METER_RELATIONSHIP

```
float pycodata.HARTREE_INVERSE_METER_RELATIONSHIP = 2.1947463136320e7
```

Definition at line 396 of file pycodata.py.

#### 15.2.2.133 HARTREE_JOULE_RELATIONSHIP

```
float pycodata.HARTREE_JOULE_RELATIONSHIP = 4.3597447222071e-18
```

Definition at line 399 of file pycodata.py.

#### 15.2.2.134 HARTREE_KELVIN_RELATIONSHIP

```
float pycodata.HARTREE_KELVIN_RELATIONSHIP = 3.1577502480407e5
```

Definition at line 402 of file pycodata.py.

#### 15.2.2.135 HARTREE_KILOGRAM_RELATIONSHIP

```
float pycodata.HARTREE_KILOGRAM_RELATIONSHIP = 4.8508702095432e-35
```

Definition at line 405 of file pycodata.py.

#### 15.2.2.136 HELION_ELECTRON_MASS_RATIO

```
float pycodata.HELION_ELECTRON_MASS_RATIO = 5495.88528007e0
```

Definition at line 408 of file pycodata.py.

#### 15.2.2.137 HELION_G_FACTOR

```
float pycodata.HELION_G_FACTOR = -4.255250615e0
```

Definition at line 411 of file pycodata.py.

#### 15.2.2.138 HELION_MAG__MOM

```
float pycodata.HELION_MAG__MOM = -1.074617532e-26
```

Definition at line 414 of file pycodata.py.

#### 15.2.2.139 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.

#### 15.2.2.140 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.

#### 15.2.2.141 HELION_MASS

```
float pycodata.HELION_MASS = 5.0064127796e-27
```

Definition at line 423 of file pycodata.py.

#### 15.2.2.142 HELION_MASS_ENERGY_EQUIVALENT

```
float pycodata.HELION_MASS_ENERGY_EQUIVALENT = 4.4995394125e-10
```

Definition at line 426 of file pycodata.py.

#### 15.2.2.143 HELION_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.HELION_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.39160743e0
```

Definition at line 429 of file pycodata.py.

#### 15.2.2.144 HELION_MASS_IN_U

```
float pycodata.HELION_MASS_IN_U = 3.014932247175e0
```

Definition at line 432 of file pycodata.py.

#### 15.2.2.145 HELION_MOLAR_MASS

```
float pycodata.HELION_MOLAR_MASS = 3.01493224613e-3
```

Definition at line 435 of file pycodata.py.

#### 15.2.2.146 HELION_PROTON_MASS_RATIO

```
float pycodata.HELION_PROTON_MASS_RATIO = 2.99315267167e0
```

Definition at line 438 of file pycodata.py.

#### 15.2.2.147 HELION_RELATIVE_ATOMIC_MASS

```
float pycodata.HELION_RELATIVE_ATOMIC_MASS = 3.014932247175e0
```

Definition at line 441 of file pycodata.py.

#### 15.2.2.148 HELION_SHIELDING_SHIFT

```
float pycodata.HELION_SHIELDING_SHIFT = 5.996743e-5
```

Definition at line 444 of file pycodata.py.

#### 15.2.2.149 HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP = 4.4398216652e-24
```

Definition at line 447 of file pycodata.py.

#### 15.2.2.150 HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.HERTZ_ELECTRON_VOLT_RELATIONSHIP = 4.135667696e-15
```

Definition at line 450 of file pycodata.py.

#### 15.2.2.151 HERTZ_HARTREE_RELATIONSHIP

```
float pycodata.HERTZ_HARTREE_RELATIONSHIP = 1.5198298460570e-16
```

Definition at line 453 of file pycodata.py.

#### 15.2.2.152 HERTZ_INVERSE_METER_RELATIONSHIP

```
float pycodata.HERTZ_INVERSE_METER_RELATIONSHIP = 3.335640951e-9
```

Definition at line 456 of file pycodata.py.

#### 15.2.2.153 HERTZ_JOULE_RELATIONSHIP

```
float pycodata.HERTZ_JOULE_RELATIONSHIP = 6.62607015e-34
```

Definition at line 459 of file pycodata.py.

#### 15.2.2.154 HERTZ_KELVIN_RELATIONSHIP

```
float pycodata.HERTZ_KELVIN_RELATIONSHIP = 4.799243073e-11
```

Definition at line 462 of file pycodata.py.

#### 15.2.2.155 HERTZ_KILOGRAM_RELATIONSHIP

```
float pycodata.HERTZ_KILOGRAM_RELATIONSHIP = 7.372497323e-51
```

Definition at line 465 of file pycodata.py.

#### 15.2.2.156 HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133

```
float pycodata.HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133 = 9192631770.0e0
```

Definition at line 468 of file pycodata.py.

#### 15.2.2.157 INVERSE_FINE_STRUCTURE_CONSTANT

```
float pycodata.INVERSE_FINE_STRUCTURE_CONSTANT = 137.035999084e0
```

Definition at line 471 of file pycodata.py.

#### 15.2.2.158 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.

#### 15.2.2.159 INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 1.239841984e-6
```

Definition at line 477 of file pycodata.py.

#### 15.2.2.160 INVERSE_METER_HARTREE_RELATIONSHIP

```
float pycodata.INVERSE_METER_HARTREE_RELATIONSHIP = 4.5563352529120e-8
```

Definition at line 480 of file pycodata.py.

#### 15.2.2.161 INVERSE_METER_HERTZ_RELATIONSHIP

```
float pycodata.INVERSE_METER_HERTZ_RELATIONSHIP = 299792458.0e0
```

Definition at line 483 of file pycodata.py.

#### 15.2.2.162 INVERSE_METER_JOULE_RELATIONSHIP

```
float pycodata.INVERSE_METER_JOULE_RELATIONSHIP = 1.986445857e-25
```

Definition at line 486 of file pycodata.py.

#### 15.2.2.163 INVERSE_METER_KELVIN_RELATIONSHIP

```
float pycodata.INVERSE_METER_KELVIN_RELATIONSHIP = 1.438776877e-2
```

Definition at line 489 of file pycodata.py.

#### 15.2.2.164 INVERSE_METER_KILOGRAM_RELATIONSHIP

```
float pycodata.INVERSE_METER_KILOGRAM_RELATIONSHIP = 2.210219094e-42
```

Definition at line 492 of file pycodata.py.

#### 15.2.2.165 INVERSE_OF_CONDUCTANCE_QUANTUM

```
float pycodata.INVERSE_OF_CONDUCTANCE_QUANTUM = 12906.40372e0
```

Definition at line 495 of file pycodata.py.

#### 15.2.2.166 JOSEPHSON_CONSTANT

```
float pycodata.JOSEPHSON_CONSTANT = 483597.8484e9
```

Definition at line 498 of file pycodata.py.

#### 15.2.2.167 JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.7005352565e9
```

Definition at line 501 of file pycodata.py.

#### 15.2.2.168 JOULE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.JOULE_ELECTRON_VOLT_RELATIONSHIP = 6.241509074e18
```

Definition at line 504 of file pycodata.py.

#### 15.2.2.169 JOULE_HARTREE_RELATIONSHIP

```
float pycodata.JOULE_HARTREE_RELATIONSHIP = 2.2937122783963e17
```

Definition at line 507 of file pycodata.py.

#### 15.2.2.170 JOULE_HERTZ_RELATIONSHIP

```
float pycodata.JOULE_HERTZ_RELATIONSHIP = 1.509190179e33
```

Definition at line 510 of file pycodata.py.

#### 15.2.2.171 JOULE_INVERSE_METER_RELATIONSHIP

```
float pycodata.JOULE_INVERSE_METER_RELATIONSHIP = 5.034116567e24
```

Definition at line 513 of file pycodata.py.

#### 15.2.2.172 JOULE_KELVIN_RELATIONSHIP

```
float pycodata.JOULE_KELVIN_RELATIONSHIP = 7.242970516e22
```

Definition at line 516 of file pycodata.py.

#### 15.2.2.173 JOULE_KILOGRAM_RELATIONSHIP

```
float pycodata.JOULE_KILOGRAM_RELATIONSHIP = 1.112650056e-17
```

Definition at line 519 of file pycodata.py.

#### 15.2.2.174 KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP = 9.2510873014e-14
```

Definition at line 522 of file pycodata.py.

#### 15.2.2.175 KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.KELVIN_ELECTRON_VOLT_RELATIONSHIP = 8.617333262e-5
```

Definition at line 525 of file pycodata.py.

#### 15.2.2.176 KELVIN_HARTREE_RELATIONSHIP

```
float pycodata.KELVIN_HARTREE_RELATIONSHIP = 3.1668115634556e-6
```

Definition at line 528 of file pycodata.py.

#### 15.2.2.177 KELVIN_HERTZ_RELATIONSHIP

```
float pycodata.KELVIN_HERTZ_RELATIONSHIP = 2.083661912e10
```

Definition at line 531 of file pycodata.py.

#### 15.2.2.178 KELVIN_INVERSE_METER_RELATIONSHIP

```
float pycodata.KELVIN_INVERSE_METER_RELATIONSHIP = 69.50348004e0
```

Definition at line 534 of file pycodata.py.

#### 15.2.2.179 KELVIN_JOULE_RELATIONSHIP

```
float pycodata.KELVIN_JOULE_RELATIONSHIP = 1.380649e-23
```

Definition at line 537 of file pycodata.py.

#### 15.2.2.180 KELVIN_KILOGRAM_RELATIONSHIP

```
float pycodata.KELVIN_KILOGRAM_RELATIONSHIP = 1.536179187e-40
```

Definition at line 540 of file pycodata.py.

#### 15.2.2.181 KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 6.0221407621e26
```

Definition at line 543 of file pycodata.py.

#### 15.2.2.182 KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 5.609588603e35
```

Definition at line 546 of file pycodata.py.

#### 15.2.2.183 KILOGRAM_HARTREE_RELATIONSHIP

```
float pycodata.KILOGRAM_HARTREE_RELATIONSHIP = 2.0614857887409e34
```

Definition at line 549 of file pycodata.py.

#### 15.2.2.184 KILOGRAM_HERTZ_RELATIONSHIP

```
float pycodata.KILOGRAM_HERTZ_RELATIONSHIP = 1.356392489e50
```

Definition at line 552 of file pycodata.py.

#### 15.2.2.185 KILOGRAM_INVERSE_METER_RELATIONSHIP

```
float pycodata.KILOGRAM_INVERSE_METER_RELATIONSHIP = 4.524438335e41
```

Definition at line 555 of file pycodata.py.

#### 15.2.2.186 KILOGRAM_JOULE_RELATIONSHIP

```
float pycodata.KILOGRAM_JOULE_RELATIONSHIP = 8.987551787e16
```

Definition at line 558 of file pycodata.py.

#### 15.2.2.187 KILOGRAM_KELVIN_RELATIONSHIP

```
float pycodata.KILOGRAM_KELVIN_RELATIONSHIP = 6.509657260e39
```

Definition at line 561 of file pycodata.py.

#### 15.2.2.188 LATTICE_PARAMETER_OF_SILICON

```
float pycodata.LATTICE_PARAMETER_OF_SILICON = 5.431020511e-10
```

Definition at line 564 of file pycodata.py.

#### 15.2.2.189 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.

#### 15.2.2.190 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.

#### 15.2.2.191 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.

#### 15.2.2.192 LUMINOUS_EFFICACY

```
float pycodata.LUMINOUS_EFFICACY = 683.0e0
```

Definition at line 576 of file pycodata.py.

#### 15.2.2.193 MAG__FLUX_QUANTUM

```
float pycodata.MAG__FLUX_QUANTUM = 2.067833848e-15
```

Definition at line 579 of file pycodata.py.

#### 15.2.2.194 MOLAR_GAS_CONSTANT

```
float pycodata.MOLAR_GAS_CONSTANT = 8.314462618e0
```

Definition at line 582 of file pycodata.py.

#### 15.2.2.195 MOLAR_MASS_CONSTANT

```
float pycodata.MOLAR_MASS_CONSTANT = 0.99999999965e-3
```

Definition at line 585 of file pycodata.py.

#### 15.2.2.196 MOLAR_MASS_OF_CARBON_12

```
float pycodata.MOLAR_MASS_OF_CARBON_12 = 11.9999999958e-3
```

Definition at line 588 of file pycodata.py.

#### 15.2.2.197 MOLAR_PLANCK_CONSTANT

```
float pycodata.MOLAR_PLANCK_CONSTANT = 3.990312712e-10
```

Definition at line 591 of file pycodata.py.

#### 15.2.2.198 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.

#### 15.2.2.199 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.

#### 15.2.2.200 MOLAR_VOLUME_OF_SILICON

```
float pycodata.MOLAR_VOLUME_OF_SILICON = 1.205883199e-5
```

Definition at line 600 of file pycodata.py.

#### 15.2.2.201 MOLYBDENUM_X_UNIT

```
float pycodata.MOLYBDENUM_X_UNIT = 1.00209952e-13
```

Definition at line 603 of file pycodata.py.

#### 15.2.2.202 MUON_COMPTON_WAVELENGTH

```
float pycodata.MUON_COMPTON_WAVELENGTH = 1.173444110e-14
```

Definition at line 606 of file pycodata.py.

#### 15.2.2.203 MUON_ELECTRON_MASS_RATIO

```
float pycodata.MUON_ELECTRON_MASS_RATIO = 206.7682830e0
```

Definition at line 609 of file pycodata.py.

#### 15.2.2.204 MUON_G_FACTOR

```
float pycodata.MUON_G_FACTOR = -2.0023318418e0
```

Definition at line 612 of file pycodata.py.

#### 15.2.2.205 MUON_MAG__MOM

```
float pycodata.MUON_MAG__MOM = -4.49044830e-26
```

Definition at line 615 of file pycodata.py.

#### 15.2.2.206 MUON_MAG__MOM__ANOMALY

```
float pycodata.MUON_MAG__MOM__ANOMALY = 1.16592089e-3
```

Definition at line 618 of file pycodata.py.

#### 15.2.2.207 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.

#### 15.2.2.208 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.

#### 15.2.2.209 MUON_MASS

```
float pycodata.MUON_MASS = 1.883531627e-28
```

Definition at line 627 of file pycodata.py.

#### 15.2.2.210 MUON_MASS_ENERGY_EQUIVALENT

```
float pycodata.MUON_MASS_ENERGY_EQUIVALENT = 1.692833804e-11
```

Definition at line 630 of file pycodata.py.

#### 15.2.2.211 MUON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.MUON_MASS_ENERGY_EQUIVALENT_IN_MEV = 105.6583755e0
```

Definition at line 633 of file pycodata.py.

#### 15.2.2.212 MUON_MASS_IN_U

```
float pycodata.MUON_MASS_IN_U = 0.1134289259e0
```

Definition at line 636 of file pycodata.py.

#### 15.2.2.213 MUON_MOLAR_MASS

```
float pycodata.MUON_MOLAR_MASS = 1.134289259e-4
```

Definition at line 639 of file pycodata.py.

#### 15.2.2.214 MUON_NEUTRON_MASS_RATIO

```
float pycodata.MUON_NEUTRON_MASS_RATIO = 0.1124545170e0
```

Definition at line 642 of file pycodata.py.

#### 15.2.2.215 MUON_PROTON_MAG__MOM__RATIO

```
float pycodata.MUON_PROTON_MAG__MOM__RATIO = -3.183345142e0
```

Definition at line 645 of file pycodata.py.

#### 15.2.2.216 MUON_PROTON_MASS_RATIO

```
float pycodata.MUON_PROTON_MASS_RATIO = 0.1126095264e0
```

Definition at line 648 of file pycodata.py.

#### 15.2.2.217 MUON_TAU_MASS_RATIO

```
float pycodata.MUON_TAU_MASS_RATIO = 5.94635e-2
```

Definition at line 651 of file pycodata.py.

#### 15.2.2.218 NATURAL_UNIT_OF_ACTION

```
float pycodata.NATURAL_UNIT_OF_ACTION = 1.054571817e-34
```

Definition at line 654 of file pycodata.py.

#### 15.2.2.219 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.

#### 15.2.2.220 NATURAL_UNIT_OF_ENERGY

```
float pycodata.NATURAL_UNIT_OF_ENERGY = 8.1871057769e-14
```

Definition at line 660 of file pycodata.py.

#### 15.2.2.221 NATURAL_UNIT_OF_ENERGY_IN_MEV

```
float pycodata.NATURAL_UNIT_OF_ENERGY_IN_MEV = 0.51099895000e0
```

Definition at line 663 of file pycodata.py.

#### 15.2.2.222 NATURAL_UNIT_OF_LENGTH

```
float pycodata.NATURAL_UNIT_OF_LENGTH = 3.8615926796e-13
```

Definition at line 666 of file pycodata.py.

#### 15.2.2.223 NATURAL_UNIT_OF_MASS

```
float pycodata.NATURAL_UNIT_OF_MASS = 9.1093837015e-31
```

Definition at line 669 of file pycodata.py.

#### 15.2.2.224 NATURAL_UNIT_OF_MOMENTUM

```
float pycodata.NATURAL_UNIT_OF_MOMENTUM = 2.73092453075e-22
```

Definition at line 672 of file pycodata.py.

#### 15.2.2.225 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.

#### 15.2.2.226 NATURAL_UNIT_OF_TIME

```
float pycodata.NATURAL_UNIT_OF_TIME = 1.28808866819e-21
```

Definition at line 678 of file pycodata.py.

#### 15.2.2.227 NATURAL_UNIT_OF_VELOCITY

```
float pycodata.NATURAL_UNIT_OF_VELOCITY = 299792458.0e0
```

Definition at line 681 of file pycodata.py.

#### 15.2.2.228 NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.NEUTRON_COMPTON_WAVELENGTH = 1.31959090581e-15
```

Definition at line 684 of file pycodata.py.

#### 15.2.2.229 NEUTRON_ELECTRON_MAG__MOM__RATIO

```
float pycodata.NEUTRON_ELECTRON_MAG__MOM__RATIO = 1.04066882e-3
```

Definition at line 687 of file pycodata.py.

#### 15.2.2.230 NEUTRON_ELECTRON_MASS_RATIO

```
float pycodata.NEUTRON_ELECTRON_MASS_RATIO = 1838.68366173e0
```

Definition at line 690 of file pycodata.py.

#### 15.2.2.231 NEUTRON_G_FACTOR

```
float pycodata.NEUTRON_G_FACTOR = -3.82608545e0
```

Definition at line 693 of file pycodata.py.

#### 15.2.2.232 NEUTRON_GYROMAG__RATIO

```
float pycodata.NEUTRON_GYROMAG__RATIO = 1.83247171e8
```

Definition at line 696 of file pycodata.py.

#### 15.2.2.233 NEUTRON_GYROMAG__RATIO_IN_MHZ_T

```
float pycodata.NEUTRON_GYROMAG__RATIO_IN_MHZ_T = 29.1646931e0
```

Definition at line 699 of file pycodata.py.

#### 15.2.2.234 NEUTRON_MAG__MOM

```
float pycodata.NEUTRON_MAG__MOM = -9.6623651e-27
```

Definition at line 702 of file pycodata.py.

#### 15.2.2.235 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.

#### 15.2.2.236 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.

#### 15.2.2.237 NEUTRON_MASS

```
float pycodata.NEUTRON_MASS = 1.67492749804e-27
```

Definition at line 711 of file pycodata.py.

#### 15.2.2.238 NEUTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT = 1.50534976287e-10
```

Definition at line 714 of file pycodata.py.

#### 15.2.2.239 NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV = 939.56542052e0
```

Definition at line 717 of file pycodata.py.

#### 15.2.2.240 NEUTRON_MASS_IN_U

```
float pycodata.NEUTRON_MASS_IN_U = 1.00866491595e0
```

Definition at line 720 of file pycodata.py.

#### 15.2.2.241 NEUTRON_MOLAR_MASS

```
float pycodata.NEUTRON_MOLAR_MASS = 1.00866491560e-3
```

Definition at line 723 of file pycodata.py.

#### 15.2.2.242 NEUTRON_MUON_MASS_RATIO

```
float pycodata.NEUTRON_MUON_MASS_RATIO = 8.89248406e0
```

Definition at line 726 of file pycodata.py.

#### 15.2.2.243 NEUTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.NEUTRON_PROTON_MAG__MOM__RATIO = -0.68497934e0
```

Definition at line 729 of file pycodata.py.

#### 15.2.2.244 NEUTRON_PROTON_MASS_DIFFERENCE

```
float pycodata.NEUTRON_PROTON_MASS_DIFFERENCE = 2.30557435e-30
```

Definition at line 732 of file pycodata.py.

#### 15.2.2.245 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.

#### 15.2.2.246 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.

#### 15.2.2.247 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.

#### 15.2.2.248 NEUTRON_PROTON_MASS_RATIO

```
float pycodata.NEUTRON_PROTON_MASS_RATIO = 1.00137841931e0
```

Definition at line 744 of file pycodata.py.

#### 15.2.2.249 NEUTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.NEUTRON_RELATIVE_ATOMIC_MASS = 1.00866491595e0
```

Definition at line 747 of file pycodata.py.

#### 15.2.2.250 NEUTRON_TAU_MASS_RATIO

```
float pycodata.NEUTRON_TAU_MASS_RATIO = 0.528779e0
```

Definition at line 750 of file pycodata.py.

#### 15.2.2.251 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.

#### 15.2.2.252 NEWTONIAN_CONSTANT_OF_GRAVITATION

```
float pycodata.NEWTONIAN_CONSTANT_OF_GRAVITATION = 6.67430e-11
```

Definition at line 756 of file pycodata.py.

#### 15.2.2.253 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.

#### 15.2.2.254 NUCLEAR_MAGNETON

```
float pycodata.NUCLEAR_MAGNETON = 5.0507837461e-27
```

Definition at line 762 of file pycodata.py.

#### 15.2.2.255 NUCLEAR_MAGNETON_IN_EV_T

```
float pycodata.NUCLEAR_MAGNETON_IN_EV_T = 3.15245125844e-8
```

Definition at line 765 of file pycodata.py.

#### 15.2.2.256 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.

#### 15.2.2.257 NUCLEAR_MAGNETON_IN_K_T

```
float pycodata.NUCLEAR_MAGNETON_IN_K_T = 3.6582677756e-4
```

Definition at line 771 of file pycodata.py.

#### 15.2.2.258 NUCLEAR_MAGNETON_IN_MHZ_T

```
float pycodata.NUCLEAR_MAGNETON_IN_MHZ_T = 7.6225932291e0
```

Definition at line 774 of file pycodata.py.

#### 15.2.2.259 PLANCK_CONSTANT

```
float pycodata.PLANCK_CONSTANT = 6.62607015e-34
```

Definition at line 777 of file pycodata.py.

#### 15.2.2.260 PLANCK_CONSTANT_IN_EV_HZ

```
float pycodata.PLANCK_CONSTANT_IN_EV_HZ = 4.135667696e-15
```

Definition at line 780 of file pycodata.py.

#### 15.2.2.261 PLANCK_LENGTH

```
float pycodata.PLANCK_LENGTH = 1.616255e-35
```

Definition at line 783 of file pycodata.py.

#### 15.2.2.262 PLANCK_MASS

```
float pycodata.PLANCK_MASS = 2.176434e-8
```

Definition at line 786 of file pycodata.py.

#### 15.2.2.263 PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV

```
float pycodata.PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV = 1.220890e19
```

Definition at line 789 of file pycodata.py.

#### 15.2.2.264 PLANCK_TEMPERATURE

```
float pycodata.PLANCK_TEMPERATURE = 1.416784e32
```

Definition at line 792 of file pycodata.py.

#### 15.2.2.265 PLANCK_TIME

```
float pycodata.PLANCK_TIME = 5.391247e-44
```

Definition at line 795 of file pycodata.py.

#### 15.2.2.266 PROTON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.PROTON_CHARGE_TO_MASS_QUOTIENT = 9.5788331560e7
```

Definition at line 798 of file pycodata.py.

#### 15.2.2.267 PROTON_COMPTON_WAVELENGTH

`float pycodata.PROTON_COMPTON_WAVELENGTH = 1.32140985539e-15`

Definition at line 801 of file pycodata.py.

#### 15.2.2.268 PROTON_ELECTRON_MASS_RATIO

`float pycodata.PROTON_ELECTRON_MASS_RATIO = 1836.15267343e0`

Definition at line 804 of file pycodata.py.

#### 15.2.2.269 PROTON_G_FACTOR

`float pycodata.PROTON_G_FACTOR = 5.5856946893e0`

Definition at line 807 of file pycodata.py.

#### 15.2.2.270 PROTON_GYROMAG__RATIO

`float pycodata.PROTON_GYROMAG__RATIO = 2.6752218744e8`

Definition at line 810 of file pycodata.py.

#### 15.2.2.271 PROTON_GYROMAG__RATIO_IN_MHZ_T

`float pycodata.PROTON_GYROMAG__RATIO_IN_MHZ_T = 42.577478518e0`

Definition at line 813 of file pycodata.py.

#### 15.2.2.272 PROTON_MAG__MOM

`float pycodata.PROTON_MAG__MOM = 1.41060679736e-26`

Definition at line 816 of file pycodata.py.

#### 15.2.2.273 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.

#### 15.2.2.274 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.

#### 15.2.2.275 PROTON_MAG__SHIELDING_CORRECTION

```
float pycodata.PROTON_MAG__SHIELDING_CORRECTION = 2.5689e-5
```

Definition at line 825 of file pycodata.py.

#### 15.2.2.276 PROTON_MASS

```
float pycodata.PROTON_MASS = 1.67262192369e-27
```

Definition at line 828 of file pycodata.py.

#### 15.2.2.277 PROTON_MASS_ENERGY_EQUIVALENT

```
float pycodata.PROTON_MASS_ENERGY_EQUIVALENT = 1.50327761598e-10
```

Definition at line 831 of file pycodata.py.

#### 15.2.2.278 PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV = 938.27208816e0
```

Definition at line 834 of file pycodata.py.

#### 15.2.2.279 PROTON_MASS_IN_U

```
float pycodata.PROTON_MASS_IN_U = 1.007276466621e0
```

Definition at line 837 of file pycodata.py.

#### 15.2.2.280 PROTON_MOLAR_MASS

```
float pycodata.PROTON_MOLAR_MASS = 1.00727646627e-3
```

Definition at line 840 of file pycodata.py.

#### 15.2.2.281 PROTON_MUON_MASS_RATIO

```
float pycodata.PROTON_MUON_MASS_RATIO = 8.88024337e0
```

Definition at line 843 of file pycodata.py.

#### 15.2.2.282 PROTON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.PROTON_NEUTRON_MAG__MOM__RATIO = -1.45989805e0
```

Definition at line 846 of file pycodata.py.

#### 15.2.2.283 PROTON_NEUTRON_MASS_RATIO

```
float pycodata.PROTON_NEUTRON_MASS_RATIO = 0.99862347812e0
```

Definition at line 849 of file pycodata.py.

#### 15.2.2.284 PROTON_RELATIVE_ATOMIC_MASS

```
float pycodata.PROTON_RELATIVE_ATOMIC_MASS = 1.007276466621e0
```

Definition at line 852 of file pycodata.py.

#### 15.2.2.285 PROTON_RMS_CHARGE_RADIUS

```
float pycodata.PROTON_RMS_CHARGE_RADIUS = 8.414e-16
```

Definition at line 855 of file pycodata.py.

#### 15.2.2.286 PROTON_TAU_MASS_RATIO

```
float pycodata.PROTON_TAU_MASS_RATIO = 0.528051e0
```

Definition at line 858 of file pycodata.py.

#### 15.2.2.287 QUANTUM_OF_CIRCULATION

```
float pycodata.QUANTUM_OF_CIRCULATION = 3.6369475516e-4
```

Definition at line 861 of file pycodata.py.

#### 15.2.2.288 QUANTUM_OF_CIRCULATION_TIMES_2

```
float pycodata.QUANTUM_OF_CIRCULATION_TIMES_2 = 7.2738951032e-4
```

Definition at line 864 of file pycodata.py.

#### 15.2.2.289 REDUCED_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_COMPTON_WAVELENGTH = 3.8615926796e-13
```

Definition at line 867 of file pycodata.py.

#### 15.2.2.290 REDUCED_MUON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_MUON_COMPTON_WAVELENGTH = 1.867594306e-15
```

Definition at line 870 of file pycodata.py.

#### 15.2.2.291 REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_NEUTRON_COMPTON_WAVELENGTH = 2.1001941552e-16
```

Definition at line 873 of file pycodata.py.

#### 15.2.2.292 REDUCED_PLANCK_CONSTANT

```
float pycodata.REDUCED_PLANCK_CONSTANT = 1.054571817e-34
```

Definition at line 876 of file pycodata.py.

#### 15.2.2.293 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.

#### 15.2.2.294 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.

#### 15.2.2.295 REDUCED_PROTON_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_PROTON_COMPTON_WAVELENGTH = 2.10308910336e-16
```

Definition at line 885 of file pycodata.py.

#### 15.2.2.296 REDUCED_TAU_COMPTON_WAVELENGTH

```
float pycodata.REDUCED_TAU_COMPTON_WAVELENGTH = 1.110538e-16
```

Definition at line 888 of file pycodata.py.

#### 15.2.2.297 RYDBERG_CONSTANT

```
float pycodata.RYDBERG_CONSTANT = 10973731.568160e0
```

Definition at line 891 of file pycodata.py.

#### 15.2.2.298 RYDBERG_CONSTANT_TIMES_C_IN_HZ

```
float pycodata.RYDBERG_CONSTANT_TIMES_C_IN_HZ = 3.2898419602508e15
```

Definition at line 894 of file pycodata.py.

#### 15.2.2.299 RYDBERG_CONSTANT_TIMES_HC_IN_EV

```
float pycodata.RYDBERG_CONSTANT_TIMES_HC_IN_EV = 13.605693122994e0
```

Definition at line 897 of file pycodata.py.

#### 15.2.2.300 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.

#### 15.2.2.301 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.

#### 15.2.2.302 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.

#### 15.2.2.303 SECOND_RADIATION_CONSTANT

```
float pycodata.SECOND_RADIATION_CONSTANT = 1.438776877e-2
```

Definition at line 909 of file pycodata.py.

#### 15.2.2.304 SHIELDED_HELION_GYROMAG__RATIO

```
float pycodata.SHIELDED_HELION_GYROMAG__RATIO = 2.037894569e8
```

Definition at line 912 of file pycodata.py.

#### 15.2.2.305 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.

#### 15.2.2.306 SHIELDED_HELION_MAG__MOM

```
float pycodata.SHIELDED_HELION_MAG__MOM = -1.074553090e-26
```

Definition at line 918 of file pycodata.py.

#### 15.2.2.307 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.

#### 15.2.2.308 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.

#### 15.2.2.309 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.

#### 15.2.2.310 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.

#### 15.2.2.311 SHIELDED_PROTON_GYROMAG__RATIO

```
float pycodata.SHIELDED_PROTON_GYROMAG__RATIO = 2.675153151e8
```

Definition at line 933 of file pycodata.py.

#### 15.2.2.312 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.

#### 15.2.2.313 SHIELDED_PROTON_MAG__MOM

```
float pycodata.SHIELDED_PROTON_MAG__MOM = 1.410570560e-26
```

Definition at line 939 of file pycodata.py.

#### 15.2.2.314 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.

#### 15.2.2.315 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.

#### 15.2.2.316 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.

#### 15.2.2.317 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.

#### 15.2.2.318 SPEED_OF_LIGHT_IN_VACUUM

```
float pycodata.SPEED_OF_LIGHT_IN_VACUUM = 299792458.0e0
```

Definition at line 954 of file pycodata.py.

#### 15.2.2.319 STANDARD_ACCELERATION_OF_GRAVITY

```
float pycodata.STANDARD_ACCELERATION_OF_GRAVITY = 9.80665e0
```

Definition at line 957 of file pycodata.py.

#### 15.2.2.320 STANDARD_ATMOSPHERE

```
float pycodata.STANDARD_ATMOSPHERE = 101325.0e0
```

Definition at line 960 of file pycodata.py.

#### 15.2.2.321 STANDARD_STATE_PRESSURE

```
float pycodata.STANDARD_STATE_PRESSURE = 100000.0e0
```

Definition at line 963 of file pycodata.py.

#### 15.2.2.322 STEFAN_BOLTZMANN_CONSTANT

```
float pycodata.STEFAN_BOLTZMANN_CONSTANT = 5.670374419e-8
```

Definition at line 966 of file pycodata.py.

#### 15.2.2.323 TAU_COMPTON_WAVELENGTH

```
float pycodata.TAU_COMPTON_WAVELENGTH = 6.97771e-16
```

Definition at line 969 of file pycodata.py.

#### 15.2.2.324 TAU_ELECTRON_MASS_RATIO

```
float pycodata.TAU_ELECTRON_MASS_RATIO = 3477.23e0
```

Definition at line 972 of file pycodata.py.

#### 15.2.2.325 TAU_ENERGY_EQUIVALENT

```
float pycodata.TAU_ENERGY_EQUIVALENT = 1776.86e0
```

Definition at line 975 of file pycodata.py.

#### 15.2.2.326 TAU_MASS

```
float pycodata.TAU_MASS = 3.16754e-27
```

Definition at line 978 of file pycodata.py.

#### 15.2.2.327 TAU_MASS_ENERGY_EQUIVALENT

```
float pycodata.TAU_MASS_ENERGY_EQUIVALENT = 2.84684e-10
```

Definition at line 981 of file pycodata.py.

#### 15.2.2.328 TAU_MASS_IN_U

```
float pycodata.TAU_MASS_IN_U = 1.90754e0
```

Definition at line 984 of file pycodata.py.

#### 15.2.2.329 TAU_MOLAR_MASS

```
float pycodata.TAU_MOLAR_MASS = 1.90754e-3
```

Definition at line 987 of file pycodata.py.

#### 15.2.2.330 TAU_MUON_MASS_RATIO

```
float pycodata.TAU_MUON_MASS_RATIO = 16.8170e0
```

Definition at line 990 of file pycodata.py.

#### 15.2.2.331 TAU_NEUTRON_MASS_RATIO

```
float pycodata.TAU_NEUTRON_MASS_RATIO = 1.89115e0
```

Definition at line 993 of file pycodata.py.

#### 15.2.2.332 TAU_PROTON_MASS_RATIO

```
float pycodata.TAU_PROTON_MASS_RATIO = 1.89376e0
```

Definition at line 996 of file pycodata.py.

#### 15.2.2.333 THOMSON_CROSS_SECTION

```
float pycodata.THOMSON_CROSS_SECTION = 6.6524587321e-29
```

Definition at line 999 of file pycodata.py.

#### 15.2.2.334 TRITON_ELECTRON_MASS_RATIO

```
float pycodata.TRITON_ELECTRON_MASS_RATIO = 5496.92153573e0
```

Definition at line 1002 of file pycodata.py.

#### 15.2.2.335 TRITON_G_FACTOR

```
float pycodata.TRITON_G_FACTOR = 5.957924931e0
```

Definition at line 1005 of file pycodata.py.

#### 15.2.2.336 TRITON_MAG__MOM

```
float pycodata.TRITON_MAG__MOM = 1.5046095202e-26
```

Definition at line 1008 of file pycodata.py.

#### 15.2.2.337 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.

#### 15.2.2.338 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.

#### 15.2.2.339 TRITON_MASS

```
float pycodata.TRITON_MASS = 5.0073567446e-27
```

Definition at line 1017 of file pycodata.py.

#### 15.2.2.340 TRITON_MASS_ENERGY_EQUIVALENT

```
float pycodata.TRITON_MASS_ENERGY_EQUIVALENT = 4.5003878060e-10
```

Definition at line 1020 of file pycodata.py.

#### 15.2.2.341 TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV

```
float pycodata.TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV = 2808.92113298e0
```

Definition at line 1023 of file pycodata.py.

#### 15.2.2.342 TRITON_MASS_IN_U

```
float pycodata.TRITON_MASS_IN_U = 3.01550071621e0
```

Definition at line 1026 of file pycodata.py.

#### 15.2.2.343 TRITON_MOLAR_MASS

```
float pycodata.TRITON_MOLAR_MASS = 3.01550071517e-3
```

Definition at line 1029 of file pycodata.py.

#### 15.2.2.344 TRITON_PROTON_MASS_RATIO

```
float pycodata.TRITON_PROTON_MASS_RATIO = 2.99371703414e0
```

Definition at line 1032 of file pycodata.py.

#### 15.2.2.345 TRITON_RELATIVE_ATOMIC_MASS

```
float pycodata.TRITON_RELATIVE_ATOMIC_MASS = 3.01550071621e0
```

Definition at line 1035 of file pycodata.py.

#### 15.2.2.346 TRITON_TO_PROTON_MAG__MOM__RATIO

```
float pycodata.TRITON_TO_PROTON_MAG__MOM__RATIO = 1.0666399191e0
```

Definition at line 1038 of file pycodata.py.

#### 15.2.2.347 U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
float pycodata.U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO = 0.00000024e0
```

Definition at line 4 of file pycodata.py.

#### 15.2.2.348 U_ALPHA_PARTICLE_MASS

```
float pycodata.U_ALPHA_PARTICLE_MASS = 0.0000000020e-27
```

Definition at line 7 of file pycodata.py.

#### 15.2.2.349 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.

#### 15.2.2.350 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.

#### 15.2.2.351 U_ALPHA_PARTICLE_MASS_IN_U

```
float pycodata.U_ALPHA_PARTICLE_MASS_IN_U = 0.000000000063e0
```

Definition at line 16 of file pycodata.py.

#### 15.2.2.352 U_ALPHA_PARTICLE_MOLAR_MASS

```
float pycodata.U_ALPHA_PARTICLE_MOLAR_MASS = 0.0000000012e-3
```

Definition at line 19 of file pycodata.py.

#### 15.2.2.353 U_ALPHA_PARTICLE_PROTON_MASS_RATIO

```
float pycodata.U_ALPHA_PARTICLE_PROTON_MASS_RATIO = 0.00000000022e0
```

Definition at line 22 of file pycodata.py.

#### 15.2.2.354 U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
float pycodata.U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS = 0.000000000063e0
```

Definition at line 25 of file pycodata.py.

#### 15.2.2.355 U_ANGSTROM_STAR

```
float pycodata.U_ANGSTROM_STAR = 0.00000090e-10
```

Definition at line 28 of file pycodata.py.

#### 15.2.2.356 U_ATOMIC_MASS_CONSTANT

```
float pycodata.U_ATOMIC_MASS_CONSTANT = 0.00000000050e-27
```

Definition at line 31 of file pycodata.py.

#### 15.2.2.357 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.

#### 15.2.2.358 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.

#### 15.2.2.359 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.

#### 15.2.2.360 U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP = 0.0000000010e7
```

Definition at line 43 of file pycodata.py.

#### 15.2.2.361 U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP = 0.00000000068e23
```

Definition at line 46 of file pycodata.py.

#### 15.2.2.362 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.

#### 15.2.2.363 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.

#### 15.2.2.364 U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
float pycodata.U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP = 0.00000000033e13
```

Definition at line 55 of file pycodata.py.

#### 15.2.2.365 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.

#### 15.2.2.366 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.

#### 15.2.2.367 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.

#### 15.2.2.368 U_ATOMIC_UNIT_OF_ACTION

```
float pycodata.U_ATOMIC_UNIT_OF_ACTION = 0.0e0
```

Definition at line 67 of file pycodata.py.

#### 15.2.2.369 U_ATOMIC_UNIT_OF_CHARGE

```
float pycodata.U_ATOMIC_UNIT_OF_CHARGE = 0.0e0
```

Definition at line 70 of file pycodata.py.

#### 15.2.2.370 U_ATOMIC_UNIT_OF_CHARGE_DENSITY

```
float pycodata.U_ATOMIC_UNIT_OF_CHARGE_DENSITY = 0.00000000049e12
```

Definition at line 73 of file pycodata.py.

#### 15.2.2.371 U_ATOMIC_UNIT_OF_CURRENT

```
float pycodata.U_ATOMIC_UNIT_OF_CURRENT = 0.000000000013e-3
```

Definition at line 76 of file pycodata.py.

#### 15.2.2.372 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.

#### 15.2.2.373 U_ATOMIC_UNIT_OF_ELECTRIC_FIELD

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_FIELD = 0.00000000078e11
```

Definition at line 82 of file pycodata.py.

#### 15.2.2.374 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.

#### 15.2.2.375 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.

#### 15.2.2.376 U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
float pycodata.U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL = 0.000000000053e0
```

Definition at line 91 of file pycodata.py.

#### 15.2.2.377 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.

#### 15.2.2.378 U_ATOMIC_UNIT_OF_ENERGY

```
float pycodata.U_ATOMIC_UNIT_OF_ENERGY = 0.0000000000085e-18
```

Definition at line 97 of file pycodata.py.

#### 15.2.2.379 U_ATOMIC_UNIT_OF_FORCE

```
float pycodata.U_ATOMIC_UNIT_OF_FORCE = 0.0000000012e-8
```

Definition at line 100 of file pycodata.py.

#### 15.2.2.380 U_ATOMIC_UNIT_OF_LENGTH

```
float pycodata.U_ATOMIC_UNIT_OF_LENGTH = 0.00000000080e-11
```

Definition at line 103 of file pycodata.py.

#### 15.2.2.381 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.

#### 15.2.2.382 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.

#### 15.2.2.383 U_ATOMIC_UNIT_OF_MAGNETIZABILITY

```
float pycodata.U_ATOMIC_UNIT_OF_MAGNETIZABILITY = 0.0000000048e-29
```

Definition at line 112 of file pycodata.py.

#### 15.2.2.384 U_ATOMIC_UNIT_OF_MASS

```
float pycodata.U_ATOMIC_UNIT_OF_MASS = 0.0000000028e-31
```

Definition at line 115 of file pycodata.py.

#### 15.2.2.385 U_ATOMIC_UNIT_OF_MOMENTUM

```
float pycodata.U_ATOMIC_UNIT_OF_MOMENTUM = 0.00000000030e-24
```

Definition at line 118 of file pycodata.py.

#### 15.2.2.386 U_ATOMIC_UNIT_OF_PERMITTIVITY

```
float pycodata.U_ATOMIC_UNIT_OF_PERMITTIVITY = 0.00000000017e-10
```

Definition at line 121 of file pycodata.py.

#### 15.2.2.387 U_ATOMIC_UNIT_OF_TIME

```
float pycodata.U_ATOMIC_UNIT_OF_TIME = 0.0000000000047e-17
```

Definition at line 124 of file pycodata.py.

#### 15.2.2.388 U_ATOMIC_UNIT_OF_VELOCITY

```
float pycodata.U_ATOMIC_UNIT_OF_VELOCITY = 0.00000000033e6
```

Definition at line 127 of file pycodata.py.

#### 15.2.2.389 U_AVOGADRO_CONSTANT

```
float pycodata.U_AVOGADRO_CONSTANT = 0.0e0
```

Definition at line 130 of file pycodata.py.

#### 15.2.2.390 U_BOHR_MAGNETON

```
float pycodata.U_BOHR_MAGNETON = 0.0000000028e-24
```

Definition at line 133 of file pycodata.py.

#### 15.2.2.391 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.

#### 15.2.2.392 U_BOHR_MAGNETON_IN_HZ_T

```
float pycodata.U_BOHR_MAGNETON_IN_HZ_T = 0.00000000042e10
```

Definition at line 139 of file pycodata.py.

#### 15.2.2.393 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.

#### 15.2.2.394 U_BOHR_MAGNETON_IN_K_T

```
float pycodata.U_BOHR_MAGNETON_IN_K_T = 0.00000000020e0
```

Definition at line 145 of file pycodata.py.

#### 15.2.2.395 U_BOHR_RADIUS

```
float pycodata.U_BOHR_RADIUS = 0.00000000080e-11
```

Definition at line 148 of file pycodata.py.

#### 15.2.2.396 U_BOLTZMANN_CONSTANT

```
float pycodata.U_BOLTZMANN_CONSTANT = 0.0e0
```

Definition at line 151 of file pycodata.py.

#### 15.2.2.397 U_BOLTZMANN_CONSTANT_IN_EV_K

```
float pycodata.U_BOLTZMANN_CONSTANT_IN_EV_K = 0.0e0
```

Definition at line 154 of file pycodata.py.

#### 15.2.2.398 U_BOLTZMANN_CONSTANT_IN_HZ_K

```
float pycodata.U_BOLTZMANN_CONSTANT_IN_HZ_K = 0.0e0
```

Definition at line 157 of file pycodata.py.

#### 15.2.2.399 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.

#### 15.2.2.400 U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
float pycodata.U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM = 0.000000057e0
```

Definition at line 163 of file pycodata.py.

#### 15.2.2.401 U_CLASSICAL_ELECTRON_RADIUS

```
float pycodata.U_CLASSICAL_ELECTRON_RADIUS = 0.0000000013e-15
```

Definition at line 166 of file pycodata.py.

#### 15.2.2.402 U_COMPTON_WAVELENGTH

```
float pycodata.U_COMPTON_WAVELENGTH = 0.00000000073e-12
```

Definition at line 169 of file pycodata.py.

#### 15.2.2.403 U_CONDUCTANCE_QUANTUM

```
float pycodata.U_CONDUCTANCE_QUANTUM = 0.0e0
```

Definition at line 172 of file pycodata.py.

#### 15.2.2.404 U_CONVENTIONAL_VALUE_OF_AMPERE_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_AMPERE_90 = 0.0e0
```

Definition at line 175 of file pycodata.py.

#### 15.2.2.405 U_CONVENTIONAL_VALUE_OF_COULOMB_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_COULOMB_90 = 0.0e0
```

Definition at line 178 of file pycodata.py.

#### 15.2.2.406 U_CONVENTIONAL_VALUE_OF_FARAD_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_FARAD_90 = 0.0e0
```

Definition at line 181 of file pycodata.py.

#### 15.2.2.407 U_CONVENTIONAL_VALUE_OF_HENRY_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_HENRY_90 = 0.0e0
```

Definition at line 184 of file pycodata.py.

#### 15.2.2.408 U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT

```
float pycodata.U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT = 0.0e0
```

Definition at line 187 of file pycodata.py.

#### 15.2.2.409 U_CONVENTIONAL_VALUE_OF_OHM_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_OHM_90 = 0.0e0
```

Definition at line 190 of file pycodata.py.

#### 15.2.2.410 U_CONVENTIONAL_VALUE_OF_VOLT_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_VOLT_90 = 0.0e0
```

Definition at line 193 of file pycodata.py.

#### 15.2.2.411 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.

#### 15.2.2.412 U_CONVENTIONAL_VALUE_OF_WATT_90

```
float pycodata.U_CONVENTIONAL_VALUE_OF_WATT_90 = 0.0e0
```

Definition at line 199 of file pycodata.py.

#### 15.2.2.413 U_COPPER_X_UNIT

```
float pycodata.U_COPPER_X_UNIT = 0.00000028e-13
```

Definition at line 202 of file pycodata.py.

#### 15.2.2.414 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.

#### 15.2.2.415 U_DEUTERON_ELECTRON_MASS_RATIO

```
float pycodata.U_DEUTERON_ELECTRON_MASS_RATIO = 0.00000013e0
```

Definition at line 208 of file pycodata.py.

#### 15.2.2.416 U_DEUTERON_G_FACTOR

```
float pycodata.U_DEUTERON_G_FACTOR = 0.0000000022e0
```

Definition at line 211 of file pycodata.py.

#### 15.2.2.417 U_DEUTERON_MAG__MOM

```
float pycodata.U_DEUTERON_MAG__MOM = 0.000000011e-27
```

Definition at line 214 of file pycodata.py.

#### 15.2.2.418 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.

#### 15.2.2.419 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.

#### 15.2.2.420 U_DEUTERON_MASS

```
float pycodata.U_DEUTERON_MASS = 0.0000000010e-27
```

Definition at line 223 of file pycodata.py.

#### 15.2.2.421 U_DEUTERON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_DEUTERON_MASS_ENERGY_EQUIVALENT = 0.00000000091e-10
```

Definition at line 226 of file pycodata.py.

#### 15.2.2.422 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.

#### 15.2.2.423 U_DEUTERON_MASS_IN_U

```
float pycodata.U_DEUTERON_MASS_IN_U = 0.000000000040e0
```

Definition at line 232 of file pycodata.py.

#### 15.2.2.424 U_DEUTERON_MOLAR_MASS

```
float pycodata.U_DEUTERON_MOLAR_MASS = 0.00000000061e-3
```

Definition at line 235 of file pycodata.py.

#### 15.2.2.425 U_DEUTERON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_DEUTERON_NEUTRON_MAG__MOM__RATIO = 0.00000011e0
```

Definition at line 238 of file pycodata.py.

#### 15.2.2.426 U_DEUTERON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_DEUTERON_PROTON_MAG__MOM__RATIO = 0.0000000079e0
```

Definition at line 241 of file pycodata.py.

#### 15.2.2.427 U_DEUTERON_PROTON_MASS_RATIO

```
float pycodata.U_DEUTERON_PROTON_MASS_RATIO = 0.00000000011e0
```

Definition at line 244 of file pycodata.py.

#### 15.2.2.428 U_DEUTERON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_DEUTERON_RELATIVE_ATOMIC_MASS = 0.000000000040e0
```

Definition at line 247 of file pycodata.py.

#### 15.2.2.429 U_DEUTERON_RMS_CHARGE_RADIUS

```
float pycodata.U_DEUTERON_RMS_CHARGE_RADIUS = 0.00074e-15
```

Definition at line 250 of file pycodata.py.

#### 15.2.2.430 U_ELECTRON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.U_ELECTRON_CHARGE_TO_MASS_QUOTIENT = 0.00000000053e11
```

Definition at line 253 of file pycodata.py.

#### 15.2.2.431 U_ELECTRON_DEUTERON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_DEUTERON_MAG__MOM__RATIO = 0.0000056e0
```

Definition at line 256 of file pycodata.py.

#### 15.2.2.432 U_ELECTRON_DEUTERON_MASS_RATIO

```
float pycodata.U_ELECTRON_DEUTERON_MASS_RATIO = 0.000000000096e-4
```

Definition at line 259 of file pycodata.py.

#### 15.2.2.433 U_ELECTRON_G_FACTOR

```
float pycodata.U_ELECTRON_G_FACTOR = 0.00000000000035e0
```

Definition at line 262 of file pycodata.py.

#### 15.2.2.434 U_ELECTRON_GYROMAG__RATIO

```
float pycodata.U_ELECTRON_GYROMAG__RATIO = 0.00000000053e11
```

Definition at line 265 of file pycodata.py.

#### 15.2.2.435 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.

#### 15.2.2.436 U_ELECTRON_HELION_MASS_RATIO

```
float pycodata.U_ELECTRON_HELION_MASS_RATIO = 0.000000000079e-4
```

Definition at line 271 of file pycodata.py.

#### 15.2.2.437 U_ELECTRON_MAG__MOM

```
float pycodata.U_ELECTRON_MAG__MOM = 0.0000000028e-24
```

Definition at line 274 of file pycodata.py.

#### 15.2.2.438 U_ELECTRON_MAG__MOM__ANOMALY

```
float pycodata.U_ELECTRON_MAG__MOM__ANOMALY = 0.00000000018e-3
```

Definition at line 277 of file pycodata.py.

#### 15.2.2.439 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.

#### 15.2.2.440 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.

#### 15.2.2.441 U_ELECTRON_MASS

```
float pycodata.U_ELECTRON_MASS = 0.0000000028e-31
```

Definition at line 286 of file pycodata.py.

#### 15.2.2.442 U_ELECTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_ELECTRON_MASS_ENERGY_EQUIVALENT = 0.0000000025e-14
```

Definition at line 289 of file pycodata.py.

#### 15.2.2.443 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.

#### 15.2.2.444 U_ELECTRON_MASS_IN_U

```
float pycodata.U_ELECTRON_MASS_IN_U = 0.00000000016e-4
```

Definition at line 295 of file pycodata.py.

#### 15.2.2.445 U_ELECTRON_MOLAR_MASS

```
float pycodata.U_ELECTRON_MOLAR_MASS = 0.0000000017e-7
```

Definition at line 298 of file pycodata.py.

#### 15.2.2.446 U_ELECTRON_MUON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_MUON_MAG__MOM__RATIO = 0.0000046e0
```

Definition at line 301 of file pycodata.py.

#### 15.2.2.447 U_ELECTRON_MUON_MASS_RATIO

```
float pycodata.U_ELECTRON_MUON_MASS_RATIO = 0.00000011e-3
```

Definition at line 304 of file pycodata.py.

#### 15.2.2.448 U_ELECTRON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_NEUTRON_MAG__MOM__RATIO = 0.00023e0
```

Definition at line 307 of file pycodata.py.

#### 15.2.2.449 U_ELECTRON_NEUTRON_MASS_RATIO

```
float pycodata.U_ELECTRON_NEUTRON_MASS_RATIO = 0.0000000026e-4
```

Definition at line 310 of file pycodata.py.

#### 15.2.2.450 U_ELECTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_ELECTRON_PROTON_MAG__MOM__RATIO = 0.00000020e0
```

Definition at line 313 of file pycodata.py.

#### 15.2.2.451 U_ELECTRON_PROTON_MASS_RATIO

```
float pycodata.U_ELECTRON_PROTON_MASS_RATIO = 0.00000000033e-4
```

Definition at line 316 of file pycodata.py.

#### 15.2.2.452 U_ELECTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_ELECTRON_RELATIVE_ATOMIC_MASS = 0.00000000016e-4
```

Definition at line 319 of file pycodata.py.

#### 15.2.2.453 U_ELECTRON_TAU_MASS_RATIO

```
float pycodata.U_ELECTRON_TAU_MASS_RATIO = 0.00019e-4
```

Definition at line 322 of file pycodata.py.

#### 15.2.2.454 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.

#### 15.2.2.455 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.

#### 15.2.2.456 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.

#### 15.2.2.457 U_ELECTRON_TRITON_MASS_RATIO

```
float pycodata.U_ELECTRON_TRITON_MASS_RATIO = 0.000000000090e-4
```

Definition at line 334 of file pycodata.py.

#### 15.2.2.458 U_ELECTRON_VOLT

```
float pycodata.U_ELECTRON_VOLT = 0.0e0
```

Definition at line 337 of file pycodata.py.

#### 15.2.2.459 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.

#### 15.2.2.460 U_ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_HARTREE_RELATIONSHIP = 0.0000000000071e-2
```

Definition at line 343 of file pycodata.py.

#### 15.2.2.461 U_ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 346 of file pycodata.py.

#### 15.2.2.462 U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 349 of file pycodata.py.

#### 15.2.2.463 U_ELECTRON_VOLT_JOULE_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 352 of file pycodata.py.

#### 15.2.2.464 U_ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 355 of file pycodata.py.

#### 15.2.2.465 U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
float pycodata.U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 358 of file pycodata.py.

#### 15.2.2.466 U_ELEMENTARY_CHARGE

```
float pycodata.U_ELEMENTARY_CHARGE = 0.0e0
```

Definition at line 361 of file pycodata.py.

#### 15.2.2.467 U_ELEMENTARY_CHARGE_OVER_H_BAR

```
float pycodata.U_ELEMENTARY_CHARGE_OVER_H_BAR = 0.0e0
```

Definition at line 364 of file pycodata.py.

#### 15.2.2.468 U_FARADAY_CONSTANT

```
float pycodata.U_FARADAY_CONSTANT = 0.0e0
```

Definition at line 367 of file pycodata.py.

#### 15.2.2.469 U_FERMI_COUPLING_CONSTANT

```
float pycodata.U_FERMI_COUPLING_CONSTANT = 0.0000006e-5
```

Definition at line 370 of file pycodata.py.

#### 15.2.2.470 U_FINE_STRUCTURE_CONSTANT

```
float pycodata.U_FINE_STRUCTURE_CONSTANT = 0.0000000011e-3
```

Definition at line 373 of file pycodata.py.

#### 15.2.2.471 U_FIRST_RADIATION_CONSTANT

```
float pycodata.U_FIRST_RADIATION_CONSTANT = 0.0e0
```

Definition at line 376 of file pycodata.py.

#### 15.2.2.472 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.

#### 15.2.2.473 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.

#### 15.2.2.474 U_HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_HARTREE_ELECTRON_VOLT_RELATIONSHIP = 0.000000000053e0
```

Definition at line 385 of file pycodata.py.

#### 15.2.2.475 U_HARTREE_ENERGY

```
float pycodata.U_HARTREE_ENERGY = 0.0000000000085e-18
```

Definition at line 388 of file pycodata.py.

#### 15.2.2.476 U_HARTREE_ENERGY_IN_EV

```
float pycodata.U_HARTREE_ENERGY_IN_EV = 0.000000000053e0
```

Definition at line 391 of file pycodata.py.

#### 15.2.2.477 U_HARTREE_HERTZ_RELATIONSHIP

```
float pycodata.U_HARTREE_HERTZ_RELATIONSHIP = 0.000000000013e15
```

Definition at line 394 of file pycodata.py.

#### 15.2.2.478 U_HARTREE_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_HARTREE_INVERSE_METER_RELATIONSHIP = 0.0000000000043e7
```

Definition at line 397 of file pycodata.py.

#### 15.2.2.479 U_HARTREE_JOULE_RELATIONSHIP

```
float pycodata.U_HARTREE_JOULE_RELATIONSHIP = 0.0000000000085e-18
```

Definition at line 400 of file pycodata.py.

#### 15.2.2.480 U_HARTREE_KELVIN_RELATIONSHIP

```
float pycodata.U_HARTREE_KELVIN_RELATIONSHIP = 0.0000000000061e5
```

Definition at line 403 of file pycodata.py.

#### 15.2.2.481 U_HARTREE_KILOGRAM_RELATIONSHIP

```
float pycodata.U_HARTREE_KILOGRAM_RELATIONSHIP = 0.0000000000094e-35
```

Definition at line 406 of file pycodata.py.

#### 15.2.2.482 U_HELION_ELECTRON_MASS_RATIO

```
float pycodata.U_HELION_ELECTRON_MASS_RATIO = 0.00000024e0
```

Definition at line 409 of file pycodata.py.

#### 15.2.2.483 U_HELION_G_FACTOR

```
float pycodata.U_HELION_G_FACTOR = 0.000000050e0
```

Definition at line 412 of file pycodata.py.

#### 15.2.2.484 U_HELION_MAG__MOM

```
float pycodata.U_HELION_MAG__MOM = 0.000000013e-26
```

Definition at line 415 of file pycodata.py.

#### 15.2.2.485 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.

#### 15.2.2.486 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.

#### 15.2.2.487 U_HELION_MASS

```
float pycodata.U_HELION_MASS = 0.0000000015e-27
```

Definition at line 424 of file pycodata.py.

#### 15.2.2.488 U_HELION_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_HELION_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
```

Definition at line 427 of file pycodata.py.

#### 15.2.2.489 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.

#### 15.2.2.490 U_HELION_MASS_IN_U

```
float pycodata.U_HELION_MASS_IN_U = 0.000000000097e0
```

Definition at line 433 of file pycodata.py.

#### 15.2.2.491 U_HELION_MOLAR_MASS

```
float pycodata.U_HELION_MOLAR_MASS = 0.00000000091e-3
```

Definition at line 436 of file pycodata.py.

#### 15.2.2.492 U_HELION_PROTON_MASS_RATIO

```
float pycodata.U_HELION_PROTON_MASS_RATIO = 0.00000000013e0
```

Definition at line 439 of file pycodata.py.

#### 15.2.2.493 U_HELION_RELATIVE_ATOMIC_MASS

```
float pycodata.U_HELION_RELATIVE_ATOMIC_MASS = 0.000000000097e0
```

Definition at line 442 of file pycodata.py.

#### 15.2.2.494 U_HELION_SHIELDING_SHIFT

```
float pycodata.U_HELION_SHIELDING_SHIFT = 0.000010e-5
```

Definition at line 445 of file pycodata.py.

#### 15.2.2.495 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.

#### 15.2.2.496 U_HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_HERTZ_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 451 of file pycodata.py.

#### 15.2.2.497 U_HERTZ_HARTREE_RELATIONSHIP

```
float pycodata.U_HERTZ_HARTREE_RELATIONSHIP = 0.0000000000029e-16
```

Definition at line 454 of file pycodata.py.

#### 15.2.2.498 U_HERTZ_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_HERTZ_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 457 of file pycodata.py.

#### 15.2.2.499 U_HERTZ_JOULE_RELATIONSHIP

```
float pycodata.U_HERTZ_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 460 of file pycodata.py.

#### 15.2.2.500 U_HERTZ_KELVIN_RELATIONSHIP

```
float pycodata.U_HERTZ_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 463 of file pycodata.py.

#### 15.2.2.501 U_HERTZ_KILOGRAM_RELATIONSHIP

```
float pycodata.U_HERTZ_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 466 of file pycodata.py.

#### 15.2.2.502 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.

#### 15.2.2.503 U_INVERSE_FINE_STRUCTURE_CONSTANT

```
float pycodata.U_INVERSE_FINE_STRUCTURE_CONSTANT = 0.000000021e0
```

Definition at line 472 of file pycodata.py.

#### 15.2.2.504 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.

#### 15.2.2.505 U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 478 of file pycodata.py.

#### 15.2.2.506 U_INVERSE_METER_HARTREE_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_HARTREE_RELATIONSHIP = 0.0000000000088e-8
```

Definition at line 481 of file pycodata.py.

#### 15.2.2.507 U_INVERSE_METER_HERTZ_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 484 of file pycodata.py.

#### 15.2.2.508 U_INVERSE_METER_JOULE_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 487 of file pycodata.py.

#### 15.2.2.509 U_INVERSE_METER_KELVIN_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 490 of file pycodata.py.

#### 15.2.2.510 U_INVERSE_METER_KILOGRAM_RELATIONSHIP

```
float pycodata.U_INVERSE_METER_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 493 of file pycodata.py.

#### 15.2.2.511 U_INVERSE_OF_CONDUCTANCE_QUANTUM

```
float pycodata.U_INVERSE_OF_CONDUCTANCE_QUANTUM = 0.0e0
```

Definition at line 496 of file pycodata.py.

#### 15.2.2.512 U_JOSEPHSON_CONSTANT

```
float pycodata.U_JOSEPHSON_CONSTANT = 0.0e0
```

Definition at line 499 of file pycodata.py.

#### 15.2.2.513 U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000020e9
```

Definition at line 502 of file pycodata.py.

#### 15.2.2.514 U_JOULE_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_JOULE_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 505 of file pycodata.py.

#### 15.2.2.515 U_JOULE_HARTREE_RELATIONSHIP

```
float pycodata.U_JOULE_HARTREE_RELATIONSHIP = 0.0000000000045e17
```

Definition at line 508 of file pycodata.py.

#### 15.2.2.516 U_JOULE_HERTZ_RELATIONSHIP

```
float pycodata.U_JOULE_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 511 of file pycodata.py.

#### 15.2.2.517 U_JOULE_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_JOULE_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 514 of file pycodata.py.

#### 15.2.2.518 U_JOULE_KELVIN_RELATIONSHIP

```
float pycodata.U_JOULE_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 517 of file pycodata.py.

#### 15.2.2.519 U_JOULE_KILOGRAM_RELATIONSHIP

```
float pycodata.U_JOULE_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 520 of file pycodata.py.

#### 15.2.2.520 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.

#### 15.2.2.521 U_KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_KELVIN_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 526 of file pycodata.py.

#### 15.2.2.522 U_KELVIN_HARTREE_RELATIONSHIP

```
float pycodata.U_KELVIN_HARTREE_RELATIONSHIP = 0.0000000000061e-6
```

Definition at line 529 of file pycodata.py.

#### 15.2.2.523 U_KELVIN_HERTZ_RELATIONSHIP

```
float pycodata.U_KELVIN_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 532 of file pycodata.py.

#### 15.2.2.524 U_KELVIN_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_KELVIN_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 535 of file pycodata.py.

#### 15.2.2.525 U_KELVIN_JOULE_RELATIONSHIP

```
float pycodata.U_KELVIN_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 538 of file pycodata.py.

#### 15.2.2.526 U_KELVIN_KILOGRAM_RELATIONSHIP

```
float pycodata.U_KELVIN_KILOGRAM_RELATIONSHIP = 0.0e0
```

Definition at line 541 of file pycodata.py.

#### 15.2.2.527 U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
float pycodata.U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP = 0.0000000018e26
```

Definition at line 544 of file pycodata.py.

#### 15.2.2.528 U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
float pycodata.U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP = 0.0e0
```

Definition at line 547 of file pycodata.py.

#### 15.2.2.529 U_KILOGRAM_HARTREE_RELATIONSHIP

```
float pycodata.U_KILOGRAM_HARTREE_RELATIONSHIP = 0.0000000000040e34
```

Definition at line 550 of file pycodata.py.

#### 15.2.2.530 U_KILOGRAM_HERTZ_RELATIONSHIP

```
float pycodata.U_KILOGRAM_HERTZ_RELATIONSHIP = 0.0e0
```

Definition at line 553 of file pycodata.py.

#### 15.2.2.531 U_KILOGRAM_INVERSE_METER_RELATIONSHIP

```
float pycodata.U_KILOGRAM_INVERSE_METER_RELATIONSHIP = 0.0e0
```

Definition at line 556 of file pycodata.py.

#### 15.2.2.532 U_KILOGRAM_JOULE_RELATIONSHIP

```
float pycodata.U_KILOGRAM_JOULE_RELATIONSHIP = 0.0e0
```

Definition at line 559 of file pycodata.py.

#### 15.2.2.533 U_KILOGRAM_KELVIN_RELATIONSHIP

```
float pycodata.U_KILOGRAM_KELVIN_RELATIONSHIP = 0.0e0
```

Definition at line 562 of file pycodata.py.

#### 15.2.2.534 U_LATTICE_PARAMETER_OF_SILICON

```
float pycodata.U_LATTICE_PARAMETER_OF_SILICON = 0.000000089e-10
```

Definition at line 565 of file pycodata.py.

#### 15.2.2.535 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.

#### 15.2.2.536 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.

#### 15.2.2.537 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.

#### 15.2.2.538 U_LUMINOUS_EFFICACY

```
float pycodata.U_LUMINOUS_EFFICACY = 0.0e0
```

Definition at line 577 of file pycodata.py.

#### 15.2.2.539 U_MAG__FLUX_QUANTUM

```
float pycodata.U_MAG__FLUX_QUANTUM = 0.0e0
```

Definition at line 580 of file pycodata.py.

#### 15.2.2.540 U_MOLAR_GAS_CONSTANT

```
float pycodata.U_MOLAR_GAS_CONSTANT = 0.0e0
```

Definition at line 583 of file pycodata.py.

#### 15.2.2.541 U_MOLAR_MASS_CONSTANT

```
float pycodata.U_MOLAR_MASS_CONSTANT = 0.00000000030e-3
```

Definition at line 586 of file pycodata.py.

#### 15.2.2.542 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.

#### 15.2.2.543 U_MOLAR_PLANCK_CONSTANT

```
float pycodata.U_MOLAR_PLANCK_CONSTANT = 0.0e0
```

Definition at line 592 of file pycodata.py.

#### 15.2.2.544 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.

#### 15.2.2.545 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.

#### 15.2.2.546 U_MOLAR_VOLUME_OF_SILICON

```
float pycodata.U_MOLAR_VOLUME_OF_SILICON = 0.000000060e-5
```

Definition at line 601 of file pycodata.py.

#### 15.2.2.547 U_MOLYBDENUM_X_UNIT

```
float pycodata.U_MOLYBDENUM_X_UNIT = 0.00000053e-13
```

Definition at line 604 of file pycodata.py.

#### 15.2.2.548 U_MUON_COMPTON_WAVELENGTH

```
float pycodata.U_MUON_COMPTON_WAVELENGTH = 0.000000026e-14
```

Definition at line 607 of file pycodata.py.

#### 15.2.2.549 U_MUON_ELECTRON_MASS_RATIO

```
float pycodata.U_MUON_ELECTRON_MASS_RATIO = 0.0000046e0
```

Definition at line 610 of file pycodata.py.

#### 15.2.2.550 U_MUON_G_FACTOR

```
float pycodata.U_MUON_G_FACTOR = 0.0000000013e0
```

Definition at line 613 of file pycodata.py.

#### 15.2.2.551 U_MUON_MAG__MOM

```
float pycodata.U_MUON_MAG__MOM = 0.00000010e-26
```

Definition at line 616 of file pycodata.py.

#### 15.2.2.552 U_MUON_MAG__MOM__ANOMALY

```
float pycodata.U_MUON_MAG__MOM__ANOMALY = 0.00000063e-3
```

Definition at line 619 of file pycodata.py.

#### 15.2.2.553 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.

#### 15.2.2.554 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.

#### 15.2.2.555 U_MUON_MASS

```
float pycodata.U_MUON_MASS = 0.000000042e-28
```

Definition at line 628 of file pycodata.py.

#### 15.2.2.556 U_MUON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_MUON_MASS_ENERGY_EQUIVALENT = 0.000000038e-11
```

Definition at line 631 of file pycodata.py.

#### 15.2.2.557 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.

#### 15.2.2.558 U_MUON_MASS_IN_U

```
float pycodata.U_MUON_MASS_IN_U = 0.0000000025e0
```

Definition at line 637 of file pycodata.py.

#### 15.2.2.559 U_MUON_MOLAR_MASS

```
float pycodata.U_MUON_MOLAR_MASS = 0.000000025e-4
```

Definition at line 640 of file pycodata.py.

#### 15.2.2.560 U_MUON_NEUTRON_MASS_RATIO

```
float pycodata.U_MUON_NEUTRON_MASS_RATIO = 0.0000000025e0
```

Definition at line 643 of file pycodata.py.

#### 15.2.2.561 U_MUON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_MUON_PROTON_MAG__MOM__RATIO = 0.000000071e0
```

Definition at line 646 of file pycodata.py.

#### 15.2.2.562 U_MUON_PROTON_MASS_RATIO

```
float pycodata.U_MUON_PROTON_MASS_RATIO = 0.0000000025e0
```

Definition at line 649 of file pycodata.py.

#### 15.2.2.563 U_MUON_TAU_MASS_RATIO

```
float pycodata.U_MUON_TAU_MASS_RATIO = 0.00040e-2
```

Definition at line 652 of file pycodata.py.

#### 15.2.2.564 U_NATURAL_UNIT_OF_ACTION

```
float pycodata.U_NATURAL_UNIT_OF_ACTION = 0.0e0
```

Definition at line 655 of file pycodata.py.

#### 15.2.2.565 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.

#### 15.2.2.566 U_NATURAL_UNIT_OF_ENERGY

```
float pycodata.U_NATURAL_UNIT_OF_ENERGY = 0.0000000025e-14
```

Definition at line 661 of file pycodata.py.

#### 15.2.2.567 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.

#### 15.2.2.568 U_NATURAL_UNIT_OF_LENGTH

```
float pycodata.U_NATURAL_UNIT_OF_LENGTH = 0.0000000012e-13
```

Definition at line 667 of file pycodata.py.

#### 15.2.2.569 U_NATURAL_UNIT_OF_MASS

```
float pycodata.U_NATURAL_UNIT_OF_MASS = 0.0000000028e-31
```

Definition at line 670 of file pycodata.py.

#### 15.2.2.570 U_NATURAL_UNIT_OF_MOMENTUM

```
float pycodata.U_NATURAL_UNIT_OF_MOMENTUM = 0.00000000082e-22
```

Definition at line 673 of file pycodata.py.

#### 15.2.2.571 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.

#### 15.2.2.572 U_NATURAL_UNIT_OF_TIME

```
float pycodata.U_NATURAL_UNIT_OF_TIME = 0.00000000039e-21
```

Definition at line 679 of file pycodata.py.

#### 15.2.2.573 U_NATURAL_UNIT_OF_VELOCITY

```
float pycodata.U_NATURAL_UNIT_OF_VELOCITY = 0.0e0
```

Definition at line 682 of file pycodata.py.

#### 15.2.2.574 U_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.U_NEUTRON_COMPTON_WAVELENGTH = 0.00000000075e-15
```

Definition at line 685 of file pycodata.py.

#### 15.2.2.575 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.

#### 15.2.2.576 U_NEUTRON_ELECTRON_MASS_RATIO

```
float pycodata.U_NEUTRON_ELECTRON_MASS_RATIO = 0.00000089e0
```

Definition at line 691 of file pycodata.py.

#### 15.2.2.577 U_NEUTRON_G_FACTOR

```
float pycodata.U_NEUTRON_G_FACTOR = 0.00000090e0
```

Definition at line 694 of file pycodata.py.

#### 15.2.2.578 U_NEUTRON_GYROMAG__RATIO

```
float pycodata.U_NEUTRON_GYROMAG__RATIO = 0.00000043e8
```

Definition at line 697 of file pycodata.py.

#### 15.2.2.579 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.

#### 15.2.2.580 U_NEUTRON_MAG__MOM

```
float pycodata.U_NEUTRON_MAG__MOM = 0.0000023e-27
```

Definition at line 703 of file pycodata.py.

#### 15.2.2.581 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.

#### 15.2.2.582 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.

#### 15.2.2.583 U_NEUTRON_MASS

```
float pycodata.U_NEUTRON_MASS = 0.00000000095e-27
```

Definition at line 712 of file pycodata.py.

#### 15.2.2.584 U_NEUTRON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_NEUTRON_MASS_ENERGY_EQUIVALENT = 0.00000000086e-10
```

Definition at line 715 of file pycodata.py.

#### 15.2.2.585 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.

#### 15.2.2.586 U_NEUTRON_MASS_IN_U

```
float pycodata.U_NEUTRON_MASS_IN_U = 0.00000000049e0
```

Definition at line 721 of file pycodata.py.

#### 15.2.2.587 U_NEUTRON_MOLAR_MASS

```
float pycodata.U_NEUTRON_MOLAR_MASS = 0.00000000057e-3
```

Definition at line 724 of file pycodata.py.

#### 15.2.2.588 U_NEUTRON_MUON_MASS_RATIO

```
float pycodata.U_NEUTRON_MUON_MASS_RATIO = 0.00000020e0
```

Definition at line 727 of file pycodata.py.

#### 15.2.2.589 U_NEUTRON_PROTON_MAG__MOM__RATIO

```
float pycodata.U_NEUTRON_PROTON_MAG__MOM__RATIO = 0.00000016e0
```

Definition at line 730 of file pycodata.py.

#### 15.2.2.590 U_NEUTRON_PROTON_MASS_DIFFERENCE

```
float pycodata.U_NEUTRON_PROTON_MASS_DIFFERENCE = 0.00000082e-30
```

Definition at line 733 of file pycodata.py.

#### 15.2.2.591 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.

#### 15.2.2.592 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.

#### 15.2.2.593 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.

#### 15.2.2.594 U_NEUTRON_PROTON_MASS_RATIO

```
float pycodata.U_NEUTRON_PROTON_MASS_RATIO = 0.00000000049e0
```

Definition at line 745 of file pycodata.py.

#### 15.2.2.595 U_NEUTRON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_NEUTRON_RELATIVE_ATOMIC_MASS = 0.00000000049e0
```

Definition at line 748 of file pycodata.py.

#### 15.2.2.596 U_NEUTRON_TAU_MASS_RATIO

```
float pycodata.U_NEUTRON_TAU_MASS_RATIO = 0.000036e0
```

Definition at line 751 of file pycodata.py.

#### 15.2.2.597 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.

#### 15.2.2.598 U_NEWTONIAN_CONSTANT_OF_GRAVITATION

```
float pycodata.U_NEWTONIAN_CONSTANT_OF_GRAVITATION = 0.00015e-11
```

Definition at line 757 of file pycodata.py.

#### 15.2.2.599 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.

#### 15.2.2.600 U_NUCLEAR_MAGNETON

```
float pycodata.U_NUCLEAR_MAGNETON = 0.0000000015e-27
```

Definition at line 763 of file pycodata.py.

#### 15.2.2.601 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.

#### 15.2.2.602 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.

#### 15.2.2.603 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.

#### 15.2.2.604 U_NUCLEAR_MAGNETON_IN_MHZ_T

```
float pycodata.U_NUCLEAR_MAGNETON_IN_MHZ_T = 0.0000000023e0
```

Definition at line 775 of file pycodata.py.

#### 15.2.2.605 U_PLANCK_CONSTANT

```
float pycodata.U_PLANCK_CONSTANT = 0.0e0
```

Definition at line 778 of file pycodata.py.

#### 15.2.2.606 U_PLANCK_CONSTANT_IN_EV_HZ

```
float pycodata.U_PLANCK_CONSTANT_IN_EV_HZ = 0.0e0
```

Definition at line 781 of file pycodata.py.

#### 15.2.2.607 U_PLANCK_LENGTH

```
float pycodata.U_PLANCK_LENGTH = 0.000018e-35
```

Definition at line 784 of file pycodata.py.

#### 15.2.2.608 U_PLANCK_MASS

```
float pycodata.U_PLANCK_MASS = 0.000024e-8
```

Definition at line 787 of file pycodata.py.

#### 15.2.2.609 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.

#### 15.2.2.610 U_PLANCK_TEMPERATURE

```
float pycodata.U_PLANCK_TEMPERATURE = 0.000016e32
```

Definition at line 793 of file pycodata.py.

#### 15.2.2.611 U_PLANCK_TIME

```
float pycodata.U_PLANCK_TIME = 0.000060e-44
```

Definition at line 796 of file pycodata.py.

#### 15.2.2.612 U_PROTON_CHARGE_TO_MASS_QUOTIENT

```
float pycodata.U_PROTON_CHARGE_TO_MASS_QUOTIENT = 0.0000000029e7
```

Definition at line 799 of file pycodata.py.

#### 15.2.2.613 U_PROTON_COMPTON_WAVELENGTH

```
float pycodata.U_PROTON_COMPTON_WAVELENGTH = 0.00000000040e-15
```

Definition at line 802 of file pycodata.py.

#### 15.2.2.614 U_PROTON_ELECTRON_MASS_RATIO

```
float pycodata.U_PROTON_ELECTRON_MASS_RATIO = 0.00000011e0
```

Definition at line 805 of file pycodata.py.

#### 15.2.2.615 U_PROTON_G_FACTOR

```
float pycodata.U_PROTON_G_FACTOR = 0.0000000016e0
```

Definition at line 808 of file pycodata.py.

#### 15.2.2.616 U_PROTON_GYROMAG__RATIO

```
float pycodata.U_PROTON_GYROMAG__RATIO = 0.0000000011e8
```

Definition at line 811 of file pycodata.py.

#### 15.2.2.617 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.

#### 15.2.2.618 U_PROTON_MAG__MOM

```
float pycodata.U_PROTON_MAG__MOM = 0.00000000060e-26
```

Definition at line 817 of file pycodata.py.

#### 15.2.2.619 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.

#### 15.2.2.620 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.

#### 15.2.2.621 U_PROTON_MAG__SHIELDING_CORRECTION

```
float pycodata.U_PROTON_MAG__SHIELDING_CORRECTION = 0.0011e-5
```

Definition at line 826 of file pycodata.py.

#### 15.2.2.622 U_PROTON_MASS

```
float pycodata.U_PROTON_MASS = 0.00000000051e-27
```

Definition at line 829 of file pycodata.py.

#### 15.2.2.623 U_PROTON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_PROTON_MASS_ENERGY_EQUIVALENT = 0.00000000046e-10
```

Definition at line 832 of file pycodata.py.

#### 15.2.2.624 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.

#### 15.2.2.625 U_PROTON_MASS_IN_U

```
float pycodata.U_PROTON_MASS_IN_U = 0.000000000053e0
```

Definition at line 838 of file pycodata.py.

#### 15.2.2.626 U_PROTON_MOLAR_MASS

```
float pycodata.U_PROTON_MOLAR_MASS = 0.00000000031e-3
```

Definition at line 841 of file pycodata.py.

#### 15.2.2.627 U_PROTON_MUON_MASS_RATIO

```
float pycodata.U_PROTON_MUON_MASS_RATIO = 0.00000020e0
```

Definition at line 844 of file pycodata.py.

#### 15.2.2.628 U_PROTON_NEUTRON_MAG__MOM__RATIO

```
float pycodata.U_PROTON_NEUTRON_MAG__MOM__RATIO = 0.00000034e0
```

Definition at line 847 of file pycodata.py.

#### 15.2.2.629 U_PROTON_NEUTRON_MASS_RATIO

```
float pycodata.U_PROTON_NEUTRON_MASS_RATIO = 0.00000000049e0
```

Definition at line 850 of file pycodata.py.

#### 15.2.2.630 U_PROTON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_PROTON_RELATIVE_ATOMIC_MASS = 0.000000000053e0
```

Definition at line 853 of file pycodata.py.

#### 15.2.2.631 U_PROTON_RMS_CHARGE_RADIUS

```
float pycodata.U_PROTON_RMS_CHARGE_RADIUS = 0.019e-16
```

Definition at line 856 of file pycodata.py.

#### 15.2.2.632 U_PROTON_TAU_MASS_RATIO

```
float pycodata.U_PROTON_TAU_MASS_RATIO = 0.000036e0
```

Definition at line 859 of file pycodata.py.

#### 15.2.2.633 U_QUANTUM_OF_CIRCULATION

```
float pycodata.U_QUANTUM_OF_CIRCULATION = 0.0000000011e-4
```

Definition at line 862 of file pycodata.py.

#### 15.2.2.634 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.

#### 15.2.2.635 U_REDUCED_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_COMPTON_WAVELENGTH = 0.0000000012e-13
```

Definition at line 868 of file pycodata.py.

#### 15.2.2.636 U_REDUCED_MUON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_MUON_COMPTON_WAVELENGTH = 0.000000042e-15
```

Definition at line 871 of file pycodata.py.

#### 15.2.2.637 U_REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_NEUTRON_COMPTON_WAVELENGTH = 0.0000000012e-16
```

Definition at line 874 of file pycodata.py.

#### 15.2.2.638 U_REDUCED_PLANCK_CONSTANT

```
float pycodata.U_REDUCED_PLANCK_CONSTANT = 0.0e0
```

Definition at line 877 of file pycodata.py.

#### 15.2.2.639 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.

#### 15.2.2.640 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.

#### 15.2.2.641 U_REDUCED_PROTON_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_PROTON_COMPTON_WAVELENGTH = 0.00000000064e-16
```

Definition at line 886 of file pycodata.py.

#### 15.2.2.642 U_REDUCED_TAU_COMPTON_WAVELENGTH

```
float pycodata.U_REDUCED_TAU_COMPTON_WAVELENGTH = 0.000075e-16
```

Definition at line 889 of file pycodata.py.

#### 15.2.2.643 U_RYDBERG_CONSTANT

```
float pycodata.U_RYDBERG_CONSTANT = 0.000021e0
```

Definition at line 892 of file pycodata.py.

#### 15.2.2.644 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.

#### 15.2.2.645 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.

#### 15.2.2.646 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.

#### 15.2.2.647 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.

#### 15.2.2.648 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.

#### 15.2.2.649 U_SECOND_RADIATION_CONSTANT

```
float pycodata.U_SECOND_RADIATION_CONSTANT = 0.0e0
```

Definition at line 910 of file pycodata.py.

#### 15.2.2.650 U_SHIELDED_HELION_GYROMAG__RATIO

```
float pycodata.U_SHIELDED_HELION_GYROMAG__RATIO = 0.000000024e8
```

Definition at line 913 of file pycodata.py.

#### 15.2.2.651 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.

#### 15.2.2.652 U_SHIELDED_HELION_MAG__MOM

```
float pycodata.U_SHIELDED_HELION_MAG__MOM = 0.000000013e-26
```

Definition at line 919 of file pycodata.py.

#### 15.2.2.653 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.

#### 15.2.2.654 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.

#### 15.2.2.655 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.

#### 15.2.2.656 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.

#### 15.2.2.657 U_SHIELDED_PROTON_GYROMAG__RATIO

```
float pycodata.U_SHIELDED_PROTON_GYROMAG__RATIO = 0.000000029e8
```

Definition at line 934 of file pycodata.py.

#### 15.2.2.658 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.

#### 15.2.2.659 U_SHIELDED_PROTON_MAG__MOM

```
float pycodata.U_SHIELDED_PROTON_MAG__MOM = 0.000000015e-26
```

Definition at line 940 of file pycodata.py.

#### 15.2.2.660 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.

#### 15.2.2.661 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.

#### 15.2.2.662 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.

#### 15.2.2.663 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.

#### 15.2.2.664 U_SPEED_OF_LIGHT_IN_VACUUM

```
float pycodata.U_SPEED_OF_LIGHT_IN_VACUUM = 0.0e0
```

Definition at line 955 of file pycodata.py.

#### 15.2.2.665 U_STANDARD_ACCELERATION_OF_GRAVITY

```
float pycodata.U_STANDARD_ACCELERATION_OF_GRAVITY = 0.0e0
```

Definition at line 958 of file pycodata.py.

#### 15.2.2.666 U_STANDARD_ATMOSPHERE

```
float pycodata.U_STANDARD_ATMOSPHERE = 0.0e0
```

Definition at line 961 of file pycodata.py.

#### 15.2.2.667 U_STANDARD_STATE_PRESSURE

```
float pycodata.U_STANDARD_STATE_PRESSURE = 0.0e0
```

Definition at line 964 of file pycodata.py.

#### 15.2.2.668 U_STEFAN_BOLTZMANN_CONSTANT

```
float pycodata.U_STEFAN_BOLTZMANN_CONSTANT = 0.0e0
```

Definition at line 967 of file pycodata.py.

#### 15.2.2.669 U_TAU_COMPTON_WAVELENGTH

```
float pycodata.U_TAU_COMPTON_WAVELENGTH = 0.00047e-16
```

Definition at line 970 of file pycodata.py.

#### 15.2.2.670 U_TAU_ELECTRON_MASS_RATIO

```
float pycodata.U_TAU_ELECTRON_MASS_RATIO = 0.23e0
```

Definition at line 973 of file pycodata.py.

#### 15.2.2.671 U_TAU_ENERGY_EQUIVALENT

```
float pycodata.U_TAU_ENERGY_EQUIVALENT = 0.12e0
```

Definition at line 976 of file pycodata.py.

#### 15.2.2.672 U_TAU_MASS

```
float pycodata.U_TAU_MASS = 0.00021e-27
```

Definition at line 979 of file pycodata.py.

#### 15.2.2.673 U_TAU_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_TAU_MASS_ENERGY_EQUIVALENT = 0.00019e-10
```

Definition at line 982 of file pycodata.py.

#### 15.2.2.674 U_TAU_MASS_IN_U

```
float pycodata.U_TAU_MASS_IN_U = 0.00013e0
```

Definition at line 985 of file pycodata.py.

#### 15.2.2.675 U_TAU_MOLAR_MASS

```
float pycodata.U_TAU_MOLAR_MASS = 0.00013e-3
```

Definition at line 988 of file pycodata.py.

#### 15.2.2.676 U_TAU_MUON_MASS_RATIO

```
float pycodata.U_TAU_MUON_MASS_RATIO = 0.0011e0
```

Definition at line 991 of file pycodata.py.

#### 15.2.2.677 U_TAU_NEUTRON_MASS_RATIO

```
float pycodata.U_TAU_NEUTRON_MASS_RATIO = 0.00013e0
```

Definition at line 994 of file pycodata.py.

#### 15.2.2.678 U_TAU_PROTON_MASS_RATIO

```
float pycodata.U_TAU_PROTON_MASS_RATIO = 0.00013e0
```

Definition at line 997 of file pycodata.py.

#### 15.2.2.679 U_THOMSON_CROSS_SECTION

```
float pycodata.U_THOMSON_CROSS_SECTION = 0.0000000060e-29
```

Definition at line 1000 of file pycodata.py.

#### 15.2.2.680 U_TRITON_ELECTRON_MASS_RATIO

```
float pycodata.U_TRITON_ELECTRON_MASS_RATIO = 0.00000027e0
```

Definition at line 1003 of file pycodata.py.

#### 15.2.2.681 U_TRITON_G_FACTOR

```
float pycodata.U_TRITON_G_FACTOR = 0.000000012e0
```

Definition at line 1006 of file pycodata.py.

#### 15.2.2.682 U_TRITON_MAG__MOM

```
float pycodata.U_TRITON_MAG__MOM = 0.0000000030e-26
```

Definition at line 1009 of file pycodata.py.

#### 15.2.2.683 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.

#### 15.2.2.684 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.

#### 15.2.2.685 U_TRITON_MASS

```
float pycodata.U_TRITON_MASS = 0.0000000015e-27
```

Definition at line 1018 of file pycodata.py.

#### 15.2.2.686 U_TRITON_MASS_ENERGY_EQUIVALENT

```
float pycodata.U_TRITON_MASS_ENERGY_EQUIVALENT = 0.0000000014e-10
```

Definition at line 1021 of file pycodata.py.

#### 15.2.2.687 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.

#### 15.2.2.688 U_TRITON_MASS_IN_U

```
float pycodata.U_TRITON_MASS_IN_U = 0.00000000012e0
```

Definition at line 1027 of file pycodata.py.

#### 15.2.2.689 U_TRITON_MOLAR_MASS

```
float pycodata.U_TRITON_MOLAR_MASS = 0.00000000092e-3
```

Definition at line 1030 of file pycodata.py.

#### 15.2.2.690 U_TRITON_PROTON_MASS_RATIO

```
float pycodata.U_TRITON_PROTON_MASS_RATIO = 0.00000000015e0
```

Definition at line 1033 of file pycodata.py.

#### 15.2.2.691 U_TRITON_RELATIVE_ATOMIC_MASS

```
float pycodata.U_TRITON_RELATIVE_ATOMIC_MASS = 0.00000000012e0
```

Definition at line 1036 of file pycodata.py.

#### 15.2.2.692 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.

#### 15.2.2.693 U_UNIFIED_ATOMIC_MASS_UNIT

```
float pycodata.U_UNIFIED_ATOMIC_MASS_UNIT = 0.00000000050e-27
```

Definition at line 1042 of file pycodata.py.

#### 15.2.2.694 U_VACUUM_ELECTRIC_PERMITTIVITY

```
float pycodata.U_VACUUM_ELECTRIC_PERMITTIVITY = 0.0000000013e-12
```

Definition at line 1045 of file pycodata.py.

#### 15.2.2.695 U_VACUUM_MAG__PERMEABILITY

```
float pycodata.U_VACUUM_MAG__PERMEABILITY = 0.00000000019e-6
```

Definition at line 1048 of file pycodata.py.

#### 15.2.2.696 U_VON_KLITZING_CONSTANT

```
float pycodata.U_VON_KLITZING_CONSTANT = 0.0e0
```

Definition at line 1051 of file pycodata.py.

#### 15.2.2.697 U_W_TO_Z_MASS_RATIO

```
float pycodata.U_W_TO_Z_MASS_RATIO = 0.00017e0
```

Definition at line 1063 of file pycodata.py.

#### 15.2.2.698 U_WEAK_MIXING_ANGLE

```
float pycodata.U_WEAK_MIXING_ANGLE = 0.00030e0
```

Definition at line 1054 of file pycodata.py.

#### 15.2.2.699 U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 0.0e0
```

Definition at line 1057 of file pycodata.py.

#### 15.2.2.700 U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 0.0e0
```

Definition at line 1060 of file pycodata.py.

#### 15.2.2.701 UNIFIED_ATOMIC_MASS_UNIT

```
float pycodata.UNIFIED_ATOMIC_MASS_UNIT = 1.66053906660e-27
```

Definition at line 1041 of file pycodata.py.

#### 15.2.2.702 VACUUM_ELECTRIC_PERMITTIVITY

```
float pycodata.VACUUM_ELECTRIC_PERMITTIVITY = 8.8541878128e-12
```

Definition at line 1044 of file pycodata.py.

#### 15.2.2.703 VACUUM_MAG__PERMEABILITY

```
float pycodata.VACUUM_MAG__PERMEABILITY = 1.25663706212e-6
```

Definition at line 1047 of file pycodata.py.

#### 15.2.2.704 VON_KLITZING_CONSTANT

```
float pycodata.VON_KLITZING_CONSTANT = 25812.80745e0
```

Definition at line 1050 of file pycodata.py.

#### 15.2.2.705 W_TO_Z_MASS_RATIO

```
float pycodata.W_TO_Z_MASS_RATIO = 0.88153e0
```

Definition at line 1062 of file pycodata.py.

#### 15.2.2.706 WEAK_MIXING_ANGLE

```
float pycodata.WEAK_MIXING_ANGLE = 0.22290e0
```

Definition at line 1053 of file pycodata.py.

#### 15.2.2.707 WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT = 5.878925757e10
```

Definition at line 1056 of file pycodata.py.

#### 15.2.2.708 WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT

```
float pycodata.WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT = 2.897771955e-3
```

Definition at line 1059 of file pycodata.py.

# Chapter 16

# Data Type Documentation

## 16.1 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]

### 16.1.1 Detailed Description

Properties of the file for the codata raw data.

Definition at line 18 of file generator.c.

### 16.1.2 Field Documentation

#### 16.1.2.1 codata_path

```
char codata_file_props::codata_path[18]
```

Filepath to the raw codata constants.

Definition at line 21 of file generator.c.

#### 16.1.2.2 fmodule_path

```
char codata_file_props::fmodule_path[18]
```

Filepath of the generated Fortran module.

Definition at line 23 of file generator.c.

#### 16.1.2.3 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.

#### 16.1.2.4 n

```
size_t codata_file_props::n
```

Number of lines.

Definition at line 19 of file generator.c.

#### 16.1.2.5 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 17

# File Documentation

## 17.1 getting_started/install.md File Reference

## 17.2 getting_started/license.md File Reference

## 17.3 getting_started/requirements.md File Reference

## 17.4 releases/0.1.0-notes.md File Reference

## 17.5 releases/0.2.0-notes.md File Reference

## 17.6 releases/0.2.1-notes.md File Reference

## 17.7 releases/0.3.0-notes.md File Reference

## 17.8 releases/0.4.0-notes.md File Reference

## 17.9 releases/0.5.0-notes.md File Reference

## 17.10 releases/0.6.0-notes.md File Reference

## 17.11 /Users/milan/programs/codata/README.md File Reference

## 17.12 /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 =0.000000000042e-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

### 17.12.1 Detailed Description

Codata module - autogenerated.

Definition in file ccodata.h.

### 17.12.2 Variable Documentation

#### 17.12.2.1 ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
const double ALPHA_PARTICLE_ELECTRON_MASS_RATIO =7294.29954142e0
```

Definition at line 6 of file ccodata.h.

#### 17.12.2.2 ALPHA_PARTICLE_MASS

```
const double ALPHA_PARTICLE_MASS =6.6446573357e-27
```

kg

Definition at line 9 of file ccodata.h.

#### 17.12.2.3 ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT

```
const double ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT =5.9719201914e-10
```

J

Definition at line 12 of file ccodata.h.

#### 17.12.2.4 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.

#### 17.12.2.5 ALPHA_PARTICLE_MASS_IN_U

```
const double ALPHA_PARTICLE_MASS_IN_U =4.001506179127e0
```

u

Definition at line 18 of file ccodata.h.

#### 17.12.2.6 ALPHA_PARTICLE_MOLAR_MASS

```
const double ALPHA_PARTICLE_MOLAR_MASS =4.0015061777e-3
```

kg mol^-1

Definition at line 21 of file ccodata.h.

#### 17.12.2.7 ALPHA_PARTICLE_PROTON_MASS_RATIO

```
const double ALPHA_PARTICLE_PROTON_MASS_RATIO =3.97259969009e0
```

Definition at line 24 of file ccodata.h.

#### 17.12.2.8 ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
const double ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =4.001506179127e0
```

Definition at line 27 of file ccodata.h.

#### 17.12.2.9 ANGSTROM_STAR

```
const double ANGSTROM_STAR =1.00001495e-10
```

m

Definition at line 30 of file ccodata.h.

#### 17.12.2.10 ATOMIC_MASS_CONSTANT

```
const double ATOMIC_MASS_CONSTANT =1.66053906660e-27
```

kg

Definition at line 33 of file ccodata.h.

#### 17.12.2.11 ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT

```
const double ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT =1.49241808560e-10
```

J

Definition at line 36 of file ccodata.h.

#### 17.12.2.12 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.

#### 17.12.2.13 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.

#### 17.12.2.14 ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP =3.4231776874e7
```

E_h

Definition at line 45 of file ccodata.h.

#### 17.12.2.15 ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP =2.25234271871e23
```

Hz

Definition at line 48 of file ccodata.h.

#### 17.12.2.16 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.

#### 17.12.2.17 ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP =1.49241808560e-10
```

J

Definition at line 54 of file ccodata.h.

#### 17.12.2.18 ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP =1.08095401916e13
```

K

Definition at line 57 of file ccodata.h.

#### 17.12.2.19 ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP

```
const double ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP =1.66053906660e-27
```

kg

Definition at line 60 of file ccodata.h.

#### 17.12.2.20 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.

#### 17.12.2.21 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.

#### 17.12.2.22 ATOMIC_UNIT_OF_ACTION

```
const double ATOMIC_UNIT_OF_ACTION =1.054571817e-34
```

J s

Definition at line 69 of file ccodata.h.

#### 17.12.2.23 ATOMIC_UNIT_OF_CHARGE

```
const double ATOMIC_UNIT_OF_CHARGE =1.602176634e-19
```

C

Definition at line 72 of file ccodata.h.

#### 17.12.2.24 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.

#### 17.12.2.25 ATOMIC_UNIT_OF_CURRENT

```
const double ATOMIC_UNIT_OF_CURRENT =6.623618237510e-3
```

A

Definition at line 78 of file ccodata.h.

#### 17.12.2.26 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.

#### 17.12.2.27 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.

#### 17.12.2.28 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.

#### 17.12.2.29 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.

#### 17.12.2.30 ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL

```
const double ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL =27.211386245988e0
```

V

Definition at line 93 of file ccodata.h.

#### 17.12.2.31 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.

#### 17.12.2.32 ATOMIC_UNIT_OF_ENERGY

```
const double ATOMIC_UNIT_OF_ENERGY =4.3597447222071e-18
```

J

Definition at line 99 of file ccodata.h.

#### 17.12.2.33 ATOMIC_UNIT_OF_FORCE

```
const double ATOMIC_UNIT_OF_FORCE =8.2387234983e-8
```

N

Definition at line 102 of file ccodata.h.

#### 17.12.2.34 ATOMIC_UNIT_OF_LENGTH

```
const double ATOMIC_UNIT_OF_LENGTH =5.29177210903e-11
```

m

Definition at line 105 of file ccodata.h.

#### 17.12.2.35 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.

#### 17.12.2.36 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.

#### 17.12.2.37 ATOMIC_UNIT_OF_MAGNETIZABILITY

```
const double ATOMIC_UNIT_OF_MAGNETIZABILITY =7.8910366008e-29
```

J T^-2

Definition at line 114 of file ccodata.h.

#### 17.12.2.38 ATOMIC_UNIT_OF_MASS

```
const double ATOMIC_UNIT_OF_MASS =9.1093837015e-31
```

kg

Definition at line 117 of file ccodata.h.

#### 17.12.2.39 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.

#### 17.12.2.40 ATOMIC_UNIT_OF_PERMITTIVITY

```
const double ATOMIC_UNIT_OF_PERMITTIVITY =1.11265005545e-10
```

F m^-1

Definition at line 123 of file ccodata.h.

#### 17.12.2.41 ATOMIC_UNIT_OF_TIME

```
const double ATOMIC_UNIT_OF_TIME =2.4188843265857e-17
```

s

Definition at line 126 of file ccodata.h.

#### 17.12.2.42 ATOMIC_UNIT_OF_VELOCITY

```
const double ATOMIC_UNIT_OF_VELOCITY =2.18769126364e6
```

m s^-1

Definition at line 129 of file ccodata.h.

#### 17.12.2.43 AVOGADRO_CONSTANT

```
const double AVOGADRO_CONSTANT =6.02214076e23
```

mol^-1

Definition at line 132 of file ccodata.h.

#### 17.12.2.44 BOHR_MAGNETON

```
const double BOHR_MAGNETON =9.2740100783e-24
```

J T^-1

Definition at line 135 of file ccodata.h.

#### 17.12.2.45 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.

#### 17.12.2.46 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.

#### 17.12.2.47 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.

#### 17.12.2.48 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.

#### 17.12.2.49 BOHR_RADIUS

```
const double BOHR_RADIUS =5.29177210903e-11
```

m

Definition at line 150 of file ccodata.h.

#### 17.12.2.50 BOLTZMANN_CONSTANT

```
const double BOLTZMANN_CONSTANT =1.380649e-23
```

J K^-1

Definition at line 153 of file ccodata.h.

#### 17.12.2.51 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.

#### 17.12.2.52 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.

#### 17.12.2.53 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.

#### 17.12.2.54 CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
const double CHARACTERISTIC_IMPEDANCE_OF_VACUUM =376.730313668e0
```

ohm

Definition at line 165 of file ccodata.h.

#### 17.12.2.55 CLASSICAL_ELECTRON_RADIUS

```
const double CLASSICAL_ELECTRON_RADIUS =2.8179403262e-15
```

m

Definition at line 168 of file ccodata.h.

#### 17.12.2.56 COMPTON_WAVELENGTH

```
const double COMPTON_WAVELENGTH =2.42631023867e-12
```

m

Definition at line 171 of file ccodata.h.

#### 17.12.2.57 CONDUCTANCE_QUANTUM

```
const double CONDUCTANCE_QUANTUM =7.748091729e-5
```

S

Definition at line 174 of file ccodata.h.

#### 17.12.2.58 CONVENTIONAL_VALUE_OF_AMPERE_90

```
const double CONVENTIONAL_VALUE_OF_AMPERE_90 =1.00000008887e0
```

A

Definition at line 177 of file ccodata.h.

#### 17.12.2.59 CONVENTIONAL_VALUE_OF_COULOMB_90

```
const double CONVENTIONAL_VALUE_OF_COULOMB_90 =1.00000008887e0
```

C

Definition at line 180 of file ccodata.h.

#### 17.12.2.60 CONVENTIONAL_VALUE_OF_FARAD_90

```
const double CONVENTIONAL_VALUE_OF_FARAD_90 =0.99999998220e0
```

F

Definition at line 183 of file ccodata.h.

#### 17.12.2.61 CONVENTIONAL_VALUE_OF_HENRY_90

```
const double CONVENTIONAL_VALUE_OF_HENRY_90 =1.00000001779e0
```

H

Definition at line 186 of file ccodata.h.

#### 17.12.2.62 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.

#### 17.12.2.63 CONVENTIONAL_VALUE_OF_OHM_90

```
const double CONVENTIONAL_VALUE_OF_OHM_90 =1.00000001779e0
```

ohm

Definition at line 192 of file ccodata.h.

#### 17.12.2.64 CONVENTIONAL_VALUE_OF_VOLT_90

```
const double CONVENTIONAL_VALUE_OF_VOLT_90 =1.00000010666e0
```

V

Definition at line 195 of file ccodata.h.

#### 17.12.2.65 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.

#### 17.12.2.66 CONVENTIONAL_VALUE_OF_WATT_90

```
const double CONVENTIONAL_VALUE_OF_WATT_90 =1.00000019553e0
```

W

Definition at line 201 of file ccodata.h.

#### 17.12.2.67 COPPER_X_UNIT

```
const double COPPER_X_UNIT =1.00207697e-13
```

m

Definition at line 204 of file ccodata.h.

#### 17.12.2.68 DEUTERON_ELECTRON_MAG__MOM__RATIO

```
const double DEUTERON_ELECTRON_MAG__MOM__RATIO =-4.664345551e-4
```

Definition at line 207 of file ccodata.h.

#### 17.12.2.69 DEUTERON_ELECTRON_MASS_RATIO

```
const double DEUTERON_ELECTRON_MASS_RATIO =3670.48296788e0
```

Definition at line 210 of file ccodata.h.

#### 17.12.2.70 DEUTERON_G_FACTOR

```
const double DEUTERON_G_FACTOR =0.8574382338e0
```

Definition at line 213 of file ccodata.h.

#### 17.12.2.71 DEUTERON_MAG__MOM

```
const double DEUTERON_MAG__MOM =4.330735094e-27
```

J T^-1

Definition at line 216 of file ccodata.h.

#### 17.12.2.72 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.

#### 17.12.2.73 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.

#### 17.12.2.74 DEUTERON_MASS

```
const double DEUTERON_MASS =3.3435837724e-27
```

kg

Definition at line 225 of file ccodata.h.

#### 17.12.2.75 DEUTERON_MASS_ENERGY_EQUIVALENT

```
const double DEUTERON_MASS_ENERGY_EQUIVALENT =3.00506323102e-10
```

J

Definition at line 228 of file ccodata.h.

#### 17.12.2.76 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.

#### 17.12.2.77 DEUTERON_MASS_IN_U

```
const double DEUTERON_MASS_IN_U =2.013553212745e0
```

u

Definition at line 234 of file ccodata.h.

#### 17.12.2.78 DEUTERON_MOLAR_MASS

```
const double DEUTERON_MOLAR_MASS =2.01355321205e-3
```

kg mol^-1

Definition at line 237 of file ccodata.h.

#### 17.12.2.79 DEUTERON_NEUTRON_MAG__MOM__RATIO

```
const double DEUTERON_NEUTRON_MAG__MOM__RATIO =-0.44820653e0
```

Definition at line 240 of file ccodata.h.

#### 17.12.2.80 DEUTERON_PROTON_MAG__MOM__RATIO

```
const double DEUTERON_PROTON_MAG__MOM__RATIO =0.30701220939e0
```

Definition at line 243 of file ccodata.h.

#### 17.12.2.81 DEUTERON_PROTON_MASS_RATIO

```
const double DEUTERON_PROTON_MASS_RATIO =1.99900750139e0
```

Definition at line 246 of file ccodata.h.

#### 17.12.2.82 DEUTERON_RELATIVE_ATOMIC_MASS

```
const double DEUTERON_RELATIVE_ATOMIC_MASS =2.013553212745e0
```

Definition at line 249 of file ccodata.h.

#### 17.12.2.83 DEUTERON_RMS_CHARGE_RADIUS

```
const double DEUTERON_RMS_CHARGE_RADIUS =2.12799e-15
```

m

Definition at line 252 of file ccodata.h.

#### 17.12.2.84 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.

#### 17.12.2.85 ELECTRON_DEUTERON_MAG__MOM__RATIO

```
const double ELECTRON_DEUTERON_MAG__MOM__RATIO =-2143.9234915e0
```

Definition at line 258 of file ccodata.h.

#### 17.12.2.86 ELECTRON_DEUTERON_MASS_RATIO

```
const double ELECTRON_DEUTERON_MASS_RATIO =2.724437107462e-4
```

Definition at line 261 of file ccodata.h.

#### 17.12.2.87 ELECTRON_G_FACTOR

```
const double ELECTRON_G_FACTOR =-2.00231930436256e0
```

Definition at line 264 of file ccodata.h.

#### 17.12.2.88 ELECTRON_GYROMAG__RATIO

```
const double ELECTRON_GYROMAG__RATIO =1.76085963023e11
```

s^-1 T^-1

Definition at line 267 of file ccodata.h.

#### 17.12.2.89 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.

#### 17.12.2.90 ELECTRON_HELION_MASS_RATIO

```
const double ELECTRON_HELION_MASS_RATIO =1.819543074573e-4
```

Definition at line 273 of file ccodata.h.

#### 17.12.2.91 ELECTRON_MAG__MOM

```
const double ELECTRON_MAG__MOM =-9.2847647043e-24
```

J T^-1

Definition at line 276 of file ccodata.h.

#### 17.12.2.92 ELECTRON_MAG__MOM__ANOMALY

```
const double ELECTRON_MAG__MOM__ANOMALY =1.15965218128e-3
```

Definition at line 279 of file ccodata.h.

#### 17.12.2.93 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.

#### 17.12.2.94 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.

#### 17.12.2.95 ELECTRON_MASS

```
const double ELECTRON_MASS =9.1093837015e-31
```

kg

Definition at line 288 of file ccodata.h.

#### 17.12.2.96 ELECTRON_MASS_ENERGY_EQUIVALENT

```
const double ELECTRON_MASS_ENERGY_EQUIVALENT =8.1871057769e-14
```

J

Definition at line 291 of file ccodata.h.

#### 17.12.2.97 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.

#### 17.12.2.98 ELECTRON_MASS_IN_U

```
const double ELECTRON_MASS_IN_U =5.48579909065e-4
```

u

Definition at line 297 of file ccodata.h.

#### 17.12.2.99 ELECTRON_MOLAR_MASS

```
const double ELECTRON_MOLAR_MASS =5.4857990888e-7
```

kg mol^-1

Definition at line 300 of file ccodata.h.

#### 17.12.2.100 ELECTRON_MUON_MAG__MOM__RATIO

```
const double ELECTRON_MUON_MAG__MOM__RATIO =206.7669883e0
```

Definition at line 303 of file ccodata.h.

#### 17.12.2.101 ELECTRON_MUON_MASS_RATIO

```
const double ELECTRON_MUON_MASS_RATIO =4.83633169e-3
```

Definition at line 306 of file ccodata.h.

#### 17.12.2.102 ELECTRON_NEUTRON_MAG__MOM__RATIO

```
const double ELECTRON_NEUTRON_MAG__MOM__RATIO =960.92050e0
```

Definition at line 309 of file ccodata.h.

#### 17.12.2.103 ELECTRON_NEUTRON_MASS_RATIO

```
const double ELECTRON_NEUTRON_MASS_RATIO =5.4386734424e-4
```

Definition at line 312 of file ccodata.h.

#### 17.12.2.104 ELECTRON_PROTON_MAG__MOM__RATIO

```
const double ELECTRON_PROTON_MAG__MOM__RATIO =-658.21068789e0
```

Definition at line 315 of file ccodata.h.

#### 17.12.2.105 ELECTRON_PROTON_MASS_RATIO

```
const double ELECTRON_PROTON_MASS_RATIO =5.44617021487e-4
```

Definition at line 318 of file ccodata.h.

#### 17.12.2.106 ELECTRON_RELATIVE_ATOMIC_MASS

```
const double ELECTRON_RELATIVE_ATOMIC_MASS =5.48579909065e-4
```

Definition at line 321 of file ccodata.h.

#### 17.12.2.107 ELECTRON_TAU_MASS_RATIO

```
const double ELECTRON_TAU_MASS_RATIO =2.87585e-4
```

Definition at line 324 of file ccodata.h.

#### 17.12.2.108 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.

#### 17.12.2.109 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.

#### 17.12.2.110 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.

#### 17.12.2.111 ELECTRON_TRITON_MASS_RATIO

```
const double ELECTRON_TRITON_MASS_RATIO =1.819200062251e-4
```

Definition at line 336 of file ccodata.h.

#### 17.12.2.112 ELECTRON_VOLT

```
const double ELECTRON_VOLT =1.602176634e-19
```

J

Definition at line 339 of file ccodata.h.

#### 17.12.2.113 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.

#### 17.12.2.114 ELECTRON_VOLT_HARTREE_RELATIONSHIP

```
const double ELECTRON_VOLT_HARTREE_RELATIONSHIP =3.6749322175655e-2
```

E_h

Definition at line 345 of file ccodata.h.

#### 17.12.2.115 ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
const double ELECTRON_VOLT_HERTZ_RELATIONSHIP =2.417989242e14
```

Hz

Definition at line 348 of file ccodata.h.

#### 17.12.2.116 ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP

```
const double ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP =8.065543937e5
```

m^-1

Definition at line 351 of file ccodata.h.

#### 17.12.2.117 ELECTRON_VOLT_JOULE_RELATIONSHIP

```
const double ELECTRON_VOLT_JOULE_RELATIONSHIP =1.602176634e-19
```

J

Definition at line 354 of file ccodata.h.

#### 17.12.2.118 ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
const double ELECTRON_VOLT_KELVIN_RELATIONSHIP =1.160451812e4
```

K

Definition at line 357 of file ccodata.h.

#### 17.12.2.119 ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
const double ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =1.782661921e-36
```

kg

Definition at line 360 of file ccodata.h.

#### 17.12.2.120 ELEMENTARY_CHARGE

```
const double ELEMENTARY_CHARGE =1.602176634e-19
```

C

Definition at line 363 of file ccodata.h.

#### 17.12.2.121 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.

#### 17.12.2.122 FARADAY_CONSTANT

```
const double FARADAY_CONSTANT =96485.33212e0
```

C mol^-1

Definition at line 369 of file ccodata.h.

#### 17.12.2.123 FERMI_COUPLING_CONSTANT

```
const double FERMI_COUPLING_CONSTANT =1.1663787e-5
```

GeV^-2

Definition at line 372 of file ccodata.h.

#### 17.12.2.124 FINE_STRUCTURE_CONSTANT

```
const double FINE_STRUCTURE_CONSTANT =7.2973525693e-3
```

Definition at line 375 of file ccodata.h.

#### 17.12.2.125 FIRST_RADIATION_CONSTANT

```
const double FIRST_RADIATION_CONSTANT =3.741771852e-16
```

W m^2

Definition at line 378 of file ccodata.h.

#### 17.12.2.126 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.

#### 17.12.2.127 HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP =2.92126232205e-8
```

u

Definition at line 384 of file ccodata.h.

#### 17.12.2.128 HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
const double HARTREE_ELECTRON_VOLT_RELATIONSHIP =27.211386245988e0
```

eV

Definition at line 387 of file ccodata.h.

#### 17.12.2.129 HARTREE_ENERGY

```
const double HARTREE_ENERGY =4.3597447222071e-18
```

J

Definition at line 390 of file ccodata.h.

#### 17.12.2.130 HARTREE_ENERGY_IN_EV

```
const double HARTREE_ENERGY_IN_EV =27.211386245988e0
```

eV

Definition at line 393 of file ccodata.h.

#### 17.12.2.131 HARTREE_HERTZ_RELATIONSHIP

```
const double HARTREE_HERTZ_RELATIONSHIP =6.579683920502e15
```

Hz

Definition at line 396 of file ccodata.h.

#### 17.12.2.132 HARTREE_INVERSE_METER_RELATIONSHIP

```
const double HARTREE_INVERSE_METER_RELATIONSHIP =2.1947463136320e7
```

m^-1

Definition at line 399 of file ccodata.h.

#### 17.12.2.133 HARTREE_JOULE_RELATIONSHIP

```
const double HARTREE_JOULE_RELATIONSHIP =4.3597447222071e-18
```

J

Definition at line 402 of file ccodata.h.

#### 17.12.2.134 HARTREE_KELVIN_RELATIONSHIP

```
const double HARTREE_KELVIN_RELATIONSHIP =3.1577502480407e5
```

K

Definition at line 405 of file ccodata.h.

#### 17.12.2.135 HARTREE_KILOGRAM_RELATIONSHIP

```
const double HARTREE_KILOGRAM_RELATIONSHIP =4.8508702095432e-35
```

kg

Definition at line 408 of file ccodata.h.

#### 17.12.2.136 HELION_ELECTRON_MASS_RATIO

```
const double HELION_ELECTRON_MASS_RATIO =5495.88528007e0
```

Definition at line 411 of file ccodata.h.

#### 17.12.2.137 HELION_G_FACTOR

```
const double HELION_G_FACTOR =-4.255250615e0
```

Definition at line 414 of file ccodata.h.

#### 17.12.2.138 HELION_MAG__MOM

```
const double HELION_MAG__MOM =-1.074617532e-26
```

J T^-1

Definition at line 417 of file ccodata.h.

#### 17.12.2.139 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.

#### 17.12.2.140 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.

#### 17.12.2.141 HELION_MASS

```
const double HELION_MASS =5.0064127796e-27
```

kg

Definition at line 426 of file ccodata.h.

#### 17.12.2.142 HELION_MASS_ENERGY_EQUIVALENT

```
const double HELION_MASS_ENERGY_EQUIVALENT =4.4995394125e-10
```

J

Definition at line 429 of file ccodata.h.

#### 17.12.2.143 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.

#### 17.12.2.144 HELION_MASS_IN_U

```
const double HELION_MASS_IN_U =3.014932247175e0
```

u

Definition at line 435 of file ccodata.h.

#### 17.12.2.145 HELION_MOLAR_MASS

```
const double HELION_MOLAR_MASS =3.01493224613e-3
```

kg mol^-1

Definition at line 438 of file ccodata.h.

#### 17.12.2.146 HELION_PROTON_MASS_RATIO

```
const double HELION_PROTON_MASS_RATIO =2.99315267167e0
```

Definition at line 441 of file ccodata.h.

#### 17.12.2.147 HELION_RELATIVE_ATOMIC_MASS

```
const double HELION_RELATIVE_ATOMIC_MASS =3.014932247175e0
```

Definition at line 444 of file ccodata.h.

#### 17.12.2.148 HELION_SHIELDING_SHIFT

```
const double HELION_SHIELDING_SHIFT =5.996743e-5
```

Definition at line 447 of file ccodata.h.

#### 17.12.2.149 HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP =4.4398216652e-24
```

u

Definition at line 450 of file ccodata.h.

#### 17.12.2.150 HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
const double HERTZ_ELECTRON_VOLT_RELATIONSHIP =4.135667696e-15
```

eV

Definition at line 453 of file ccodata.h.

#### 17.12.2.151 HERTZ_HARTREE_RELATIONSHIP

```
const double HERTZ_HARTREE_RELATIONSHIP =1.5198298460570e-16
```

E_h

Definition at line 456 of file ccodata.h.

#### 17.12.2.152 HERTZ_INVERSE_METER_RELATIONSHIP

```
const double HERTZ_INVERSE_METER_RELATIONSHIP =3.335640951e-9
```

m^-1

Definition at line 459 of file ccodata.h.

#### 17.12.2.153 HERTZ_JOULE_RELATIONSHIP

```
const double HERTZ_JOULE_RELATIONSHIP =6.62607015e-34
```

J

Definition at line 462 of file ccodata.h.

#### 17.12.2.154 HERTZ_KELVIN_RELATIONSHIP

```
const double HERTZ_KELVIN_RELATIONSHIP =4.799243073e-11
```

K

Definition at line 465 of file ccodata.h.

#### 17.12.2.155 HERTZ_KILOGRAM_RELATIONSHIP

```
const double HERTZ_KILOGRAM_RELATIONSHIP =7.372497323e-51
```

kg

Definition at line 468 of file ccodata.h.

#### 17.12.2.156 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.

#### 17.12.2.157 INVERSE_FINE_STRUCTURE_CONSTANT

```
const double INVERSE_FINE_STRUCTURE_CONSTANT =137.035999084e0
```

Definition at line 474 of file ccodata.h.

#### 17.12.2.158 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.

#### 17.12.2.159 INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP

```
const double INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP =1.239841984e-6
```

eV

Definition at line 480 of file ccodata.h.

#### 17.12.2.160 INVERSE_METER_HARTREE_RELATIONSHIP

```
const double INVERSE_METER_HARTREE_RELATIONSHIP =4.5563352529120e-8
```

E_h

Definition at line 483 of file ccodata.h.

#### 17.12.2.161 INVERSE_METER_HERTZ_RELATIONSHIP

```
const double INVERSE_METER_HERTZ_RELATIONSHIP =299792458.0e0
```

Hz

Definition at line 486 of file ccodata.h.

#### 17.12.2.162 INVERSE_METER_JOULE_RELATIONSHIP

```
const double INVERSE_METER_JOULE_RELATIONSHIP =1.986445857e-25
```

J

Definition at line 489 of file ccodata.h.

#### 17.12.2.163 INVERSE_METER_KELVIN_RELATIONSHIP

```
const double INVERSE_METER_KELVIN_RELATIONSHIP =1.438776877e-2
```

K

Definition at line 492 of file ccodata.h.

#### 17.12.2.164 INVERSE_METER_KILOGRAM_RELATIONSHIP

```
const double INVERSE_METER_KILOGRAM_RELATIONSHIP =2.210219094e-42
```

kg

Definition at line 495 of file ccodata.h.

#### 17.12.2.165 INVERSE_OF_CONDUCTANCE_QUANTUM

```
const double INVERSE_OF_CONDUCTANCE_QUANTUM =12906.40372e0
```

ohm

Definition at line 498 of file ccodata.h.

#### 17.12.2.166 JOSEPHSON_CONSTANT

```
const double JOSEPHSON_CONSTANT =483597.8484e9
```

Hz V^-1

Definition at line 501 of file ccodata.h.

#### 17.12.2.167 JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP =6.7005352565e9
```

u

Definition at line 504 of file ccodata.h.

#### 17.12.2.168 JOULE_ELECTRON_VOLT_RELATIONSHIP

```
const double JOULE_ELECTRON_VOLT_RELATIONSHIP =6.241509074e18
```

eV

Definition at line 507 of file ccodata.h.

#### 17.12.2.169 JOULE_HARTREE_RELATIONSHIP

```
const double JOULE_HARTREE_RELATIONSHIP =2.2937122783963e17
```

E_h

Definition at line 510 of file ccodata.h.

#### 17.12.2.170 JOULE_HERTZ_RELATIONSHIP

```
const double JOULE_HERTZ_RELATIONSHIP =1.509190179e33
```

Hz

Definition at line 513 of file ccodata.h.

#### 17.12.2.171 JOULE_INVERSE_METER_RELATIONSHIP

```
const double JOULE_INVERSE_METER_RELATIONSHIP =5.034116567e24
```

m^-1

Definition at line 516 of file ccodata.h.

#### 17.12.2.172 JOULE_KELVIN_RELATIONSHIP

```
const double JOULE_KELVIN_RELATIONSHIP =7.242970516e22
```

K

Definition at line 519 of file ccodata.h.

#### 17.12.2.173 JOULE_KILOGRAM_RELATIONSHIP

```
const double JOULE_KILOGRAM_RELATIONSHIP =1.112650056e-17
```

kg

Definition at line 522 of file ccodata.h.

#### 17.12.2.174 KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP =9.2510873014e-14
```

u

Definition at line 525 of file ccodata.h.

#### 17.12.2.175 KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
const double KELVIN_ELECTRON_VOLT_RELATIONSHIP =8.617333262e-5
```

eV

Definition at line 528 of file ccodata.h.

#### 17.12.2.176 KELVIN_HARTREE_RELATIONSHIP

```
const double KELVIN_HARTREE_RELATIONSHIP =3.1668115634556e-6
```

E_h

Definition at line 531 of file ccodata.h.

#### 17.12.2.177 KELVIN_HERTZ_RELATIONSHIP

```
const double KELVIN_HERTZ_RELATIONSHIP =2.083661912e10
```

Hz

Definition at line 534 of file ccodata.h.

#### 17.12.2.178 KELVIN_INVERSE_METER_RELATIONSHIP

```
const double KELVIN_INVERSE_METER_RELATIONSHIP =69.50348004e0
```

m^-1

Definition at line 537 of file ccodata.h.

#### 17.12.2.179 KELVIN_JOULE_RELATIONSHIP

```
const double KELVIN_JOULE_RELATIONSHIP =1.380649e-23
```

J

Definition at line 540 of file ccodata.h.

#### 17.12.2.180 KELVIN_KILOGRAM_RELATIONSHIP

```
const double KELVIN_KILOGRAM_RELATIONSHIP =1.536179187e-40
```

kg

Definition at line 543 of file ccodata.h.

#### 17.12.2.181 KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP

```
const double KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP =6.0221407621e26
```

u

Definition at line 546 of file ccodata.h.

#### 17.12.2.182 KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
const double KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =5.609588603e35
```

eV

Definition at line 549 of file ccodata.h.

#### 17.12.2.183 KILOGRAM_HARTREE_RELATIONSHIP

```
const double KILOGRAM_HARTREE_RELATIONSHIP =2.0614857887409e34
```

E_h

Definition at line 552 of file ccodata.h.

#### 17.12.2.184 KILOGRAM_HERTZ_RELATIONSHIP

```
const double KILOGRAM_HERTZ_RELATIONSHIP =1.356392489e50
```

Hz

Definition at line 555 of file ccodata.h.

#### 17.12.2.185 KILOGRAM_INVERSE_METER_RELATIONSHIP

```
const double KILOGRAM_INVERSE_METER_RELATIONSHIP =4.524438335e41
```

m^-1

Definition at line 558 of file ccodata.h.

#### 17.12.2.186 KILOGRAM_JOULE_RELATIONSHIP

```
const double KILOGRAM_JOULE_RELATIONSHIP =8.987551787e16
```

J

Definition at line 561 of file ccodata.h.

#### 17.12.2.187 KILOGRAM_KELVIN_RELATIONSHIP

```
const double KILOGRAM_KELVIN_RELATIONSHIP =6.509657260e39
```

K

Definition at line 564 of file ccodata.h.

#### 17.12.2.188 LATTICE_PARAMETER_OF_SILICON

```
const double LATTICE_PARAMETER_OF_SILICON =5.431020511e-10
```

m

Definition at line 567 of file ccodata.h.

#### 17.12.2.189 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.

#### 17.12.2.190 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.

#### 17.12.2.191 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.

#### 17.12.2.192 LUMINOUS_EFFICACY

```
const double LUMINOUS_EFFICACY =683.0e0
```

lm W^-1

Definition at line 579 of file ccodata.h.

#### 17.12.2.193 MAG__FLUX_QUANTUM

```
const double MAG__FLUX_QUANTUM =2.067833848e-15
```

Wb

Definition at line 582 of file ccodata.h.

#### 17.12.2.194 MOLAR_GAS_CONSTANT

```
const double MOLAR_GAS_CONSTANT =8.314462618e0
```

J mol^-1 K^-1

Definition at line 585 of file ccodata.h.

#### 17.12.2.195 MOLAR_MASS_CONSTANT

```
const double MOLAR_MASS_CONSTANT =0.99999999965e-3
```

kg mol^-1

Definition at line 588 of file ccodata.h.

#### 17.12.2.196 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.

#### 17.12.2.197 MOLAR_PLANCK_CONSTANT

```
const double MOLAR_PLANCK_CONSTANT =3.990312712e-10
```

J Hz^-1 mol^-1

Definition at line 594 of file ccodata.h.

#### 17.12.2.198 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.

#### 17.12.2.199 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.

#### 17.12.2.200 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.

#### 17.12.2.201 MOLYBDENUM_X_UNIT

```
const double MOLYBDENUM_X_UNIT =1.00209952e-13
```

m

Definition at line 606 of file ccodata.h.

#### 17.12.2.202 MUON_COMPTON_WAVELENGTH

```
const double MUON_COMPTON_WAVELENGTH =1.173444110e-14
```

m

Definition at line 609 of file ccodata.h.

#### 17.12.2.203 MUON_ELECTRON_MASS_RATIO

```
const double MUON_ELECTRON_MASS_RATIO =206.7682830e0
```

Definition at line 612 of file ccodata.h.

#### 17.12.2.204 MUON_G_FACTOR

```
const double MUON_G_FACTOR =-2.0023318418e0
```

Definition at line 615 of file ccodata.h.

#### 17.12.2.205 MUON_MAG__MOM

```
const double MUON_MAG__MOM =-4.49044830e-26
```

J T^-1

Definition at line 618 of file ccodata.h.

#### 17.12.2.206 MUON_MAG__MOM__ANOMALY

```
const double MUON_MAG__MOM__ANOMALY =1.16592089e-3
```

Definition at line 621 of file ccodata.h.

#### 17.12.2.207 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.

#### 17.12.2.208 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.

#### 17.12.2.209 MUON_MASS

```
const double MUON_MASS =1.883531627e-28
```

kg

Definition at line 630 of file ccodata.h.

#### 17.12.2.210 MUON_MASS_ENERGY_EQUIVALENT

```
const double MUON_MASS_ENERGY_EQUIVALENT =1.692833804e-11
```

J

Definition at line 633 of file ccodata.h.

#### 17.12.2.211 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.

#### 17.12.2.212 MUON_MASS_IN_U

```
const double MUON_MASS_IN_U =0.1134289259e0
```

u

Definition at line 639 of file ccodata.h.

#### 17.12.2.213 MUON_MOLAR_MASS

```
const double MUON_MOLAR_MASS =1.134289259e-4
```

kg mol^-1

Definition at line 642 of file ccodata.h.

#### 17.12.2.214 MUON_NEUTRON_MASS_RATIO

```
const double MUON_NEUTRON_MASS_RATIO =0.1124545170e0
```

Definition at line 645 of file ccodata.h.

#### 17.12.2.215 MUON_PROTON_MAG__MOM__RATIO

```
const double MUON_PROTON_MAG__MOM__RATIO =-3.183345142e0
```

Definition at line 648 of file ccodata.h.

#### 17.12.2.216 MUON_PROTON_MASS_RATIO

```
const double MUON_PROTON_MASS_RATIO =0.1126095264e0
```

Definition at line 651 of file ccodata.h.

#### 17.12.2.217 MUON_TAU_MASS_RATIO

```
const double MUON_TAU_MASS_RATIO =5.94635e-2
```

Definition at line 654 of file ccodata.h.

#### 17.12.2.218 NATURAL_UNIT_OF_ACTION

```
const double NATURAL_UNIT_OF_ACTION =1.054571817e-34
```

J s

Definition at line 657 of file ccodata.h.

#### 17.12.2.219 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.

#### 17.12.2.220 NATURAL_UNIT_OF_ENERGY

```
const double NATURAL_UNIT_OF_ENERGY =8.1871057769e-14
```

J

Definition at line 663 of file ccodata.h.

#### 17.12.2.221 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.

#### 17.12.2.222 NATURAL_UNIT_OF_LENGTH

```
const double NATURAL_UNIT_OF_LENGTH =3.8615926796e-13
```

m

Definition at line 669 of file ccodata.h.

#### 17.12.2.223 NATURAL_UNIT_OF_MASS

```
const double NATURAL_UNIT_OF_MASS =9.1093837015e-31
```

kg

Definition at line 672 of file ccodata.h.

#### 17.12.2.224 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.

#### 17.12.2.225 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.

#### 17.12.2.226 NATURAL_UNIT_OF_TIME

```
const double NATURAL_UNIT_OF_TIME =1.28808866819e-21
```

s

Definition at line 681 of file ccodata.h.

#### 17.12.2.227 NATURAL_UNIT_OF_VELOCITY

```
const double NATURAL_UNIT_OF_VELOCITY =299792458.0e0
```

m s^-1

Definition at line 684 of file ccodata.h.

#### 17.12.2.228 NEUTRON_COMPTON_WAVELENGTH

```
const double NEUTRON_COMPTON_WAVELENGTH =1.31959090581e-15
```

m

Definition at line 687 of file ccodata.h.

#### 17.12.2.229 NEUTRON_ELECTRON_MAG__MOM__RATIO

```
const double NEUTRON_ELECTRON_MAG__MOM__RATIO =1.04066882e-3
```

Definition at line 690 of file ccodata.h.

#### 17.12.2.230 NEUTRON_ELECTRON_MASS_RATIO

```
const double NEUTRON_ELECTRON_MASS_RATIO =1838.68366173e0
```

Definition at line 693 of file ccodata.h.

#### 17.12.2.231 NEUTRON_G_FACTOR

```
const double NEUTRON_G_FACTOR =-3.82608545e0
```

Definition at line 696 of file ccodata.h.

#### 17.12.2.232 NEUTRON_GYROMAG__RATIO

```
const double NEUTRON_GYROMAG__RATIO =1.83247171e8
```

s^-1 T^-1

Definition at line 699 of file ccodata.h.

#### 17.12.2.233 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.

#### 17.12.2.234 NEUTRON_MAG__MOM

```
const double NEUTRON_MAG__MOM =-9.6623651e-27
```

J T^-1

Definition at line 705 of file ccodata.h.

#### 17.12.2.235 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.

#### 17.12.2.236 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.

#### 17.12.2.237 NEUTRON_MASS

```
const double NEUTRON_MASS =1.67492749804e-27
```

kg

Definition at line 714 of file ccodata.h.

#### 17.12.2.238 NEUTRON_MASS_ENERGY_EQUIVALENT

```
const double NEUTRON_MASS_ENERGY_EQUIVALENT =1.50534976287e-10
```

J

Definition at line 717 of file ccodata.h.

#### 17.12.2.239 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.

#### 17.12.2.240 NEUTRON_MASS_IN_U

```
const double NEUTRON_MASS_IN_U =1.00866491595e0
```

u

Definition at line 723 of file ccodata.h.

#### 17.12.2.241 NEUTRON_MOLAR_MASS

```
const double NEUTRON_MOLAR_MASS =1.00866491560e-3
```

kg mol^-1

Definition at line 726 of file ccodata.h.

#### 17.12.2.242 NEUTRON_MUON_MASS_RATIO

```
const double NEUTRON_MUON_MASS_RATIO =8.89248406e0
```

Definition at line 729 of file ccodata.h.

#### 17.12.2.243 NEUTRON_PROTON_MAG__MOM__RATIO

```
const double NEUTRON_PROTON_MAG__MOM__RATIO =-0.68497934e0
```

Definition at line 732 of file ccodata.h.

#### 17.12.2.244 NEUTRON_PROTON_MASS_DIFFERENCE

```
const double NEUTRON_PROTON_MASS_DIFFERENCE =2.30557435e-30
```

kg

Definition at line 735 of file ccodata.h.

#### 17.12.2.245 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.

#### 17.12.2.246 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.

#### 17.12.2.247 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.

#### 17.12.2.248 NEUTRON_PROTON_MASS_RATIO

```
const double NEUTRON_PROTON_MASS_RATIO =1.00137841931e0
```

Definition at line 747 of file ccodata.h.

#### 17.12.2.249 NEUTRON_RELATIVE_ATOMIC_MASS

```
const double NEUTRON_RELATIVE_ATOMIC_MASS =1.00866491595e0
```

Definition at line 750 of file ccodata.h.

#### 17.12.2.250 NEUTRON_TAU_MASS_RATIO

```
const double NEUTRON_TAU_MASS_RATIO =0.528779e0
```

Definition at line 753 of file ccodata.h.

#### 17.12.2.251 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.

#### 17.12.2.252 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.

#### 17.12.2.253 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.

#### 17.12.2.254 NUCLEAR_MAGNETON

```
const double NUCLEAR_MAGNETON =5.0507837461e-27
```

J T^-1

Definition at line 765 of file ccodata.h.

#### 17.12.2.255 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.

#### 17.12.2.256 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.

#### 17.12.2.257 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.

#### 17.12.2.258 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.

#### 17.12.2.259 PLANCK_CONSTANT

```
const double PLANCK_CONSTANT =6.62607015e-34
```

J Hz^-1

Definition at line 780 of file ccodata.h.

#### 17.12.2.260 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.

#### 17.12.2.261 PLANCK_LENGTH

```
const double PLANCK_LENGTH =1.616255e-35
```

m

Definition at line 786 of file ccodata.h.

#### 17.12.2.262 PLANCK_MASS

```
const double PLANCK_MASS =2.176434e-8
```

kg

Definition at line 789 of file ccodata.h.

#### 17.12.2.263 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.

#### 17.12.2.264 PLANCK_TEMPERATURE

```
const double PLANCK_TEMPERATURE =1.416784e32
```

K

Definition at line 795 of file ccodata.h.

#### 17.12.2.265 PLANCK_TIME

```
const double PLANCK_TIME =5.391247e-44
```

s

Definition at line 798 of file ccodata.h.

#### 17.12.2.266 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.

#### 17.12.2.267 PROTON_COMPTON_WAVELENGTH

```
const double PROTON_COMPTON_WAVELENGTH =1.32140985539e-15
```

m

Definition at line 804 of file ccodata.h.

#### 17.12.2.268 PROTON_ELECTRON_MASS_RATIO

```
const double PROTON_ELECTRON_MASS_RATIO =1836.15267343e0
```

Definition at line 807 of file ccodata.h.

#### 17.12.2.269 PROTON_G_FACTOR

```
const double PROTON_G_FACTOR =5.5856946893e0
```

Definition at line 810 of file ccodata.h.

#### 17.12.2.270 PROTON_GYROMAG__RATIO

```
const double PROTON_GYROMAG__RATIO =2.6752218744e8
```

s^-1 T^-1

Definition at line 813 of file ccodata.h.

#### 17.12.2.271 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.

#### 17.12.2.272 PROTON_MAG__MOM

```
const double PROTON_MAG__MOM =1.41060679736e-26
```

J T^-1

Definition at line 819 of file ccodata.h.

#### 17.12.2.273 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.

#### 17.12.2.274 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.

#### 17.12.2.275 PROTON_MAG__SHIELDING_CORRECTION

```
const double PROTON_MAG__SHIELDING_CORRECTION =2.5689e-5
```

Definition at line 828 of file ccodata.h.

#### 17.12.2.276 PROTON_MASS

```
const double PROTON_MASS =1.67262192369e-27
```

kg

Definition at line 831 of file ccodata.h.

#### 17.12.2.277 PROTON_MASS_ENERGY_EQUIVALENT

```
const double PROTON_MASS_ENERGY_EQUIVALENT =1.50327761598e-10
```

J

Definition at line 834 of file ccodata.h.

#### 17.12.2.278 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.

#### 17.12.2.279 PROTON_MASS_IN_U

```
const double PROTON_MASS_IN_U =1.007276466621e0
```

u

Definition at line 840 of file ccodata.h.

#### 17.12.2.280 PROTON_MOLAR_MASS

```
const double PROTON_MOLAR_MASS =1.00727646627e-3
```

kg mol^-1

Definition at line 843 of file ccodata.h.

#### 17.12.2.281 PROTON_MUON_MASS_RATIO

```
const double PROTON_MUON_MASS_RATIO =8.88024337e0
```

Definition at line 846 of file ccodata.h.

#### 17.12.2.282 PROTON_NEUTRON_MAG__MOM__RATIO

```
const double PROTON_NEUTRON_MAG__MOM__RATIO =-1.45989805e0
```

Definition at line 849 of file ccodata.h.

#### 17.12.2.283 PROTON_NEUTRON_MASS_RATIO

```
const double PROTON_NEUTRON_MASS_RATIO =0.99862347812e0
```

Definition at line 852 of file ccodata.h.

#### 17.12.2.284 PROTON_RELATIVE_ATOMIC_MASS

```
const double PROTON_RELATIVE_ATOMIC_MASS =1.007276466621e0
```

Definition at line 855 of file ccodata.h.

#### 17.12.2.285 PROTON_RMS_CHARGE_RADIUS

```
const double PROTON_RMS_CHARGE_RADIUS =8.414e-16
```

m

Definition at line 858 of file ccodata.h.

#### 17.12.2.286 PROTON_TAU_MASS_RATIO

```
const double PROTON_TAU_MASS_RATIO =0.528051e0
```

Definition at line 861 of file ccodata.h.

#### 17.12.2.287 QUANTUM_OF_CIRCULATION

```
const double QUANTUM_OF_CIRCULATION =3.6369475516e-4
```

m^2 s^-1

Definition at line 864 of file ccodata.h.

#### 17.12.2.288 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.

#### 17.12.2.289 REDUCED_COMPTON_WAVELENGTH

```
const double REDUCED_COMPTON_WAVELENGTH =3.8615926796e-13
```

m

Definition at line 870 of file ccodata.h.

#### 17.12.2.290 REDUCED_MUON_COMPTON_WAVELENGTH

```
const double REDUCED_MUON_COMPTON_WAVELENGTH =1.867594306e-15
```

m

Definition at line 873 of file ccodata.h.

#### 17.12.2.291 REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
const double REDUCED_NEUTRON_COMPTON_WAVELENGTH =2.1001941552e-16
```

m

Definition at line 876 of file ccodata.h.

#### 17.12.2.292 REDUCED_PLANCK_CONSTANT

```
const double REDUCED_PLANCK_CONSTANT =1.054571817e-34
```

J s

Definition at line 879 of file ccodata.h.

#### 17.12.2.293 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.

#### 17.12.2.294 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.

#### 17.12.2.295 REDUCED_PROTON_COMPTON_WAVELENGTH

```
const double REDUCED_PROTON_COMPTON_WAVELENGTH =2.10308910336e-16
```

m

Definition at line 888 of file ccodata.h.

#### 17.12.2.296 REDUCED_TAU_COMPTON_WAVELENGTH

```
const double REDUCED_TAU_COMPTON_WAVELENGTH =1.110538e-16
```

m

Definition at line 891 of file ccodata.h.

#### 17.12.2.297 RYDBERG_CONSTANT

```
const double RYDBERG_CONSTANT =10973731.568160e0
```

m^-1

Definition at line 894 of file ccodata.h.

#### 17.12.2.298 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.

#### 17.12.2.299 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.

#### 17.12.2.300 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.

#### 17.12.2.301 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.

#### 17.12.2.302 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.

#### 17.12.2.303 SECOND_RADIATION_CONSTANT

```
const double SECOND_RADIATION_CONSTANT =1.438776877e-2
```

m K

Definition at line 912 of file ccodata.h.

#### 17.12.2.304 SHIELDED_HELION_GYROMAG__RATIO

```
const double SHIELDED_HELION_GYROMAG__RATIO =2.037894569e8
```

s^-1 T^-1

Definition at line 915 of file ccodata.h.

#### 17.12.2.305 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.

#### 17.12.2.306 SHIELDED_HELION_MAG__MOM

```
const double SHIELDED_HELION_MAG__MOM =-1.074553090e-26
```

J T^-1

Definition at line 921 of file ccodata.h.

#### 17.12.2.307 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.

#### 17.12.2.308 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.

#### 17.12.2.309 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.

#### 17.12.2.310 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.

#### 17.12.2.311 SHIELDED_PROTON_GYROMAG__RATIO

```
const double SHIELDED_PROTON_GYROMAG__RATIO =2.675153151e8
```

s^-1 T^-1

Definition at line 936 of file ccodata.h.

#### 17.12.2.312 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.

#### 17.12.2.313 SHIELDED_PROTON_MAG__MOM

```
const double SHIELDED_PROTON_MAG__MOM =1.410570560e-26
```

J T^-1

Definition at line 942 of file ccodata.h.

#### 17.12.2.314 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.

#### 17.12.2.315 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.

#### 17.12.2.316 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.

#### 17.12.2.317 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.

#### 17.12.2.318 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.

#### 17.12.2.319 STANDARD_ACCELERATION_OF_GRAVITY

```
const double STANDARD_ACCELERATION_OF_GRAVITY =9.80665e0
```

m s^-2

Definition at line 960 of file ccodata.h.

#### 17.12.2.320 STANDARD_ATMOSPHERE

```
const double STANDARD_ATMOSPHERE =101325.0e0
```

Pa

Definition at line 963 of file ccodata.h.

#### 17.12.2.321 STANDARD_STATE_PRESSURE

```
const double STANDARD_STATE_PRESSURE =100000.0e0
```

Pa

Definition at line 966 of file ccodata.h.

#### 17.12.2.322 STEFAN_BOLTZMANN_CONSTANT

```
const double STEFAN_BOLTZMANN_CONSTANT =5.670374419e-8
```

W m^-2 K^-4

Definition at line 969 of file ccodata.h.

#### 17.12.2.323 TAU_COMPTON_WAVELENGTH

```
const double TAU_COMPTON_WAVELENGTH =6.97771e-16
```

m

Definition at line 972 of file ccodata.h.

#### 17.12.2.324 TAU_ELECTRON_MASS_RATIO

```
const double TAU_ELECTRON_MASS_RATIO =3477.23e0
```

Definition at line 975 of file ccodata.h.

#### 17.12.2.325 TAU_ENERGY_EQUIVALENT

```
const double TAU_ENERGY_EQUIVALENT =1776.86e0
```

MeV

Definition at line 978 of file ccodata.h.

#### 17.12.2.326 TAU_MASS

```
const double TAU_MASS =3.16754e-27
```

kg

Definition at line 981 of file ccodata.h.

#### 17.12.2.327 TAU_MASS_ENERGY_EQUIVALENT

```
const double TAU_MASS_ENERGY_EQUIVALENT =2.84684e-10
```

J

Definition at line 984 of file ccodata.h.

#### 17.12.2.328 TAU_MASS_IN_U

```
const double TAU_MASS_IN_U =1.90754e0
```

u

Definition at line 987 of file ccodata.h.

#### 17.12.2.329 TAU_MOLAR_MASS

```
const double TAU_MOLAR_MASS =1.90754e-3
```

kg mol^-1

Definition at line 990 of file ccodata.h.

#### 17.12.2.330 TAU_MUON_MASS_RATIO

```
const double TAU_MUON_MASS_RATIO =16.8170e0
```

Definition at line 993 of file ccodata.h.

#### 17.12.2.331 TAU_NEUTRON_MASS_RATIO

```
const double TAU_NEUTRON_MASS_RATIO =1.89115e0
```

Definition at line 996 of file ccodata.h.

#### 17.12.2.332 TAU_PROTON_MASS_RATIO

```
const double TAU_PROTON_MASS_RATIO =1.89376e0
```

Definition at line 999 of file ccodata.h.

#### 17.12.2.333 THOMSON_CROSS_SECTION

```
const double THOMSON_CROSS_SECTION =6.6524587321e-29
```

m^2

Definition at line 1002 of file ccodata.h.

#### 17.12.2.334 TRITON_ELECTRON_MASS_RATIO

```
const double TRITON_ELECTRON_MASS_RATIO =5496.92153573e0
```

Definition at line 1005 of file ccodata.h.

#### 17.12.2.335 TRITON_G_FACTOR

```
const double TRITON_G_FACTOR =5.957924931e0
```

Definition at line 1008 of file ccodata.h.

#### 17.12.2.336 TRITON_MAG__MOM

```
const double TRITON_MAG__MOM =1.5046095202e-26
```

J T^-1

Definition at line 1011 of file ccodata.h.

#### 17.12.2.337 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.

#### 17.12.2.338 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.

#### 17.12.2.339 TRITON_MASS

```
const double TRITON_MASS =5.0073567446e-27
```

kg

Definition at line 1020 of file ccodata.h.

#### 17.12.2.340 TRITON_MASS_ENERGY_EQUIVALENT

```
const double TRITON_MASS_ENERGY_EQUIVALENT =4.5003878060e-10
```

J

Definition at line 1023 of file ccodata.h.

#### 17.12.2.341 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.

#### 17.12.2.342 TRITON_MASS_IN_U

```
const double TRITON_MASS_IN_U =3.01550071621e0
```

u

Definition at line 1029 of file ccodata.h.

#### 17.12.2.343 TRITON_MOLAR_MASS

```
const double TRITON_MOLAR_MASS =3.01550071517e-3
```

kg mol^-1

Definition at line 1032 of file ccodata.h.

#### 17.12.2.344 TRITON_PROTON_MASS_RATIO

```
const double TRITON_PROTON_MASS_RATIO =2.99371703414e0
```

Definition at line 1035 of file ccodata.h.

#### 17.12.2.345 TRITON_RELATIVE_ATOMIC_MASS

```
const double TRITON_RELATIVE_ATOMIC_MASS =3.01550071621e0
```

Definition at line 1038 of file ccodata.h.

#### 17.12.2.346 TRITON_TO_PROTON_MAG__MOM__RATIO

```
const double TRITON_TO_PROTON_MAG__MOM__RATIO =1.0666399191e0
```

Definition at line 1041 of file ccodata.h.

#### 17.12.2.347 U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO

```
const double U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO =0.00000024e0
```

Definition at line 7 of file ccodata.h.

#### 17.12.2.348 U_ALPHA_PARTICLE_MASS

```
const double U_ALPHA_PARTICLE_MASS =0.0000000020e-27
```

kg

Definition at line 10 of file ccodata.h.

#### 17.12.2.349 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.

#### 17.12.2.350 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.

#### 17.12.2.351 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.

#### 17.12.2.352 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.

#### 17.12.2.353 U_ALPHA_PARTICLE_PROTON_MASS_RATIO

```
const double U_ALPHA_PARTICLE_PROTON_MASS_RATIO =0.00000000022e0
```

Definition at line 25 of file ccodata.h.

#### 17.12.2.354 U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS

```
const double U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS =0.000000000063e0
```

Definition at line 28 of file ccodata.h.

#### 17.12.2.355 U_ANGSTROM_STAR

```
const double U_ANGSTROM_STAR =0.00000090e-10
```

m

Definition at line 31 of file ccodata.h.

#### 17.12.2.356 U_ATOMIC_MASS_CONSTANT

```
const double U_ATOMIC_MASS_CONSTANT =0.00000000050e-27
```

kg

Definition at line 34 of file ccodata.h.

#### 17.12.2.357 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.

#### 17.12.2.358 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.

#### 17.12.2.359 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.

#### 17.12.2.360 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.

#### 17.12.2.361 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.

#### 17.12.2.362 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.

#### 17.12.2.363 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.

#### 17.12.2.364 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.

#### 17.12.2.365 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.

#### 17.12.2.366 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.

#### 17.12.2.367 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.

#### 17.12.2.368 U_ATOMIC_UNIT_OF_ACTION

```
const double U_ATOMIC_UNIT_OF_ACTION =0.0e0
```

J s

Definition at line 70 of file ccodata.h.

#### 17.12.2.369 U_ATOMIC_UNIT_OF_CHARGE

```
const double U_ATOMIC_UNIT_OF_CHARGE =0.0e0
```

C

Definition at line 73 of file ccodata.h.

#### 17.12.2.370 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.

#### 17.12.2.371 U_ATOMIC_UNIT_OF_CURRENT

```
const double U_ATOMIC_UNIT_OF_CURRENT =0.000000000013e-3
```

A

Definition at line 79 of file ccodata.h.

#### 17.12.2.372 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.

#### 17.12.2.373 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.

#### 17.12.2.374 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.

#### 17.12.2.375 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.

#### 17.12.2.376 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.

#### 17.12.2.377 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.

#### 17.12.2.378 U_ATOMIC_UNIT_OF_ENERGY

```
const double U_ATOMIC_UNIT_OF_ENERGY =0.0000000000085e-18
```

J

Definition at line 100 of file ccodata.h.

#### 17.12.2.379 U_ATOMIC_UNIT_OF_FORCE

```
const double U_ATOMIC_UNIT_OF_FORCE =0.0000000012e-8
```

N

Definition at line 103 of file ccodata.h.

#### 17.12.2.380 U_ATOMIC_UNIT_OF_LENGTH

```
const double U_ATOMIC_UNIT_OF_LENGTH =0.00000000080e-11
```

m

Definition at line 106 of file ccodata.h.

#### 17.12.2.381 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.

#### 17.12.2.382 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.

#### 17.12.2.383 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.

#### 17.12.2.384 U_ATOMIC_UNIT_OF_MASS

```
const double U_ATOMIC_UNIT_OF_MASS =0.0000000028e-31
```

kg

Definition at line 118 of file ccodata.h.

#### 17.12.2.385 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.

#### 17.12.2.386 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.

#### 17.12.2.387 U_ATOMIC_UNIT_OF_TIME

```
const double U_ATOMIC_UNIT_OF_TIME =0.0000000000047e-17
```

s

Definition at line 127 of file ccodata.h.

#### 17.12.2.388 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.

#### 17.12.2.389 U_AVOGADRO_CONSTANT

```
const double U_AVOGADRO_CONSTANT =0.0e0
```

mol^-1

Definition at line 133 of file ccodata.h.

#### 17.12.2.390 U_BOHR_MAGNETON

```
const double U_BOHR_MAGNETON =0.0000000028e-24
```

J T^-1

Definition at line 136 of file ccodata.h.

#### 17.12.2.391 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.

#### 17.12.2.392 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.

#### 17.12.2.393 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.

#### 17.12.2.394 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.

#### 17.12.2.395 U_BOHR_RADIUS

```
const double U_BOHR_RADIUS =0.00000000080e-11
```

m

Definition at line 151 of file ccodata.h.

#### 17.12.2.396 U_BOLTZMANN_CONSTANT

```
const double U_BOLTZMANN_CONSTANT =0.0e0
```

J K^-1

Definition at line 154 of file ccodata.h.

#### 17.12.2.397 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.

#### 17.12.2.398 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.

#### 17.12.2.399 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.

#### 17.12.2.400 U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM

```
const double U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM =0.000000057e0
```

ohm

Definition at line 166 of file ccodata.h.

#### 17.12.2.401 U_CLASSICAL_ELECTRON_RADIUS

```
const double U_CLASSICAL_ELECTRON_RADIUS =0.0000000013e-15
```

m

Definition at line 169 of file ccodata.h.

#### 17.12.2.402 U_COMPTON_WAVELENGTH

```
const double U_COMPTON_WAVELENGTH =0.00000000073e-12
```

m

Definition at line 172 of file ccodata.h.

#### 17.12.2.403 U_CONDUCTANCE_QUANTUM

```
const double U_CONDUCTANCE_QUANTUM =0.0e0
```

S

Definition at line 175 of file ccodata.h.

#### 17.12.2.404 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.

#### 17.12.2.405 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.

#### 17.12.2.406 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.

#### 17.12.2.407 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.

#### 17.12.2.408 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.

#### 17.12.2.409 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.

#### 17.12.2.410 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.

#### 17.12.2.411 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.

#### 17.12.2.412 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.

#### 17.12.2.413 U_COPPER_X_UNIT

```
const double U_COPPER_X_UNIT =0.00000028e-13
```

m

Definition at line 205 of file ccodata.h.

#### 17.12.2.414 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.

#### 17.12.2.415 U_DEUTERON_ELECTRON_MASS_RATIO

```
const double U_DEUTERON_ELECTRON_MASS_RATIO =0.00000013e0
```

Definition at line 211 of file ccodata.h.

#### 17.12.2.416 U_DEUTERON_G_FACTOR

```
const double U_DEUTERON_G_FACTOR =0.0000000022e0
```

Definition at line 214 of file ccodata.h.

#### 17.12.2.417 U_DEUTERON_MAG__MOM

```
const double U_DEUTERON_MAG__MOM =0.000000011e-27
```

J T^-1

Definition at line 217 of file ccodata.h.

#### 17.12.2.418 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.

#### 17.12.2.419 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.

#### 17.12.2.420 U_DEUTERON_MASS

```
const double U_DEUTERON_MASS =0.0000000010e-27
```

kg

Definition at line 226 of file ccodata.h.

#### 17.12.2.421 U_DEUTERON_MASS_ENERGY_EQUIVALENT

```
const double U_DEUTERON_MASS_ENERGY_EQUIVALENT =0.00000000091e-10
```

J

Definition at line 229 of file ccodata.h.

#### 17.12.2.422 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.

#### 17.12.2.423 U_DEUTERON_MASS_IN_U

```
const double U_DEUTERON_MASS_IN_U =0.000000000040e0
```

u

Definition at line 235 of file ccodata.h.

#### 17.12.2.424 U_DEUTERON_MOLAR_MASS

```
const double U_DEUTERON_MOLAR_MASS =0.00000000061e-3
```

kg mol^-1

Definition at line 238 of file ccodata.h.

#### 17.12.2.425 U_DEUTERON_NEUTRON_MAG__MOM__RATIO

```
const double U_DEUTERON_NEUTRON_MAG__MOM__RATIO =0.00000011e0
```

Definition at line 241 of file ccodata.h.

#### 17.12.2.426 U_DEUTERON_PROTON_MAG__MOM__RATIO

```
const double U_DEUTERON_PROTON_MAG__MOM__RATIO =0.00000000079e0
```

Definition at line 244 of file ccodata.h.

#### 17.12.2.427 U_DEUTERON_PROTON_MASS_RATIO

```
const double U_DEUTERON_PROTON_MASS_RATIO =0.00000000011e0
```

Definition at line 247 of file ccodata.h.

#### 17.12.2.428 U_DEUTERON_RELATIVE_ATOMIC_MASS

```
const double U_DEUTERON_RELATIVE_ATOMIC_MASS =0.000000000040e0
```

Definition at line 250 of file ccodata.h.

#### 17.12.2.429 U_DEUTERON_RMS_CHARGE_RADIUS

```
const double U_DEUTERON_RMS_CHARGE_RADIUS =0.00074e-15
```

m

Definition at line 253 of file ccodata.h.

#### 17.12.2.430 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.

#### 17.12.2.431 U_ELECTRON_DEUTERON_MAG__MOM__RATIO

```
const double U_ELECTRON_DEUTERON_MAG__MOM__RATIO =0.0000056e0
```

Definition at line 259 of file ccodata.h.

#### 17.12.2.432 U_ELECTRON_DEUTERON_MASS_RATIO

```
const double U_ELECTRON_DEUTERON_MASS_RATIO =0.000000000096e-4
```

Definition at line 262 of file ccodata.h.

#### 17.12.2.433 U_ELECTRON_G_FACTOR

```
const double U_ELECTRON_G_FACTOR =0.00000000000035e0
```

Definition at line 265 of file ccodata.h.

#### 17.12.2.434 U_ELECTRON_GYROMAG__RATIO

```
const double U_ELECTRON_GYROMAG__RATIO =0.00000000053e11
```

s^-1 T^-1

Definition at line 268 of file ccodata.h.

#### 17.12.2.435 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.

#### 17.12.2.436 U_ELECTRON_HELION_MASS_RATIO

```
const double U_ELECTRON_HELION_MASS_RATIO =0.000000000079e-4
```

Definition at line 274 of file ccodata.h.

#### 17.12.2.437 U_ELECTRON_MAG__MOM

```
const double U_ELECTRON_MAG__MOM =0.0000000028e-24
```

J T^-1

Definition at line 277 of file ccodata.h.

#### 17.12.2.438 U_ELECTRON_MAG__MOM__ANOMALY

```
const double U_ELECTRON_MAG__MOM__ANOMALY =0.00000000018e-3
```

Definition at line 280 of file ccodata.h.

#### 17.12.2.439 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.

#### 17.12.2.440 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.

#### 17.12.2.441 U_ELECTRON_MASS

```
const double U_ELECTRON_MASS =0.0000000028e-31
```

kg

Definition at line 289 of file ccodata.h.

#### 17.12.2.442 U_ELECTRON_MASS_ENERGY_EQUIVALENT

```
const double U_ELECTRON_MASS_ENERGY_EQUIVALENT =0.0000000025e-14
```

J

Definition at line 292 of file ccodata.h.

#### 17.12.2.443 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.

#### 17.12.2.444 U_ELECTRON_MASS_IN_U

```
const double U_ELECTRON_MASS_IN_U =0.00000000016e-4
```

u

Definition at line 298 of file ccodata.h.

#### 17.12.2.445 U_ELECTRON_MOLAR_MASS

```
const double U_ELECTRON_MOLAR_MASS =0.0000000017e-7
```

kg mol^-1

Definition at line 301 of file ccodata.h.

#### 17.12.2.446 U_ELECTRON_MUON_MAG__MOM__RATIO

```
const double U_ELECTRON_MUON_MAG__MOM__RATIO =0.0000046e0
```

Definition at line 304 of file ccodata.h.

#### 17.12.2.447 U_ELECTRON_MUON_MASS_RATIO

```
const double U_ELECTRON_MUON_MASS_RATIO =0.00000011e-3
```

Definition at line 307 of file ccodata.h.

#### 17.12.2.448 U_ELECTRON_NEUTRON_MAG__MOM__RATIO

```
const double U_ELECTRON_NEUTRON_MAG__MOM__RATIO =0.00023e0
```

Definition at line 310 of file ccodata.h.

#### 17.12.2.449 U_ELECTRON_NEUTRON_MASS_RATIO

```
const double U_ELECTRON_NEUTRON_MASS_RATIO =0.0000000026e-4
```

Definition at line 313 of file ccodata.h.

#### 17.12.2.450 U_ELECTRON_PROTON_MAG__MOM__RATIO

```
const double U_ELECTRON_PROTON_MAG__MOM__RATIO =0.00000020e0
```

Definition at line 316 of file ccodata.h.

#### 17.12.2.451 U_ELECTRON_PROTON_MASS_RATIO

```
const double U_ELECTRON_PROTON_MASS_RATIO =0.00000000033e-4
```

Definition at line 319 of file ccodata.h.

#### 17.12.2.452 U_ELECTRON_RELATIVE_ATOMIC_MASS

```
const double U_ELECTRON_RELATIVE_ATOMIC_MASS =0.00000000016e-4
```

Definition at line 322 of file ccodata.h.

#### 17.12.2.453 U_ELECTRON_TAU_MASS_RATIO

```
const double U_ELECTRON_TAU_MASS_RATIO =0.00019e-4
```

Definition at line 325 of file ccodata.h.

#### 17.12.2.454 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.

#### 17.12.2.455 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.

#### 17.12.2.456 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.

#### 17.12.2.457 U_ELECTRON_TRITON_MASS_RATIO

```
const double U_ELECTRON_TRITON_MASS_RATIO =0.000000000090e-4
```

Definition at line 337 of file ccodata.h.

#### 17.12.2.458 U_ELECTRON_VOLT

```
const double U_ELECTRON_VOLT =0.0e0
```

J

Definition at line 340 of file ccodata.h.

#### 17.12.2.459 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.

#### 17.12.2.460 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.

#### 17.12.2.461 U_ELECTRON_VOLT_HERTZ_RELATIONSHIP

```
const double U_ELECTRON_VOLT_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 349 of file ccodata.h.

#### 17.12.2.462 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.

#### 17.12.2.463 U_ELECTRON_VOLT_JOULE_RELATIONSHIP

```
const double U_ELECTRON_VOLT_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 355 of file ccodata.h.

#### 17.12.2.464 U_ELECTRON_VOLT_KELVIN_RELATIONSHIP

```
const double U_ELECTRON_VOLT_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 358 of file ccodata.h.

#### 17.12.2.465 U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP

```
const double U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 361 of file ccodata.h.

#### 17.12.2.466 U_ELEMENTARY_CHARGE

```
const double U_ELEMENTARY_CHARGE =0.0e0
```

C

Definition at line 364 of file ccodata.h.

#### 17.12.2.467 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.

#### 17.12.2.468 U_FARADAY_CONSTANT

```
const double U_FARADAY_CONSTANT =0.0e0
```

C mol^-1

Definition at line 370 of file ccodata.h.

#### 17.12.2.469 U_FERMI_COUPLING_CONSTANT

```
const double U_FERMI_COUPLING_CONSTANT =0.0000006e-5
```

GeV^-2

Definition at line 373 of file ccodata.h.

#### 17.12.2.470 U_FINE_STRUCTURE_CONSTANT

```
const double U_FINE_STRUCTURE_CONSTANT =0.0000000011e-3
```

Definition at line 376 of file ccodata.h.

#### 17.12.2.471 U_FIRST_RADIATION_CONSTANT

```
const double U_FIRST_RADIATION_CONSTANT =0.0e0
```

W m^2

Definition at line 379 of file ccodata.h.

#### 17.12.2.472 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.

#### 17.12.2.473 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.

#### 17.12.2.474 U_HARTREE_ELECTRON_VOLT_RELATIONSHIP

```
const double U_HARTREE_ELECTRON_VOLT_RELATIONSHIP =0.000000000053e0
```

eV

Definition at line 388 of file ccodata.h.

#### 17.12.2.475 U_HARTREE_ENERGY

```
const double U_HARTREE_ENERGY =0.0000000000085e-18
```

J

Definition at line 391 of file ccodata.h.

#### 17.12.2.476 U_HARTREE_ENERGY_IN_EV

```
const double U_HARTREE_ENERGY_IN_EV =0.000000000053e0
```

eV

Definition at line 394 of file ccodata.h.

#### 17.12.2.477 U_HARTREE_HERTZ_RELATIONSHIP

```
const double U_HARTREE_HERTZ_RELATIONSHIP =0.000000000013e15
```

Hz

Definition at line 397 of file ccodata.h.

#### 17.12.2.478 U_HARTREE_INVERSE_METER_RELATIONSHIP

```
const double U_HARTREE_INVERSE_METER_RELATIONSHIP =0.0000000000043e7
```

m^-1

Definition at line 400 of file ccodata.h.

#### 17.12.2.479 U_HARTREE_JOULE_RELATIONSHIP

```
const double U_HARTREE_JOULE_RELATIONSHIP =0.0000000000085e-18
```

J

Definition at line 403 of file ccodata.h.

#### 17.12.2.480 U_HARTREE_KELVIN_RELATIONSHIP

```
const double U_HARTREE_KELVIN_RELATIONSHIP =0.0000000000061e5
```

K

Definition at line 406 of file ccodata.h.

#### 17.12.2.481 U_HARTREE_KILOGRAM_RELATIONSHIP

```
const double U_HARTREE_KILOGRAM_RELATIONSHIP =0.0000000000094e-35
```

kg

Definition at line 409 of file ccodata.h.

#### 17.12.2.482 U_HELION_ELECTRON_MASS_RATIO

```
const double U_HELION_ELECTRON_MASS_RATIO =0.00000024e0
```

Definition at line 412 of file ccodata.h.

#### 17.12.2.483 U_HELION_G_FACTOR

```
const double U_HELION_G_FACTOR =0.000000050e0
```

Definition at line 415 of file ccodata.h.

#### 17.12.2.484 U_HELION_MAG__MOM

```
const double U_HELION_MAG__MOM =0.000000013e-26
```

J T^-1

Definition at line 418 of file ccodata.h.

#### 17.12.2.485 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.

#### 17.12.2.486 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.

#### 17.12.2.487 U_HELION_MASS

```
const double U_HELION_MASS =0.0000000015e-27
```

kg

Definition at line 427 of file ccodata.h.

#### 17.12.2.488 U_HELION_MASS_ENERGY_EQUIVALENT

```
const double U_HELION_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
```

J

Definition at line 430 of file ccodata.h.

#### 17.12.2.489 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.

#### 17.12.2.490 U_HELION_MASS_IN_U

```
const double U_HELION_MASS_IN_U =0.000000000097e0
```

u

Definition at line 436 of file ccodata.h.

#### 17.12.2.491 U_HELION_MOLAR_MASS

```
const double U_HELION_MOLAR_MASS =0.00000000091e-3
```

kg mol^-1

Definition at line 439 of file ccodata.h.

#### 17.12.2.492 U_HELION_PROTON_MASS_RATIO

```
const double U_HELION_PROTON_MASS_RATIO =0.00000000013e0
```

Definition at line 442 of file ccodata.h.

#### 17.12.2.493 U_HELION_RELATIVE_ATOMIC_MASS

```
const double U_HELION_RELATIVE_ATOMIC_MASS =0.000000000097e0
```

Definition at line 445 of file ccodata.h.

#### 17.12.2.494 U_HELION_SHIELDING_SHIFT

```
const double U_HELION_SHIELDING_SHIFT =0.000010e-5
```

Definition at line 448 of file ccodata.h.

#### 17.12.2.495 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.

#### 17.12.2.496 U_HERTZ_ELECTRON_VOLT_RELATIONSHIP

```
const double U_HERTZ_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 454 of file ccodata.h.

#### 17.12.2.497 U_HERTZ_HARTREE_RELATIONSHIP

```
const double U_HERTZ_HARTREE_RELATIONSHIP =0.0000000000029e-16
```

E_h

Definition at line 457 of file ccodata.h.

#### 17.12.2.498 U_HERTZ_INVERSE_METER_RELATIONSHIP

```
const double U_HERTZ_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 460 of file ccodata.h.

#### 17.12.2.499 U_HERTZ_JOULE_RELATIONSHIP

```
const double U_HERTZ_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 463 of file ccodata.h.

#### 17.12.2.500 U_HERTZ_KELVIN_RELATIONSHIP

```
const double U_HERTZ_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 466 of file ccodata.h.

#### 17.12.2.501 U_HERTZ_KILOGRAM_RELATIONSHIP

```
const double U_HERTZ_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 469 of file ccodata.h.

#### 17.12.2.502 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.

#### 17.12.2.503 U_INVERSE_FINE_STRUCTURE_CONSTANT

```
const double U_INVERSE_FINE_STRUCTURE_CONSTANT =0.000000021e0
```

Definition at line 475 of file ccodata.h.

#### 17.12.2.504 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.

#### 17.12.2.505 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.

#### 17.12.2.506 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.

#### 17.12.2.507 U_INVERSE_METER_HERTZ_RELATIONSHIP

```
const double U_INVERSE_METER_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 487 of file ccodata.h.

#### 17.12.2.508 U_INVERSE_METER_JOULE_RELATIONSHIP

```
const double U_INVERSE_METER_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 490 of file ccodata.h.

#### 17.12.2.509 U_INVERSE_METER_KELVIN_RELATIONSHIP

```
const double U_INVERSE_METER_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 493 of file ccodata.h.

#### 17.12.2.510 U_INVERSE_METER_KILOGRAM_RELATIONSHIP

```
const double U_INVERSE_METER_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 496 of file ccodata.h.

#### 17.12.2.511 U_INVERSE_OF_CONDUCTANCE_QUANTUM

```
const double U_INVERSE_OF_CONDUCTANCE_QUANTUM =0.0e0
```

ohm

Definition at line 499 of file ccodata.h.

#### 17.12.2.512 U_JOSEPHSON_CONSTANT

```
const double U_JOSEPHSON_CONSTANT =0.0e0
```

Hz V^-1

Definition at line 502 of file ccodata.h.

#### 17.12.2.513 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.

#### 17.12.2.514 U_JOULE_ELECTRON_VOLT_RELATIONSHIP

```
const double U_JOULE_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 508 of file ccodata.h.

#### 17.12.2.515 U_JOULE_HARTREE_RELATIONSHIP

```
const double U_JOULE_HARTREE_RELATIONSHIP =0.0000000000045e17
```

E_h

Definition at line 511 of file ccodata.h.

#### 17.12.2.516 U_JOULE_HERTZ_RELATIONSHIP

```
const double U_JOULE_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 514 of file ccodata.h.

#### 17.12.2.517 U_JOULE_INVERSE_METER_RELATIONSHIP

```
const double U_JOULE_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 517 of file ccodata.h.

#### 17.12.2.518 U_JOULE_KELVIN_RELATIONSHIP

```
const double U_JOULE_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 520 of file ccodata.h.

#### 17.12.2.519 U_JOULE_KILOGRAM_RELATIONSHIP

```
const double U_JOULE_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 523 of file ccodata.h.

#### 17.12.2.520 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.

#### 17.12.2.521 U_KELVIN_ELECTRON_VOLT_RELATIONSHIP

```
const double U_KELVIN_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 529 of file ccodata.h.

#### 17.12.2.522 U_KELVIN_HARTREE_RELATIONSHIP

```
const double U_KELVIN_HARTREE_RELATIONSHIP =0.0000000000061e-6
```

E_h

Definition at line 532 of file ccodata.h.

#### 17.12.2.523 U_KELVIN_HERTZ_RELATIONSHIP

```
const double U_KELVIN_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 535 of file ccodata.h.

#### 17.12.2.524 U_KELVIN_INVERSE_METER_RELATIONSHIP

```
const double U_KELVIN_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 538 of file ccodata.h.

#### 17.12.2.525 U_KELVIN_JOULE_RELATIONSHIP

```
const double U_KELVIN_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 541 of file ccodata.h.

#### 17.12.2.526 U_KELVIN_KILOGRAM_RELATIONSHIP

```
const double U_KELVIN_KILOGRAM_RELATIONSHIP =0.0e0
```

kg

Definition at line 544 of file ccodata.h.

#### 17.12.2.527 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.

#### 17.12.2.528 U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP

```
const double U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP =0.0e0
```

eV

Definition at line 550 of file ccodata.h.

#### 17.12.2.529 U_KILOGRAM_HARTREE_RELATIONSHIP

```
const double U_KILOGRAM_HARTREE_RELATIONSHIP =0.0000000000040e34
```

E_h

Definition at line 553 of file ccodata.h.

#### 17.12.2.530 U_KILOGRAM_HERTZ_RELATIONSHIP

```
const double U_KILOGRAM_HERTZ_RELATIONSHIP =0.0e0
```

Hz

Definition at line 556 of file ccodata.h.

#### 17.12.2.531 U_KILOGRAM_INVERSE_METER_RELATIONSHIP

```
const double U_KILOGRAM_INVERSE_METER_RELATIONSHIP =0.0e0
```

m^-1

Definition at line 559 of file ccodata.h.

#### 17.12.2.532 U_KILOGRAM_JOULE_RELATIONSHIP

```
const double U_KILOGRAM_JOULE_RELATIONSHIP =0.0e0
```

J

Definition at line 562 of file ccodata.h.

#### 17.12.2.533 U_KILOGRAM_KELVIN_RELATIONSHIP

```
const double U_KILOGRAM_KELVIN_RELATIONSHIP =0.0e0
```

K

Definition at line 565 of file ccodata.h.

#### 17.12.2.534 U_LATTICE_PARAMETER_OF_SILICON

```
const double U_LATTICE_PARAMETER_OF_SILICON =0.000000089e-10
```

m

Definition at line 568 of file ccodata.h.

#### 17.12.2.535 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.

#### 17.12.2.536 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.

#### 17.12.2.537 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.

#### 17.12.2.538 U_LUMINOUS_EFFICACY

```
const double U_LUMINOUS_EFFICACY =0.0e0
```

lm W^-1

Definition at line 580 of file ccodata.h.

#### 17.12.2.539 U_MAG__FLUX_QUANTUM

```
const double U_MAG__FLUX_QUANTUM =0.0e0
```

Wb

Definition at line 583 of file ccodata.h.

#### 17.12.2.540 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.

#### 17.12.2.541 U_MOLAR_MASS_CONSTANT

```
const double U_MOLAR_MASS_CONSTANT =0.00000000030e-3
```

kg mol^-1

Definition at line 589 of file ccodata.h.

#### 17.12.2.542 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.

#### 17.12.2.543 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.

#### 17.12.2.544 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.

#### 17.12.2.545 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.

#### 17.12.2.546 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.

#### 17.12.2.547 U_MOLYBDENUM_X_UNIT

```
const double U_MOLYBDENUM_X_UNIT =0.00000053e-13
```

m

Definition at line 607 of file ccodata.h.

#### 17.12.2.548 U_MUON_COMPTON_WAVELENGTH

```
const double U_MUON_COMPTON_WAVELENGTH =0.000000026e-14
```

m

Definition at line 610 of file ccodata.h.

#### 17.12.2.549 U_MUON_ELECTRON_MASS_RATIO

```
const double U_MUON_ELECTRON_MASS_RATIO =0.0000046e0
```

Definition at line 613 of file ccodata.h.

#### 17.12.2.550 U_MUON_G_FACTOR

```
const double U_MUON_G_FACTOR =0.0000000013e0
```

Definition at line 616 of file ccodata.h.

#### 17.12.2.551 U_MUON_MAG__MOM

```
const double U_MUON_MAG__MOM =0.00000010e-26
```

J T^-1

Definition at line 619 of file ccodata.h.

#### 17.12.2.552 U_MUON_MAG__MOM__ANOMALY

```
const double U_MUON_MAG__MOM__ANOMALY =0.00000063e-3
```

Definition at line 622 of file ccodata.h.

#### 17.12.2.553 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.

#### 17.12.2.554 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.

#### 17.12.2.555 U_MUON_MASS

```
const double U_MUON_MASS =0.000000042e-28
```

kg

Definition at line 631 of file ccodata.h.

#### 17.12.2.556 U_MUON_MASS_ENERGY_EQUIVALENT

```
const double U_MUON_MASS_ENERGY_EQUIVALENT =0.000000038e-11
```

J

Definition at line 634 of file ccodata.h.

#### 17.12.2.557 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.

#### 17.12.2.558 U_MUON_MASS_IN_U

```
const double U_MUON_MASS_IN_U =0.0000000025e0
```

u

Definition at line 640 of file ccodata.h.

#### 17.12.2.559 U_MUON_MOLAR_MASS

```
const double U_MUON_MOLAR_MASS =0.000000025e-4
```

kg mol^-1

Definition at line 643 of file ccodata.h.

#### 17.12.2.560 U_MUON_NEUTRON_MASS_RATIO

```
const double U_MUON_NEUTRON_MASS_RATIO =0.0000000025e0
```

Definition at line 646 of file ccodata.h.

#### 17.12.2.561 U_MUON_PROTON_MAG__MOM__RATIO

```
const double U_MUON_PROTON_MAG__MOM__RATIO =0.000000071e0
```

Definition at line 649 of file ccodata.h.

#### 17.12.2.562 U_MUON_PROTON_MASS_RATIO

```
const double U_MUON_PROTON_MASS_RATIO =0.0000000025e0
```

Definition at line 652 of file ccodata.h.

#### 17.12.2.563 U_MUON_TAU_MASS_RATIO

```
const double U_MUON_TAU_MASS_RATIO =0.00040e-2
```

Definition at line 655 of file ccodata.h.

#### 17.12.2.564 U_NATURAL_UNIT_OF_ACTION

```
const double U_NATURAL_UNIT_OF_ACTION =0.0e0
```

J s

Definition at line 658 of file ccodata.h.

#### 17.12.2.565 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.

#### 17.12.2.566 U_NATURAL_UNIT_OF_ENERGY

```
const double U_NATURAL_UNIT_OF_ENERGY =0.0000000025e-14
```

J

Definition at line 664 of file ccodata.h.

#### 17.12.2.567 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.

#### 17.12.2.568 U_NATURAL_UNIT_OF_LENGTH

```
const double U_NATURAL_UNIT_OF_LENGTH =0.0000000012e-13
```

m

Definition at line 670 of file ccodata.h.

#### 17.12.2.569 U_NATURAL_UNIT_OF_MASS

```
const double U_NATURAL_UNIT_OF_MASS =0.0000000028e-31
```

kg

Definition at line 673 of file ccodata.h.

#### 17.12.2.570 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.

#### 17.12.2.571 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.

#### 17.12.2.572 U_NATURAL_UNIT_OF_TIME

```
const double U_NATURAL_UNIT_OF_TIME =0.00000000039e-21
```

s

Definition at line 682 of file ccodata.h.

#### 17.12.2.573 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.

#### 17.12.2.574 U_NEUTRON_COMPTON_WAVELENGTH

```
const double U_NEUTRON_COMPTON_WAVELENGTH =0.00000000075e-15
```

m

Definition at line 688 of file ccodata.h.

#### 17.12.2.575 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.

#### 17.12.2.576 U_NEUTRON_ELECTRON_MASS_RATIO

```
const double U_NEUTRON_ELECTRON_MASS_RATIO =0.00000089e0
```

Definition at line 694 of file ccodata.h.

#### 17.12.2.577 U_NEUTRON_G_FACTOR

```
const double U_NEUTRON_G_FACTOR =0.00000090e0
```

Definition at line 697 of file ccodata.h.

#### 17.12.2.578 U_NEUTRON_GYROMAG__RATIO

```
const double U_NEUTRON_GYROMAG__RATIO =0.00000043e8
```

s^-1 T^-1

Definition at line 700 of file ccodata.h.

#### 17.12.2.579 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.

#### 17.12.2.580 U_NEUTRON_MAG__MOM

```
const double U_NEUTRON_MAG__MOM =0.0000023e-27
```

J T^-1

Definition at line 706 of file ccodata.h.

#### 17.12.2.581 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.

#### 17.12.2.582 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.

#### 17.12.2.583 U_NEUTRON_MASS

```
const double U_NEUTRON_MASS =0.00000000095e-27
```

kg

Definition at line 715 of file ccodata.h.

#### 17.12.2.584 U_NEUTRON_MASS_ENERGY_EQUIVALENT

```
const double U_NEUTRON_MASS_ENERGY_EQUIVALENT =0.00000000086e-10
```

J

Definition at line 718 of file ccodata.h.

#### 17.12.2.585 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.

#### 17.12.2.586 U_NEUTRON_MASS_IN_U

```
const double U_NEUTRON_MASS_IN_U =0.00000000049e0
```

u

Definition at line 724 of file ccodata.h.

#### 17.12.2.587 U_NEUTRON_MOLAR_MASS

```
const double U_NEUTRON_MOLAR_MASS =0.00000000057e-3
```

kg mol^-1

Definition at line 727 of file ccodata.h.

#### 17.12.2.588 U_NEUTRON_MUON_MASS_RATIO

```
const double U_NEUTRON_MUON_MASS_RATIO =0.00000020e0
```

Definition at line 730 of file ccodata.h.

#### 17.12.2.589 U_NEUTRON_PROTON_MAG__MOM__RATIO

```
const double U_NEUTRON_PROTON_MAG__MOM__RATIO =0.00000016e0
```

Definition at line 733 of file ccodata.h.

#### 17.12.2.590 U_NEUTRON_PROTON_MASS_DIFFERENCE

```
const double U_NEUTRON_PROTON_MASS_DIFFERENCE =0.00000082e-30
```

kg

Definition at line 736 of file ccodata.h.

#### 17.12.2.591 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.

#### 17.12.2.592 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.

#### 17.12.2.593 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.

#### 17.12.2.594 U_NEUTRON_PROTON_MASS_RATIO

```
const double U_NEUTRON_PROTON_MASS_RATIO =0.00000000049e0
```

Definition at line 748 of file ccodata.h.

#### 17.12.2.595 U_NEUTRON_RELATIVE_ATOMIC_MASS

```
const double U_NEUTRON_RELATIVE_ATOMIC_MASS =0.00000000049e0
```

Definition at line 751 of file ccodata.h.

#### 17.12.2.596 U_NEUTRON_TAU_MASS_RATIO

```
const double U_NEUTRON_TAU_MASS_RATIO =0.000036e0
```

Definition at line 754 of file ccodata.h.

#### 17.12.2.597 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.

#### 17.12.2.598 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.

#### 17.12.2.599 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.

#### 17.12.2.600 U_NUCLEAR_MAGNETON

```
const double U_NUCLEAR_MAGNETON =0.0000000015e-27
```

J T^-1

Definition at line 766 of file ccodata.h.

#### 17.12.2.601 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.

#### 17.12.2.602 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.

#### 17.12.2.603 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.

#### 17.12.2.604 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.

#### 17.12.2.605 U_PLANCK_CONSTANT

```
const double U_PLANCK_CONSTANT =0.0e0
```

J Hz^-1

Definition at line 781 of file ccodata.h.

#### 17.12.2.606 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.

#### 17.12.2.607 U_PLANCK_LENGTH

```
const double U_PLANCK_LENGTH =0.000018e-35
```

m

Definition at line 787 of file ccodata.h.

#### 17.12.2.608 U_PLANCK_MASS

```
const double U_PLANCK_MASS =0.000024e-8
```

kg

Definition at line 790 of file ccodata.h.

#### 17.12.2.609 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.

#### 17.12.2.610 U_PLANCK_TEMPERATURE

```
const double U_PLANCK_TEMPERATURE =0.000016e32
```

K

Definition at line 796 of file ccodata.h.

#### 17.12.2.611 U_PLANCK_TIME

```
const double U_PLANCK_TIME =0.000060e-44
```

s

Definition at line 799 of file ccodata.h.

#### 17.12.2.612 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.

#### 17.12.2.613 U_PROTON_COMPTON_WAVELENGTH

```
const double U_PROTON_COMPTON_WAVELENGTH =0.00000000040e-15
```

m

Definition at line 805 of file ccodata.h.

#### 17.12.2.614 U_PROTON_ELECTRON_MASS_RATIO

```
const double U_PROTON_ELECTRON_MASS_RATIO =0.00000011e0
```

Definition at line 808 of file ccodata.h.

#### 17.12.2.615 U_PROTON_G_FACTOR

```
const double U_PROTON_G_FACTOR =0.0000000016e0
```

Definition at line 811 of file ccodata.h.

#### 17.12.2.616 U_PROTON_GYROMAG__RATIO

```
const double U_PROTON_GYROMAG__RATIO =0.0000000011e8
```

s^-1 T^-1

Definition at line 814 of file ccodata.h.

#### 17.12.2.617 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.

#### 17.12.2.618 U_PROTON_MAG__MOM

```
const double U_PROTON_MAG__MOM =0.00000000060e-26
```

J T^-1

Definition at line 820 of file ccodata.h.

#### 17.12.2.619 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.

#### 17.12.2.620 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.

#### 17.12.2.621 U_PROTON_MAG__SHIELDING_CORRECTION

```
const double U_PROTON_MAG__SHIELDING_CORRECTION =0.0011e-5
```

Definition at line 829 of file ccodata.h.

#### 17.12.2.622 U_PROTON_MASS

```
const double U_PROTON_MASS =0.00000000051e-27
```

kg

Definition at line 832 of file ccodata.h.

#### 17.12.2.623 U_PROTON_MASS_ENERGY_EQUIVALENT

```
const double U_PROTON_MASS_ENERGY_EQUIVALENT =0.00000000046e-10
```

J

Definition at line 835 of file ccodata.h.

#### 17.12.2.624 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.

#### 17.12.2.625 U_PROTON_MASS_IN_U

```
const double U_PROTON_MASS_IN_U =0.000000000053e0
```

u

Definition at line 841 of file ccodata.h.

#### 17.12.2.626 U_PROTON_MOLAR_MASS

```
const double U_PROTON_MOLAR_MASS =0.00000000031e-3
```

kg mol^-1

Definition at line 844 of file ccodata.h.

#### 17.12.2.627 U_PROTON_MUON_MASS_RATIO

```
const double U_PROTON_MUON_MASS_RATIO =0.00000020e0
```

Definition at line 847 of file ccodata.h.

#### 17.12.2.628 U_PROTON_NEUTRON_MAG__MOM__RATIO

```
const double U_PROTON_NEUTRON_MAG__MOM__RATIO =0.00000034e0
```

Definition at line 850 of file ccodata.h.

#### 17.12.2.629 U_PROTON_NEUTRON_MASS_RATIO

```
const double U_PROTON_NEUTRON_MASS_RATIO =0.00000000049e0
```

Definition at line 853 of file ccodata.h.

#### 17.12.2.630 U_PROTON_RELATIVE_ATOMIC_MASS

```
const double U_PROTON_RELATIVE_ATOMIC_MASS =0.000000000053e0
```

Definition at line 856 of file ccodata.h.

#### 17.12.2.631 U_PROTON_RMS_CHARGE_RADIUS

```
const double U_PROTON_RMS_CHARGE_RADIUS =0.019e-16
```

m

Definition at line 859 of file ccodata.h.

#### 17.12.2.632 U_PROTON_TAU_MASS_RATIO

```
const double U_PROTON_TAU_MASS_RATIO =0.000036e0
```

Definition at line 862 of file ccodata.h.

#### 17.12.2.633 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.

#### 17.12.2.634 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.

#### 17.12.2.635 U_REDUCED_COMPTON_WAVELENGTH

```
const double U_REDUCED_COMPTON_WAVELENGTH =0.0000000012e-13
```

m

Definition at line 871 of file ccodata.h.

#### 17.12.2.636 U_REDUCED_MUON_COMPTON_WAVELENGTH

```
const double U_REDUCED_MUON_COMPTON_WAVELENGTH =0.000000042e-15
```

m

Definition at line 874 of file ccodata.h.

#### 17.12.2.637 U_REDUCED_NEUTRON_COMPTON_WAVELENGTH

```
const double U_REDUCED_NEUTRON_COMPTON_WAVELENGTH =0.0000000012e-16
```

m

Definition at line 877 of file ccodata.h.

#### 17.12.2.638 U_REDUCED_PLANCK_CONSTANT

```
const double U_REDUCED_PLANCK_CONSTANT =0.0e0
```

J s

Definition at line 880 of file ccodata.h.

#### 17.12.2.639 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.

#### 17.12.2.640 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.

#### 17.12.2.641 U_REDUCED_PROTON_COMPTON_WAVELENGTH

```
const double U_REDUCED_PROTON_COMPTON_WAVELENGTH =0.00000000064e-16
```

m

Definition at line 889 of file ccodata.h.

#### 17.12.2.642 U_REDUCED_TAU_COMPTON_WAVELENGTH

```
const double U_REDUCED_TAU_COMPTON_WAVELENGTH =0.000075e-16
```

m

Definition at line 892 of file ccodata.h.

#### 17.12.2.643 U_RYDBERG_CONSTANT

```
const double U_RYDBERG_CONSTANT =0.000021e0
```

m^-1

Definition at line 895 of file ccodata.h.

#### 17.12.2.644 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.

#### 17.12.2.645 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.

#### 17.12.2.646 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.

#### 17.12.2.647 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.

#### 17.12.2.648 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.

#### 17.12.2.649 U_SECOND_RADIATION_CONSTANT

```
const double U_SECOND_RADIATION_CONSTANT =0.0e0
```

m K

Definition at line 913 of file ccodata.h.

#### 17.12.2.650 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.

#### 17.12.2.651 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.

#### 17.12.2.652 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.

#### 17.12.2.653 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.

#### 17.12.2.654 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.

#### 17.12.2.655 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.

#### 17.12.2.656 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.

#### 17.12.2.657 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.

#### 17.12.2.658 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.

#### 17.12.2.659 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.

#### 17.12.2.660 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.

#### 17.12.2.661 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.

#### 17.12.2.662 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.

#### 17.12.2.663 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.

#### 17.12.2.664 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.

#### 17.12.2.665 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.

#### 17.12.2.666 U_STANDARD_ATMOSPHERE

```
const double U_STANDARD_ATMOSPHERE =0.0e0
```

Pa

Definition at line 964 of file ccodata.h.

#### 17.12.2.667 U_STANDARD_STATE_PRESSURE

```
const double U_STANDARD_STATE_PRESSURE =0.0e0
```

Pa

Definition at line 967 of file ccodata.h.

#### 17.12.2.668 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.

#### 17.12.2.669 U_TAU_COMPTON_WAVELENGTH

```
const double U_TAU_COMPTON_WAVELENGTH =0.00047e-16
```

m

Definition at line 973 of file ccodata.h.

#### 17.12.2.670 U_TAU_ELECTRON_MASS_RATIO

```
const double U_TAU_ELECTRON_MASS_RATIO =0.23e0
```

Definition at line 976 of file ccodata.h.

#### 17.12.2.671 U_TAU_ENERGY_EQUIVALENT

```
const double U_TAU_ENERGY_EQUIVALENT =0.12e0
```

MeV

Definition at line 979 of file ccodata.h.

#### 17.12.2.672 U_TAU_MASS

```
const double U_TAU_MASS =0.00021e-27
```

kg

Definition at line 982 of file ccodata.h.

#### 17.12.2.673 U_TAU_MASS_ENERGY_EQUIVALENT

```
const double U_TAU_MASS_ENERGY_EQUIVALENT =0.00019e-10
```

J

Definition at line 985 of file ccodata.h.

#### 17.12.2.674 U_TAU_MASS_IN_U

```
const double U_TAU_MASS_IN_U =0.00013e0
```

u

Definition at line 988 of file ccodata.h.

#### 17.12.2.675 U_TAU_MOLAR_MASS

```
const double U_TAU_MOLAR_MASS =0.00013e-3
```

kg mol^-1

Definition at line 991 of file ccodata.h.

#### 17.12.2.676 U_TAU_MUON_MASS_RATIO

```
const double U_TAU_MUON_MASS_RATIO =0.0011e0
```

Definition at line 994 of file ccodata.h.

#### 17.12.2.677 U_TAU_NEUTRON_MASS_RATIO

```
const double U_TAU_NEUTRON_MASS_RATIO =0.00013e0
```

Definition at line 997 of file ccodata.h.

#### 17.12.2.678 U_TAU_PROTON_MASS_RATIO

```
const double U_TAU_PROTON_MASS_RATIO =0.00013e0
```

Definition at line 1000 of file ccodata.h.

#### 17.12.2.679 U_THOMSON_CROSS_SECTION

```
const double U_THOMSON_CROSS_SECTION =0.0000000060e-29
```

m^2

Definition at line 1003 of file ccodata.h.

#### 17.12.2.680 U_TRITON_ELECTRON_MASS_RATIO

```
const double U_TRITON_ELECTRON_MASS_RATIO =0.00000027e0
```

Definition at line 1006 of file ccodata.h.

#### 17.12.2.681 U_TRITON_G_FACTOR

```
const double U_TRITON_G_FACTOR =0.000000012e0
```

Definition at line 1009 of file ccodata.h.

#### 17.12.2.682 U_TRITON_MAG__MOM

```
const double U_TRITON_MAG__MOM =0.0000000030e-26
```

J T^-1

Definition at line 1012 of file ccodata.h.

#### 17.12.2.683 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.

#### 17.12.2.684 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.

#### 17.12.2.685 U_TRITON_MASS

```
const double U_TRITON_MASS =0.0000000015e-27
```

kg

Definition at line 1021 of file ccodata.h.

#### 17.12.2.686 U_TRITON_MASS_ENERGY_EQUIVALENT

```
const double U_TRITON_MASS_ENERGY_EQUIVALENT =0.0000000014e-10
```

J

Definition at line 1024 of file ccodata.h.

#### 17.12.2.687 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.

#### 17.12.2.688 U_TRITON_MASS_IN_U

```
const double U_TRITON_MASS_IN_U =0.00000000012e0
```

u

Definition at line 1030 of file ccodata.h.

#### 17.12.2.689 U_TRITON_MOLAR_MASS

```
const double U_TRITON_MOLAR_MASS =0.00000000092e-3
```

kg mol^-1

Definition at line 1033 of file ccodata.h.

#### 17.12.2.690 U_TRITON_PROTON_MASS_RATIO

```
const double U_TRITON_PROTON_MASS_RATIO =0.00000000015e0
```

Definition at line 1036 of file ccodata.h.

#### 17.12.2.691 U_TRITON_RELATIVE_ATOMIC_MASS

```
const double U_TRITON_RELATIVE_ATOMIC_MASS =0.00000000012e0
```

Definition at line 1039 of file ccodata.h.

#### 17.12.2.692 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.

#### 17.12.2.693 U_UNIFIED_ATOMIC_MASS_UNIT

```
const double U_UNIFIED_ATOMIC_MASS_UNIT =0.00000000050e-27
```

kg

Definition at line 1045 of file ccodata.h.

#### 17.12.2.694 U_VACUUM_ELECTRIC_PERMITTIVITY

```
const double U_VACUUM_ELECTRIC_PERMITTIVITY =0.0000000013e-12
```

F m^-1

Definition at line 1048 of file ccodata.h.

#### 17.12.2.695 U_VACUUM_MAG__PERMEABILITY

```
const double U_VACUUM_MAG__PERMEABILITY =0.00000000019e-6
```

N A^-2

Definition at line 1051 of file ccodata.h.

#### 17.12.2.696 U_VON_KLITZING_CONSTANT

```
const double U_VON_KLITZING_CONSTANT =0.0e0
```

ohm

Definition at line 1054 of file ccodata.h.

#### 17.12.2.697 U_W_TO_Z_MASS_RATIO

```
const double U_W_TO_Z_MASS_RATIO =0.00017e0
```

Definition at line 1066 of file ccodata.h.

#### 17.12.2.698 U_WEAK_MIXING_ANGLE

```
const double U_WEAK_MIXING_ANGLE =0.00030e0
```

Definition at line 1057 of file ccodata.h.

#### 17.12.2.699 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.

#### 17.12.2.700 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.

#### 17.12.2.701 UNIFIED_ATOMIC_MASS_UNIT

```
const double UNIFIED_ATOMIC_MASS_UNIT =1.66053906660e-27
```

kg

Definition at line 1044 of file ccodata.h.

#### 17.12.2.702 VACUUM_ELECTRIC_PERMITTIVITY

```
const double VACUUM_ELECTRIC_PERMITTIVITY =8.8541878128e-12
```

F m^-1

Definition at line 1047 of file ccodata.h.

#### 17.12.2.703 VACUUM_MAG__PERMEABILITY

```
const double VACUUM_MAG__PERMEABILITY =1.25663706212e-6
```

N A^-2

Definition at line 1050 of file ccodata.h.

#### 17.12.2.704 VON_KLITZING_CONSTANT

```
const double VON_KLITZING_CONSTANT =25812.80745e0
```

ohm

Definition at line 1053 of file ccodata.h.

#### 17.12.2.705 W_TO_Z_MASS_RATIO

```
const double W_TO_Z_MASS_RATIO =0.88153e0
```

Definition at line 1065 of file ccodata.h.

#### 17.12.2.706 WEAK_MIXING_ANGLE

```
const double WEAK_MIXING_ANGLE =0.22290e0
```

Definition at line 1056 of file ccodata.h.

#### 17.12.2.707 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.

#### 17.12.2.708 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.

## 17.13 ccodata.h

Go to the documentation of this file.

```
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;
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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;
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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;
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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;
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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;
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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;
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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;
```

## 17.14 /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)

## 17.14.1 Macro Definition Documentation

### 17.14.1.1 PY_SSIZE_T_CLEAN

```
#define PY_SSIZE_T_CLEAN
```

Definition at line 1 of file cpycodata.c.

## 17.14.2 Function Documentation

### 17.14.2.1 PyDoc_STRVAR()

```
PyDoc_STRVAR (
            module_docstring ,
            "C extension for codata constants."  )
```

### 17.14.2.2 PyInit_codata()

```
PyMODINIT_FUNC PyInit_codata (
            void  )
```

Definition at line 12 of file cpycodata.c.

## 17.15 cpycodata.c

Go to the documentation of this file.

```
#define PY_SSIZE_T_CLEAN
#include <Python.h>
#include "codata.h"


PyDoc_STRVAR(module_docstring, "C extension for codata constants.");

static PyMethodDef myMethods[] = {{ NULL, NULL, 0, NULL }};

static struct PyModuleDef codata = {PyModuleDef_HEAD_INIT, "codata", module_docstring, -1, myMethods};

PyMODINIT_FUNC PyInit_codata(void){
    PyObject *m;
    PyObject *d;
    PyObject *v;
    m = PyModule_Create(&codata);
    d = PyModule_GetDict(m);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_MASS_IN_U);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MASS_IN_U);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_MOLAR_MASS);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_MOLAR_MASS);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_PROTON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ANGSTROM_STAR);
    PyDict_SetItemString(d, "ANGSTROM_STAR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ANGSTROM_STAR);
    PyDict_SetItemString(d, "U_ANGSTROM_STAR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT);
```

```
    PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ACTION);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ACTION", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ACTION);
```

```
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ACTION", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CHARGE);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CHARGE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CHARGE);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CHARGE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CHARGE_DENSITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CHARGE_DENSITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CHARGE_DENSITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CHARGE_DENSITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_CURRENT);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_CURRENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_CURRENT);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_CURRENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_FIELD);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_FIELD", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_FIELD);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_FIELD", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_ENERGY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_ENERGY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_ENERGY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_ENERGY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_FORCE);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_FORCE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_FORCE);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_FORCE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_LENGTH);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_LENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_LENGTH);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_LENGTH", v);
    Py_INCREF(v);

```

```
    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAG__DIPOLE_MOM);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAG__DIPOLE_MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAG__FLUX_DENSITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAG__FLUX_DENSITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MAGNETIZABILITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MAGNETIZABILITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MAGNETIZABILITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MAGNETIZABILITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MASS);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MASS);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_MOMENTUM);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_MOMENTUM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_MOMENTUM);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_MOMENTUM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_PERMITTIVITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_PERMITTIVITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_PERMITTIVITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_PERMITTIVITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_TIME);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_TIME", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_TIME);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_TIME", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ATOMIC_UNIT_OF_VELOCITY);
    PyDict_SetItemString(d, "ATOMIC_UNIT_OF_VELOCITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ATOMIC_UNIT_OF_VELOCITY);
    PyDict_SetItemString(d, "U_ATOMIC_UNIT_OF_VELOCITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(AVOGADRO_CONSTANT);
    PyDict_SetItemString(d, "AVOGADRO_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_AVOGADRO_CONSTANT);
    PyDict_SetItemString(d, "U_AVOGADRO_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(BOHR_MAGNETON);
    PyDict_SetItemString(d, "BOHR_MAGNETON", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_BOHR_MAGNETON);
    PyDict_SetItemString(d, "U_BOHR_MAGNETON", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(BOHR_MAGNETON_IN_EV_T);
    PyDict_SetItemString(d, "BOHR_MAGNETON_IN_EV_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_EV_T);
    PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_EV_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(BOHR_MAGNETON_IN_HZ_T);
    PyDict_SetItemString(d, "BOHR_MAGNETON_IN_HZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_HZ_T);
    PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_HZ_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
    PyDict_SetItemString(d, "BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
    Py_INCREF(v);
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v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOHR_MAGNETON_IN_K_T);
PyDict_SetItemString(d, "BOHR_MAGNETON_IN_K_T", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOHR_MAGNETON_IN_K_T);
PyDict_SetItemString(d, "U_BOHR_MAGNETON_IN_K_T", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOHR_RADIUS);
PyDict_SetItemString(d, "BOHR_RADIUS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOHR_RADIUS);
PyDict_SetItemString(d, "U_BOHR_RADIUS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOLTZMANN_CONSTANT);
PyDict_SetItemString(d, "BOLTZMANN_CONSTANT", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT);
PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_EV_K);
PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_EV_K", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_EV_K);
PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_EV_K", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_HZ_K);
PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_HZ_K", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_HZ_K);
PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_HZ_K", v);
Py_INCREF(v);

v = PyFloat_FromDouble(BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN);
PyDict_SetItemString(d, "BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN);
PyDict_SetItemString(d, "U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN", v);
Py_INCREF(v);

v = PyFloat_FromDouble(CHARACTERISTIC_IMPEDANCE_OF_VACUUM);
PyDict_SetItemString(d, "CHARACTERISTIC_IMPEDANCE_OF_VACUUM", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM);
PyDict_SetItemString(d, "U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM", v);
Py_INCREF(v);

v = PyFloat_FromDouble(CLASSICAL_ELECTRON_RADIUS);
PyDict_SetItemString(d, "CLASSICAL_ELECTRON_RADIUS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_CLASSICAL_ELECTRON_RADIUS);
PyDict_SetItemString(d, "U_CLASSICAL_ELECTRON_RADIUS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(COMPTON_WAVELENGTH);
PyDict_SetItemString(d, "COMPTON_WAVELENGTH", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_COMPTON_WAVELENGTH);
PyDict_SetItemString(d, "U_COMPTON_WAVELENGTH", v);
Py_INCREF(v);

v = PyFloat_FromDouble(CONDUCTANCE_QUANTUM);
PyDict_SetItemString(d, "CONDUCTANCE_QUANTUM", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_CONDUCTANCE_QUANTUM);
PyDict_SetItemString(d, "U_CONDUCTANCE_QUANTUM", v);
Py_INCREF(v);

v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_AMPERE_90);
PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_AMPERE_90", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_AMPERE_90);
PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_AMPERE_90", v);
Py_INCREF(v);

v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_COULOMB_90);
PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_COULOMB_90", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_COULOMB_90);
PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_COULOMB_90", v);
Py_INCREF(v);
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    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_FARAD_90);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_FARAD_90", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_FARAD_90);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_FARAD_90", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_HENRY_90);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_HENRY_90", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_HENRY_90);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_HENRY_90", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_OHM_90);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_OHM_90", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_OHM_90);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_OHM_90", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_VOLT_90);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_VOLT_90", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_VOLT_90);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_VOLT_90", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(CONVENTIONAL_VALUE_OF_WATT_90);
    PyDict_SetItemString(d, "CONVENTIONAL_VALUE_OF_WATT_90", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_CONVENTIONAL_VALUE_OF_WATT_90);
    PyDict_SetItemString(d, "U_CONVENTIONAL_VALUE_OF_WATT_90", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(COPPER_X_UNIT);
    PyDict_SetItemString(d, "COPPER_X_UNIT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_COPPER_X_UNIT);
    PyDict_SetItemString(d, "U_COPPER_X_UNIT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(DEUTERON_ELECTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "DEUTERON_ELECTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_DEUTERON_ELECTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_DEUTERON_ELECTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(DEUTERON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "DEUTERON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_DEUTERON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_DEUTERON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(DEUTERON_G_FACTOR);
    PyDict_SetItemString(d, "DEUTERON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_DEUTERON_G_FACTOR);
    PyDict_SetItemString(d, "U_DEUTERON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(DEUTERON_MAG__MOM);
    PyDict_SetItemString(d, "DEUTERON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM);
    PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
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Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
PyDict_SetItemString(d, "DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
PyDict_SetItemString(d, "U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MASS);
PyDict_SetItemString(d, "DEUTERON_MASS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MASS);
PyDict_SetItemString(d, "U_DEUTERON_MASS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MASS_ENERGY_EQUIVALENT);
PyDict_SetItemString(d, "DEUTERON_MASS_ENERGY_EQUIVALENT", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MASS_ENERGY_EQUIVALENT);
PyDict_SetItemString(d, "U_DEUTERON_MASS_ENERGY_EQUIVALENT", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV);
PyDict_SetItemString(d, "DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV);
PyDict_SetItemString(d, "U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MASS_IN_U);
PyDict_SetItemString(d, "DEUTERON_MASS_IN_U", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MASS_IN_U);
PyDict_SetItemString(d, "U_DEUTERON_MASS_IN_U", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_MOLAR_MASS);
PyDict_SetItemString(d, "DEUTERON_MOLAR_MASS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_MOLAR_MASS);
PyDict_SetItemString(d, "U_DEUTERON_MOLAR_MASS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_NEUTRON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "DEUTERON_NEUTRON_MAG__MOM__RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_NEUTRON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "U_DEUTERON_NEUTRON_MAG__MOM__RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_PROTON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "DEUTERON_PROTON_MAG__MOM__RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_PROTON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "U_DEUTERON_PROTON_MAG__MOM__RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_PROTON_MASS_RATIO);
PyDict_SetItemString(d, "DEUTERON_PROTON_MASS_RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_PROTON_MASS_RATIO);
PyDict_SetItemString(d, "U_DEUTERON_PROTON_MASS_RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_RELATIVE_ATOMIC_MASS);
PyDict_SetItemString(d, "DEUTERON_RELATIVE_ATOMIC_MASS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_RELATIVE_ATOMIC_MASS);
PyDict_SetItemString(d, "U_DEUTERON_RELATIVE_ATOMIC_MASS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(DEUTERON_RMS_CHARGE_RADIUS);
PyDict_SetItemString(d, "DEUTERON_RMS_CHARGE_RADIUS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_DEUTERON_RMS_CHARGE_RADIUS);
PyDict_SetItemString(d, "U_DEUTERON_RMS_CHARGE_RADIUS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(ELECTRON_CHARGE_TO_MASS_QUOTIENT);
PyDict_SetItemString(d, "ELECTRON_CHARGE_TO_MASS_QUOTIENT", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_ELECTRON_CHARGE_TO_MASS_QUOTIENT);
PyDict_SetItemString(d, "U_ELECTRON_CHARGE_TO_MASS_QUOTIENT", v);
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    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_DEUTERON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_DEUTERON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_DEUTERON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_DEUTERON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_DEUTERON_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_DEUTERON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_DEUTERON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_DEUTERON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_G_FACTOR);
    PyDict_SetItemString(d, "ELECTRON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_G_FACTOR);
    PyDict_SetItemString(d, "U_ELECTRON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "ELECTRON_GYROMAG__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_GYROMAG__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "ELECTRON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_HELION_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_HELION_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_HELION_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_HELION_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MAG__MOM);
    PyDict_SetItemString(d, "ELECTRON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM);
    PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MAG__MOM__ANOMALY);
    PyDict_SetItemString(d, "ELECTRON_MAG__MOM__ANOMALY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__ANOMALY);
    PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__ANOMALY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MASS);
    PyDict_SetItemString(d, "ELECTRON_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MASS);
    PyDict_SetItemString(d, "U_ELECTRON_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "ELECTRON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_ELECTRON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
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    PyDict_SetItemString(d, "ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MASS_IN_U);
    PyDict_SetItemString(d, "ELECTRON_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MASS_IN_U);
    PyDict_SetItemString(d, "U_ELECTRON_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MOLAR_MASS);
    PyDict_SetItemString(d, "ELECTRON_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MOLAR_MASS);
    PyDict_SetItemString(d, "U_ELECTRON_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MUON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_MUON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MUON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_MUON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_MUON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_MUON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_NEUTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_NEUTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_NEUTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_NEUTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "ELECTRON_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "U_ELECTRON_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_TAU_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_TAU_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO);
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    PyDict_SetItemString(d, "U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_TRITON_MASS_RATIO);
    PyDict_SetItemString(d, "ELECTRON_TRITON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_TRITON_MASS_RATIO);
    PyDict_SetItemString(d, "U_ELECTRON_TRITON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT);
    PyDict_SetItemString(d, "ELECTRON_VOLT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELECTRON_VOLT_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "ELECTRON_VOLT_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELEMENTARY_CHARGE);
    PyDict_SetItemString(d, "ELEMENTARY_CHARGE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELEMENTARY_CHARGE);
    PyDict_SetItemString(d, "U_ELEMENTARY_CHARGE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(ELEMENTARY_CHARGE_OVER_H_BAR);
    PyDict_SetItemString(d, "ELEMENTARY_CHARGE_OVER_H_BAR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_ELEMENTARY_CHARGE_OVER_H_BAR);
    PyDict_SetItemString(d, "U_ELEMENTARY_CHARGE_OVER_H_BAR", v);
    Py_INCREF(v);

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    v = PyFloat_FromDouble(FARADAY_CONSTANT);
    PyDict_SetItemString(d, "FARADAY_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_FARADAY_CONSTANT);
    PyDict_SetItemString(d, "U_FARADAY_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(FERMI_COUPLING_CONSTANT);
    PyDict_SetItemString(d, "FERMI_COUPLING_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_FERMI_COUPLING_CONSTANT);
    PyDict_SetItemString(d, "U_FERMI_COUPLING_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(FINE_STRUCTURE_CONSTANT);
    PyDict_SetItemString(d, "FINE_STRUCTURE_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_FINE_STRUCTURE_CONSTANT);
    PyDict_SetItemString(d, "U_FINE_STRUCTURE_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(FIRST_RADIATION_CONSTANT);
    PyDict_SetItemString(d, "FIRST_RADIATION_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_FIRST_RADIATION_CONSTANT);
    PyDict_SetItemString(d, "U_FIRST_RADIATION_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE);
    PyDict_SetItemString(d, "FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE);
    PyDict_SetItemString(d, "U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_ENERGY);
    PyDict_SetItemString(d, "HARTREE_ENERGY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_ENERGY);
    PyDict_SetItemString(d, "U_HARTREE_ENERGY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_ENERGY_IN_EV);
    PyDict_SetItemString(d, "HARTREE_ENERGY_IN_EV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_ENERGY_IN_EV);
    PyDict_SetItemString(d, "U_HARTREE_ENERGY_IN_EV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
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    v = PyFloat_FromDouble(U_HARTREE_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HARTREE_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "HARTREE_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HARTREE_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HARTREE_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "HELION_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_HELION_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_G_FACTOR);
    PyDict_SetItemString(d, "HELION_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_G_FACTOR);
    PyDict_SetItemString(d, "U_HELION_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MAG__MOM);
    PyDict_SetItemString(d, "HELION_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MAG__MOM);
    PyDict_SetItemString(d, "U_HELION_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MASS);
    PyDict_SetItemString(d, "HELION_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MASS);
    PyDict_SetItemString(d, "U_HELION_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "HELION_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_HELION_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "HELION_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MASS_IN_U);
    PyDict_SetItemString(d, "HELION_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MASS_IN_U);
    PyDict_SetItemString(d, "U_HELION_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_MOLAR_MASS);
    PyDict_SetItemString(d, "HELION_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_MOLAR_MASS);
    PyDict_SetItemString(d, "U_HELION_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "HELION_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_HELION_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
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    v = PyFloat_FromDouble(HELION_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "HELION_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "U_HELION_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HELION_SHIELDING_SHIFT);
    PyDict_SetItemString(d, "HELION_SHIELDING_SHIFT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HELION_SHIELDING_SHIFT);
    PyDict_SetItemString(d, "U_HELION_SHIELDING_SHIFT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HERTZ_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "HERTZ_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HERTZ_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_HERTZ_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133);
    PyDict_SetItemString(d, "HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133);
    PyDict_SetItemString(d, "U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_FINE_STRUCTURE_CONSTANT);
    PyDict_SetItemString(d, "INVERSE_FINE_STRUCTURE_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_FINE_STRUCTURE_CONSTANT);
    PyDict_SetItemString(d, "U_INVERSE_FINE_STRUCTURE_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP", v);
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    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_METER_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "INVERSE_METER_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_METER_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_INVERSE_METER_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(INVERSE_OF_CONDUCTANCE_QUANTUM);
    PyDict_SetItemString(d, "INVERSE_OF_CONDUCTANCE_QUANTUM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_INVERSE_OF_CONDUCTANCE_QUANTUM);
    PyDict_SetItemString(d, "U_INVERSE_OF_CONDUCTANCE_QUANTUM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOSEPHSON_CONSTANT);
    PyDict_SetItemString(d, "JOSEPHSON_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOSEPHSON_CONSTANT);
    PyDict_SetItemString(d, "U_JOSEPHSON_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_INVERSE_METER_RELATIONSHIP", v);
```

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    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(JOULE_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "JOULE_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_JOULE_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_JOULE_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KELVIN_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "KELVIN_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KELVIN_KILOGRAM_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KELVIN_KILOGRAM_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_HARTREE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_HARTREE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_HERTZ_RELATIONSHIP);
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    PyDict_SetItemString(d, "KILOGRAM_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_HERTZ_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_HERTZ_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_INVERSE_METER_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_INVERSE_METER_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_JOULE_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_JOULE_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(KILOGRAM_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "KILOGRAM_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_KILOGRAM_KELVIN_RELATIONSHIP);
    PyDict_SetItemString(d, "U_KILOGRAM_KELVIN_RELATIONSHIP", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(LATTICE_PARAMETER_OF_SILICON);
    PyDict_SetItemString(d, "LATTICE_PARAMETER_OF_SILICON", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_LATTICE_PARAMETER_OF_SILICON);
    PyDict_SetItemString(d, "U_LATTICE_PARAMETER_OF_SILICON", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(LATTICE_SPACING_OF_IDEAL_SI__220);
    PyDict_SetItemString(d, "LATTICE_SPACING_OF_IDEAL_SI__220", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_LATTICE_SPACING_OF_IDEAL_SI__220);
    PyDict_SetItemString(d, "U_LATTICE_SPACING_OF_IDEAL_SI__220", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(LOSCHMIDT_CONSTANT__273_15_K__100_KPA);
    PyDict_SetItemString(d, "LOSCHMIDT_CONSTANT__273_15_K__100_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA);
    PyDict_SetItemString(d, "U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA);
    PyDict_SetItemString(d, "LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA);
    PyDict_SetItemString(d, "U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(LUMINOUS_EFFICACY);
    PyDict_SetItemString(d, "LUMINOUS_EFFICACY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_LUMINOUS_EFFICACY);
    PyDict_SetItemString(d, "U_LUMINOUS_EFFICACY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MAG__FLUX_QUANTUM);
    PyDict_SetItemString(d, "MAG__FLUX_QUANTUM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MAG__FLUX_QUANTUM);
    PyDict_SetItemString(d, "U_MAG__FLUX_QUANTUM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_GAS_CONSTANT);
    PyDict_SetItemString(d, "MOLAR_GAS_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_GAS_CONSTANT);
    PyDict_SetItemString(d, "U_MOLAR_GAS_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_MASS_CONSTANT);
    PyDict_SetItemString(d, "MOLAR_MASS_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_MASS_CONSTANT);
    PyDict_SetItemString(d, "U_MOLAR_MASS_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_MASS_OF_CARBON_12);
    PyDict_SetItemString(d, "MOLAR_MASS_OF_CARBON_12", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_MASS_OF_CARBON_12);
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    PyDict_SetItemString(d, "U_MOLAR_MASS_OF_CARBON_12", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_PLANCK_CONSTANT);
    PyDict_SetItemString(d, "MOLAR_PLANCK_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_PLANCK_CONSTANT);
    PyDict_SetItemString(d, "U_MOLAR_PLANCK_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA);
    PyDict_SetItemString(d, "MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA);
    PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA);
    PyDict_SetItemString(d, "MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA);
    PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLAR_VOLUME_OF_SILICON);
    PyDict_SetItemString(d, "MOLAR_VOLUME_OF_SILICON", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLAR_VOLUME_OF_SILICON);
    PyDict_SetItemString(d, "U_MOLAR_VOLUME_OF_SILICON", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MOLYBDENUM_X_UNIT);
    PyDict_SetItemString(d, "MOLYBDENUM_X_UNIT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MOLYBDENUM_X_UNIT);
    PyDict_SetItemString(d, "U_MOLYBDENUM_X_UNIT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "MUON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_MUON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "MUON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_MUON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_G_FACTOR);
    PyDict_SetItemString(d, "MUON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_G_FACTOR);
    PyDict_SetItemString(d, "U_MUON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MAG__MOM);
    PyDict_SetItemString(d, "MUON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MAG__MOM);
    PyDict_SetItemString(d, "U_MUON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MAG__MOM__ANOMALY);
    PyDict_SetItemString(d, "MUON_MAG__MOM__ANOMALY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MAG__MOM__ANOMALY);
    PyDict_SetItemString(d, "U_MUON_MAG__MOM__ANOMALY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

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    v = PyFloat_FromDouble(MUON_MASS);
    PyDict_SetItemString(d, "MUON_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MASS);
    PyDict_SetItemString(d, "U_MUON_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "MUON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_MUON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "MUON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MASS_IN_U);
    PyDict_SetItemString(d, "MUON_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MASS_IN_U);
    PyDict_SetItemString(d, "U_MUON_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_MOLAR_MASS);
    PyDict_SetItemString(d, "MUON_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_MOLAR_MASS);
    PyDict_SetItemString(d, "U_MUON_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "MUON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_MUON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "MUON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_MUON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "MUON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_MUON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(MUON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "MUON_TAU_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_MUON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "U_MUON_TAU_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_ACTION);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_ACTION", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ACTION);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ACTION", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_ACTION_IN_EV_S);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_ACTION_IN_EV_S", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ACTION_IN_EV_S);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ACTION_IN_EV_S", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_ENERGY);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_ENERGY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ENERGY);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ENERGY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_ENERGY_IN_MEV);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_ENERGY_IN_MEV", v);
    Py_INCREF(v);
```

```
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_ENERGY_IN_MEV);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_ENERGY_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_LENGTH);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_LENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_LENGTH);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_LENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_MASS);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MASS);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_MOMENTUM);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_MOMENTUM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MOMENTUM);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MOMENTUM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_TIME);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_TIME", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_TIME);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_TIME", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NATURAL_UNIT_OF_VELOCITY);
    PyDict_SetItemString(d, "NATURAL_UNIT_OF_VELOCITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NATURAL_UNIT_OF_VELOCITY);
    PyDict_SetItemString(d, "U_NATURAL_UNIT_OF_VELOCITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "NEUTRON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_NEUTRON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_ELECTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "NEUTRON_ELECTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_ELECTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_ELECTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "NEUTRON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_G_FACTOR);
    PyDict_SetItemString(d, "NEUTRON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_G_FACTOR);
    PyDict_SetItemString(d, "U_NEUTRON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "NEUTRON_GYROMAG__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_GYROMAG__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "NEUTRON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
```

```
    v = PyFloat_FromDouble(NEUTRON_MAG__MOM);
    PyDict_SetItemString(d, "NEUTRON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM);
    PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MASS);
    PyDict_SetItemString(d, "NEUTRON_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MASS);
    PyDict_SetItemString(d, "U_NEUTRON_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "NEUTRON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_NEUTRON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MASS_IN_U);
    PyDict_SetItemString(d, "NEUTRON_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MASS_IN_U);
    PyDict_SetItemString(d, "U_NEUTRON_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MOLAR_MASS);
    PyDict_SetItemString(d, "NEUTRON_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MOLAR_MASS);
    PyDict_SetItemString(d, "U_NEUTRON_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "NEUTRON_MUON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_MUON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "NEUTRON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_NEUTRON_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE);
    PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE);
    PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV", v);
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Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV);
PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_DIFFERENCE_IN_U);
PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_DIFFERENCE_IN_U", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U);
PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEUTRON_PROTON_MASS_RATIO);
PyDict_SetItemString(d, "NEUTRON_PROTON_MASS_RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_PROTON_MASS_RATIO);
PyDict_SetItemString(d, "U_NEUTRON_PROTON_MASS_RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEUTRON_RELATIVE_ATOMIC_MASS);
PyDict_SetItemString(d, "NEUTRON_RELATIVE_ATOMIC_MASS", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_RELATIVE_ATOMIC_MASS);
PyDict_SetItemString(d, "U_NEUTRON_RELATIVE_ATOMIC_MASS", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEUTRON_TAU_MASS_RATIO);
PyDict_SetItemString(d, "NEUTRON_TAU_MASS_RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_TAU_MASS_RATIO);
PyDict_SetItemString(d, "U_NEUTRON_TAU_MASS_RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
PyDict_SetItemString(d, "U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEWTONIAN_CONSTANT_OF_GRAVITATION);
PyDict_SetItemString(d, "NEWTONIAN_CONSTANT_OF_GRAVITATION", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEWTONIAN_CONSTANT_OF_GRAVITATION);
PyDict_SetItemString(d, "U_NEWTONIAN_CONSTANT_OF_GRAVITATION", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C);
PyDict_SetItemString(d, "NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C);
PyDict_SetItemString(d, "U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NUCLEAR_MAGNETON);
PyDict_SetItemString(d, "NUCLEAR_MAGNETON", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON);
PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_EV_T);
PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_EV_T", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_EV_T);
PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_EV_T", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA);
PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_K_T);
PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_K_T", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_K_T);
PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_K_T", v);
Py_INCREF(v);

v = PyFloat_FromDouble(NUCLEAR_MAGNETON_IN_MHZ_T);
PyDict_SetItemString(d, "NUCLEAR_MAGNETON_IN_MHZ_T", v);
Py_INCREF(v);
v = PyFloat_FromDouble(U_NUCLEAR_MAGNETON_IN_MHZ_T);
PyDict_SetItemString(d, "U_NUCLEAR_MAGNETON_IN_MHZ_T", v);
```

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    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_CONSTANT);
    PyDict_SetItemString(d, "PLANCK_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_CONSTANT);
    PyDict_SetItemString(d, "U_PLANCK_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_CONSTANT_IN_EV_HZ);
    PyDict_SetItemString(d, "PLANCK_CONSTANT_IN_EV_HZ", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_CONSTANT_IN_EV_HZ);
    PyDict_SetItemString(d, "U_PLANCK_CONSTANT_IN_EV_HZ", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_LENGTH);
    PyDict_SetItemString(d, "PLANCK_LENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_LENGTH);
    PyDict_SetItemString(d, "U_PLANCK_LENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_MASS);
    PyDict_SetItemString(d, "PLANCK_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_MASS);
    PyDict_SetItemString(d, "U_PLANCK_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV);
    PyDict_SetItemString(d, "PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV);
    PyDict_SetItemString(d, "U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_TEMPERATURE);
    PyDict_SetItemString(d, "PLANCK_TEMPERATURE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_TEMPERATURE);
    PyDict_SetItemString(d, "U_PLANCK_TEMPERATURE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PLANCK_TIME);
    PyDict_SetItemString(d, "PLANCK_TIME", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PLANCK_TIME);
    PyDict_SetItemString(d, "U_PLANCK_TIME", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_CHARGE_TO_MASS_QUOTIENT);
    PyDict_SetItemString(d, "PROTON_CHARGE_TO_MASS_QUOTIENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_CHARGE_TO_MASS_QUOTIENT);
    PyDict_SetItemString(d, "U_PROTON_CHARGE_TO_MASS_QUOTIENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "PROTON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_PROTON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "PROTON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_PROTON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_G_FACTOR);
    PyDict_SetItemString(d, "PROTON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_G_FACTOR);
    PyDict_SetItemString(d, "U_PROTON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "PROTON_GYROMAG__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "U_PROTON_GYROMAG__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_GYROMAG__RATIO_IN_MHZ_T);
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    PyDict_SetItemString(d, "PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "U_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MAG__MOM);
    PyDict_SetItemString(d, "PROTON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MAG__MOM);
    PyDict_SetItemString(d, "U_PROTON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MAG__SHIELDING_CORRECTION);
    PyDict_SetItemString(d, "PROTON_MAG__SHIELDING_CORRECTION", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MAG__SHIELDING_CORRECTION);
    PyDict_SetItemString(d, "U_PROTON_MAG__SHIELDING_CORRECTION", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MASS);
    PyDict_SetItemString(d, "PROTON_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MASS);
    PyDict_SetItemString(d, "U_PROTON_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "PROTON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_PROTON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MASS_IN_U);
    PyDict_SetItemString(d, "PROTON_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MASS_IN_U);
    PyDict_SetItemString(d, "U_PROTON_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MOLAR_MASS);
    PyDict_SetItemString(d, "PROTON_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MOLAR_MASS);
    PyDict_SetItemString(d, "U_PROTON_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "PROTON_MUON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "U_PROTON_MUON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_NEUTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "PROTON_NEUTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_NEUTRON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_PROTON_NEUTRON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "PROTON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_NEUTRON_MASS_RATIO);
```

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    PyDict_SetItemString(d, "U_PROTON_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "PROTON_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "U_PROTON_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_RMS_CHARGE_RADIUS);
    PyDict_SetItemString(d, "PROTON_RMS_CHARGE_RADIUS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_RMS_CHARGE_RADIUS);
    PyDict_SetItemString(d, "U_PROTON_RMS_CHARGE_RADIUS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(PROTON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "PROTON_TAU_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_PROTON_TAU_MASS_RATIO);
    PyDict_SetItemString(d, "U_PROTON_TAU_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(QUANTUM_OF_CIRCULATION);
    PyDict_SetItemString(d, "QUANTUM_OF_CIRCULATION", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_QUANTUM_OF_CIRCULATION);
    PyDict_SetItemString(d, "U_QUANTUM_OF_CIRCULATION", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(QUANTUM_OF_CIRCULATION_TIMES_2);
    PyDict_SetItemString(d, "QUANTUM_OF_CIRCULATION_TIMES_2", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_QUANTUM_OF_CIRCULATION_TIMES_2);
    PyDict_SetItemString(d, "U_QUANTUM_OF_CIRCULATION_TIMES_2", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "REDUCED_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_REDUCED_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_MUON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "REDUCED_MUON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_MUON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_REDUCED_MUON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_NEUTRON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "REDUCED_NEUTRON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_NEUTRON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_REDUCED_NEUTRON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT);
    PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT);
    PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT_IN_EV_S);
    PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT_IN_EV_S", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT_IN_EV_S);
    PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT_IN_EV_S", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM);
    PyDict_SetItemString(d, "REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM);
    PyDict_SetItemString(d, "U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(REDUCED_PROTON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "REDUCED_PROTON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_PROTON_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_REDUCED_PROTON_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

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    v = PyFloat_FromDouble(REDUCED_TAU_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "REDUCED_TAU_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_REDUCED_TAU_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_REDUCED_TAU_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(RYDBERG_CONSTANT);
    PyDict_SetItemString(d, "RYDBERG_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_RYDBERG_CONSTANT);
    PyDict_SetItemString(d, "U_RYDBERG_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_C_IN_HZ);
    PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_C_IN_HZ", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_C_IN_HZ);
    PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_C_IN_HZ", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_HC_IN_EV);
    PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_HC_IN_EV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_HC_IN_EV);
    PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_HC_IN_EV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(RYDBERG_CONSTANT_TIMES_HC_IN_J);
    PyDict_SetItemString(d, "RYDBERG_CONSTANT_TIMES_HC_IN_J", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_RYDBERG_CONSTANT_TIMES_HC_IN_J);
    PyDict_SetItemString(d, "U_RYDBERG_CONSTANT_TIMES_HC_IN_J", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SACKUR_TETRODE_CONSTANT__1_K__100_KPA);
    PyDict_SetItemString(d, "SACKUR_TETRODE_CONSTANT__1_K__100_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA);
    PyDict_SetItemString(d, "U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA);
    PyDict_SetItemString(d, "SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA);
    PyDict_SetItemString(d, "U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SECOND_RADIATION_CONSTANT);
    PyDict_SetItemString(d, "SECOND_RADIATION_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SECOND_RADIATION_CONSTANT);
    PyDict_SetItemString(d, "U_SECOND_RADIATION_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_GYROMAG__RATIO);
    PyDict_SetItemString(d, "SHIELDED_HELION_GYROMAG__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_GYROMAG__RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_GYROMAG__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM);
    PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
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    v = PyFloat_FromDouble(U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_PROTON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "SHIELDED_PROTON_GYROMAG__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_PROTON_GYROMAG__RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_PROTON_GYROMAG__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T);
    PyDict_SetItemString(d, "U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM);
    PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM);
    PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD);
    PyDict_SetItemString(d, "SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD);
    PyDict_SetItemString(d, "U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT);
    PyDict_SetItemString(d, "SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT);
    PyDict_SetItemString(d, "U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(SPEED_OF_LIGHT_IN_VACUUM);
    PyDict_SetItemString(d, "SPEED_OF_LIGHT_IN_VACUUM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_SPEED_OF_LIGHT_IN_VACUUM);
    PyDict_SetItemString(d, "U_SPEED_OF_LIGHT_IN_VACUUM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(STANDARD_ACCELERATION_OF_GRAVITY);
    PyDict_SetItemString(d, "STANDARD_ACCELERATION_OF_GRAVITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_STANDARD_ACCELERATION_OF_GRAVITY);
    PyDict_SetItemString(d, "U_STANDARD_ACCELERATION_OF_GRAVITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(STANDARD_ATMOSPHERE);
    PyDict_SetItemString(d, "STANDARD_ATMOSPHERE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_STANDARD_ATMOSPHERE);
    PyDict_SetItemString(d, "U_STANDARD_ATMOSPHERE", v);
    Py_INCREF(v);
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    v = PyFloat_FromDouble(STANDARD_STATE_PRESSURE);
    PyDict_SetItemString(d, "STANDARD_STATE_PRESSURE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_STANDARD_STATE_PRESSURE);
    PyDict_SetItemString(d, "U_STANDARD_STATE_PRESSURE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(STEFAN_BOLTZMANN_CONSTANT);
    PyDict_SetItemString(d, "STEFAN_BOLTZMANN_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_STEFAN_BOLTZMANN_CONSTANT);
    PyDict_SetItemString(d, "U_STEFAN_BOLTZMANN_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "TAU_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_COMPTON_WAVELENGTH);
    PyDict_SetItemString(d, "U_TAU_COMPTON_WAVELENGTH", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "TAU_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TAU_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "TAU_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_TAU_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_MASS);
    PyDict_SetItemString(d, "TAU_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_MASS);
    PyDict_SetItemString(d, "U_TAU_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "TAU_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_TAU_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_MASS_IN_U);
    PyDict_SetItemString(d, "TAU_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_MASS_IN_U);
    PyDict_SetItemString(d, "U_TAU_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_MOLAR_MASS);
    PyDict_SetItemString(d, "TAU_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_MOLAR_MASS);
    PyDict_SetItemString(d, "U_TAU_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "TAU_MUON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_MUON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TAU_MUON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "TAU_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_NEUTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TAU_NEUTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TAU_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "TAU_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TAU_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TAU_PROTON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(THOMSON_CROSS_SECTION);
    PyDict_SetItemString(d, "THOMSON_CROSS_SECTION", v);
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    Py_INCREF(v);
    v = PyFloat_FromDouble(U_THOMSON_CROSS_SECTION);
    PyDict_SetItemString(d, "U_THOMSON_CROSS_SECTION", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "TRITON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_ELECTRON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TRITON_ELECTRON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_G_FACTOR);
    PyDict_SetItemString(d, "TRITON_G_FACTOR", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_G_FACTOR);
    PyDict_SetItemString(d, "U_TRITON_G_FACTOR", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MAG__MOM);
    PyDict_SetItemString(d, "TRITON_MAG__MOM", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MAG__MOM);
    PyDict_SetItemString(d, "U_TRITON_MAG__MOM", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO);
    PyDict_SetItemString(d, "U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MASS);
    PyDict_SetItemString(d, "TRITON_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MASS);
    PyDict_SetItemString(d, "U_TRITON_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "TRITON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MASS_ENERGY_EQUIVALENT);
    PyDict_SetItemString(d, "U_TRITON_MASS_ENERGY_EQUIVALENT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV);
    PyDict_SetItemString(d, "U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MASS_IN_U);
    PyDict_SetItemString(d, "TRITON_MASS_IN_U", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MASS_IN_U);
    PyDict_SetItemString(d, "U_TRITON_MASS_IN_U", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_MOLAR_MASS);
    PyDict_SetItemString(d, "TRITON_MOLAR_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_MOLAR_MASS);
    PyDict_SetItemString(d, "U_TRITON_MOLAR_MASS", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "TRITON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_PROTON_MASS_RATIO);
    PyDict_SetItemString(d, "U_TRITON_PROTON_MASS_RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "TRITON_RELATIVE_ATOMIC_MASS", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_RELATIVE_ATOMIC_MASS);
    PyDict_SetItemString(d, "U_TRITON_RELATIVE_ATOMIC_MASS", v);
```

```
    Py_INCREF(v);

    v = PyFloat_FromDouble(TRITON_TO_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "TRITON_TO_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_TRITON_TO_PROTON_MAG__MOM__RATIO);
    PyDict_SetItemString(d, "U_TRITON_TO_PROTON_MAG__MOM__RATIO", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(UNIFIED_ATOMIC_MASS_UNIT);
    PyDict_SetItemString(d, "UNIFIED_ATOMIC_MASS_UNIT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_UNIFIED_ATOMIC_MASS_UNIT);
    PyDict_SetItemString(d, "U_UNIFIED_ATOMIC_MASS_UNIT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(VACUUM_ELECTRIC_PERMITTIVITY);
    PyDict_SetItemString(d, "VACUUM_ELECTRIC_PERMITTIVITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_VACUUM_ELECTRIC_PERMITTIVITY);
    PyDict_SetItemString(d, "U_VACUUM_ELECTRIC_PERMITTIVITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(VACUUM_MAG__PERMEABILITY);
    PyDict_SetItemString(d, "VACUUM_MAG__PERMEABILITY", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_VACUUM_MAG__PERMEABILITY);
    PyDict_SetItemString(d, "U_VACUUM_MAG__PERMEABILITY", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(VON_KLITZING_CONSTANT);
    PyDict_SetItemString(d, "VON_KLITZING_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_VON_KLITZING_CONSTANT);
    PyDict_SetItemString(d, "U_VON_KLITZING_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(WEAK_MIXING_ANGLE);
    PyDict_SetItemString(d, "WEAK_MIXING_ANGLE", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_WEAK_MIXING_ANGLE);
    PyDict_SetItemString(d, "U_WEAK_MIXING_ANGLE", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT);
    PyDict_SetItemString(d, "WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT);
    PyDict_SetItemString(d, "U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT);
    PyDict_SetItemString(d, "WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT);
    PyDict_SetItemString(d, "U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT", v);
    Py_INCREF(v);

    v = PyFloat_FromDouble(W_TO_Z_MASS_RATIO);
    PyDict_SetItemString(d, "W_TO_Z_MASS_RATIO", v);
    Py_INCREF(v);
    v = PyFloat_FromDouble(U_W_TO_Z_MASS_RATIO);
    PyDict_SetItemString(d, "U_W_TO_Z_MASS_RATIO", v);
    Py_INCREF(v);

    return m;
}
```

## 17.16 /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 =1.9864458570-25
  *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

### 17.16.1 Detailed Description

Codata module - autogenerated.

Definition in file fcodata.f90.

## 17.17 fcodata.f90

Go to the documentation of this file.

```



module codata
use iso_fortran_env
implicit none

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

real(real64), parameter:: &
alpha_particle_mass_energy_equivalent=5.9719201914d-10
real(real64), parameter :: &
u_alpha_particle_mass_energy_equivalent=0.0000000018d-10

real(real64), parameter:: &
alpha_particle_mass_energy_equivalent_in_mev=3727.3794066d0
real(real64), parameter :: &
u_alpha_particle_mass_energy_equivalent_in_mev=0.0000011d0

real(real64), parameter:: &
alpha_particle_mass_in_u=4.001506179127d0
real(real64), parameter :: &
u_alpha_particle_mass_in_u=0.000000000063d0

real(real64), parameter:: &
alpha_particle_molar_mass=4.0015061777d-3
real(real64), parameter :: &
u_alpha_particle_molar_mass=0.0000000012d-3

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

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real(real64), parameter:: &
atomic_mass_constant=1.66053906660d-27
real(real64), parameter :: &
u_atomic_mass_constant=0.00000000050d-27

real(real64), parameter:: &
atomic_mass_constant_energy_equivalent=1.49241808560d-10
real(real64), parameter :: &
u_atomic_mass_constant_energy_equivalent=0.00000000045d-10

real(real64), parameter:: &
atomic_mass_constant_energy_equivalent_in_mev=931.49410242d0
real(real64), parameter :: &
u_atomic_mass_constant_energy_equivalent_in_mev=0.00000028d0

real(real64), parameter:: &
atomic_mass_unit_electron_volt_relationship=9.3149410242d8
real(real64), parameter :: &
u_atomic_mass_unit_electron_volt_relationship=0.0000000028d8

real(real64), parameter:: &
atomic_mass_unit_hartree_relationship=3.4231776874d7
real(real64), parameter :: &
u_atomic_mass_unit_hartree_relationship=0.0000000010d7

real(real64), parameter:: &
atomic_mass_unit_hertz_relationship=2.25234271871d23
real(real64), parameter :: &
u_atomic_mass_unit_hertz_relationship=0.00000000068d23

real(real64), parameter:: &
atomic_mass_unit_inverse_meter_relationship=7.5130066104d14
real(real64), parameter :: &
u_atomic_mass_unit_inverse_meter_relationship=0.0000000023d14

real(real64), parameter:: &
atomic_mass_unit_joule_relationship=1.49241808560d-10
real(real64), parameter :: &
u_atomic_mass_unit_joule_relationship=0.00000000045d-10

real(real64), parameter:: &
atomic_mass_unit_kelvin_relationship=1.08095401916d13
real(real64), parameter :: &
u_atomic_mass_unit_kelvin_relationship=0.00000000033d13

real(real64), parameter:: &
atomic_mass_unit_kilogram_relationship=1.66053906660d-27
real(real64), parameter :: &
u_atomic_mass_unit_kilogram_relationship=0.00000000050d-27

real(real64), parameter:: &
atomic_unit_of_1st_hyperpolarizability=3.2063613061d-53
real(real64), parameter :: &
u_atomic_unit_of_1st_hyperpolarizability=0.0000000015d-53

real(real64), parameter:: &
atomic_unit_of_2nd_hyperpolarizability=6.2353799905d-65
real(real64), parameter :: &
u_atomic_unit_of_2nd_hyperpolarizability=0.0000000038d-65

real(real64), parameter:: &
atomic_unit_of_action=1.054571817d-34
real(real64), parameter :: &
u_atomic_unit_of_action=0.0d0

real(real64), parameter:: &
atomic_unit_of_charge=1.602176634d-19
real(real64), parameter :: &
u_atomic_unit_of_charge=0.0d0

real(real64), parameter:: &
atomic_unit_of_charge_density=1.08120238457d12
real(real64), parameter :: &
u_atomic_unit_of_charge_density=0.00000000049d12

real(real64), parameter:: &
atomic_unit_of_current=6.623618237510d-3
real(real64), parameter :: &
u_atomic_unit_of_current=0.000000000013d-3

real(real64), parameter:: &
atomic_unit_of_electric_dipole_mom=8.4783536255d-30
real(real64), parameter :: &
u_atomic_unit_of_electric_dipole_mom=0.0000000013d-30

real(real64), parameter:: &
```

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atomic_unit_of_electric_field=5.14220674763d11
real(real64), parameter :: &
u_atomic_unit_of_electric_field=0.00000000078d11

real(real64), parameter:: &
atomic_unit_of_electric_field_gradient=9.7173624292d21
real(real64), parameter :: &
u_atomic_unit_of_electric_field_gradient=0.0000000029d21

real(real64), parameter:: &
atomic_unit_of_electric_polarizability=1.64877727436d-41
real(real64), parameter :: &
u_atomic_unit_of_electric_polarizability=0.00000000050d-41

real(real64), parameter:: &
atomic_unit_of_electric_potential=27.211386245988d0
real(real64), parameter :: &
u_atomic_unit_of_electric_potential=0.000000000053d0

real(real64), parameter:: &
atomic_unit_of_electric_quadrupole_mom=4.4865515246d-40
real(real64), parameter :: &
u_atomic_unit_of_electric_quadrupole_mom=0.0000000014d-40

real(real64), parameter:: &
atomic_unit_of_energy=4.3597447222071d-18
real(real64), parameter :: &
u_atomic_unit_of_energy=0.0000000000085d-18

real(real64), parameter:: &
atomic_unit_of_force=8.2387234983d-8
real(real64), parameter :: &
u_atomic_unit_of_force=0.0000000012d-8

real(real64), parameter:: &
atomic_unit_of_length=5.29177210903d-11
real(real64), parameter :: &
u_atomic_unit_of_length=0.00000000080d-11

real(real64), parameter:: &
atomic_unit_of_mag__dipole_mom=1.85480201566d-23
real(real64), parameter :: &
u_atomic_unit_of_mag__dipole_mom=0.00000000056d-23

real(real64), parameter:: &
atomic_unit_of_mag__flux_density=2.35051756758d5
real(real64), parameter :: &
u_atomic_unit_of_mag__flux_density=0.00000000071d5

real(real64), parameter:: &
atomic_unit_of_magnetizability=7.8910366008d-29
real(real64), parameter :: &
u_atomic_unit_of_magnetizability=0.0000000048d-29

real(real64), parameter:: &
atomic_unit_of_mass=9.1093837015d-31
real(real64), parameter :: &
u_atomic_unit_of_mass=0.0000000028d-31

real(real64), parameter:: &
atomic_unit_of_momentum=1.99285191410d-24
real(real64), parameter :: &
u_atomic_unit_of_momentum=0.00000000030d-24

real(real64), parameter:: &
atomic_unit_of_permittivity=1.11265005545d-10
real(real64), parameter :: &
u_atomic_unit_of_permittivity=0.00000000017d-10

real(real64), parameter:: &
atomic_unit_of_time=2.4188843265857d-17
real(real64), parameter :: &
u_atomic_unit_of_time=0.0000000000047d-17

real(real64), parameter:: &
atomic_unit_of_velocity=2.18769126364d6
real(real64), parameter :: &
u_atomic_unit_of_velocity=0.00000000033d6

real(real64), parameter:: &
avogadro_constant=6.02214076d23
real(real64), parameter :: &
u_avogadro_constant=0.0d0

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

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u_bohr_magneton=0.0000000028d-24

real(real64), parameter:: &
bohr_magneton_in_ev_t=5.7883818060d-5
real(real64), parameter :: &
u_bohr_magneton_in_ev_t=0.0000000017d-5

real(real64), parameter:: &
bohr_magneton_in_hz_t=1.39962449361d10
real(real64), parameter :: &
u_bohr_magneton_in_hz_t=0.00000000042d10

real(real64), parameter:: &
bohr_magneton_in_inverse_meter_per_tesla=46.686447783d0
real(real64), parameter :: &
u_bohr_magneton_in_inverse_meter_per_tesla=0.000000014d0

real(real64), parameter:: &
bohr_magneton_in_k_t=0.67171381563d0
real(real64), parameter :: &
u_bohr_magneton_in_k_t=0.00000000020d0

real(real64), parameter:: &
bohr_radius=5.29177210903d-11
real(real64), parameter :: &
u_bohr_radius=0.00000000080d-11

real(real64), parameter:: &
boltzmann_constant=1.380649d-23
real(real64), parameter :: &
u_boltzmann_constant=0.0d0

real(real64), parameter:: &
boltzmann_constant_in_ev_k=8.617333262d-5
real(real64), parameter :: &
u_boltzmann_constant_in_ev_k=0.0d0

real(real64), parameter:: &
boltzmann_constant_in_hz_k=2.083661912d10
real(real64), parameter :: &
u_boltzmann_constant_in_hz_k=0.0d0

real(real64), parameter:: &
boltzmann_constant_in_inverse_meter_per_kelvin=69.50348004d0
real(real64), parameter :: &
u_boltzmann_constant_in_inverse_meter_per_kelvin=0.0d0

real(real64), parameter:: &
characteristic_impedance_of_vacuum=376.730313668d0
real(real64), parameter :: &
u_characteristic_impedance_of_vacuum=0.000000057d0

real(real64), parameter:: &
classical_electron_radius=2.8179403262d-15
real(real64), parameter :: &
u_classical_electron_radius=0.0000000013d-15

real(real64), parameter:: &
compton_wavelength=2.42631023867d-12
real(real64), parameter :: &
u_compton_wavelength=0.00000000073d-12

real(real64), parameter:: &
conductance_quantum=7.748091729d-5
real(real64), parameter :: &
u_conductance_quantum=0.0d0

real(real64), parameter:: &
conventional_value_of_ampere_90=1.00000008887d0
real(real64), parameter :: &
u_conventional_value_of_ampere_90=0.0d0

real(real64), parameter:: &
conventional_value_of_coulomb_90=1.00000008887d0
real(real64), parameter :: &
u_conventional_value_of_coulomb_90=0.0d0

real(real64), parameter:: &
conventional_value_of_farad_90=0.99999998220d0
real(real64), parameter :: &
u_conventional_value_of_farad_90=0.0d0

real(real64), parameter:: &
conventional_value_of_henry_90=1.00000001779d0
real(real64), parameter :: &
u_conventional_value_of_henry_90=0.0d0

```

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real(real64), parameter:: &
conventional_value_of_josephson_constant=483597.9d9
real(real64), parameter :: &
u_conventional_value_of_josephson_constant=0.0d0

real(real64), parameter:: &
conventional_value_of_ohm_90=1.00000001779d0
real(real64), parameter :: &
u_conventional_value_of_ohm_90=0.0d0

real(real64), parameter:: &
conventional_value_of_volt_90=1.00000010666d0
real(real64), parameter :: &
u_conventional_value_of_volt_90=0.0d0

real(real64), parameter:: &
conventional_value_of_von_klitzing_constant=25812.807d0
real(real64), parameter :: &
u_conventional_value_of_von_klitzing_constant=0.0d0

real(real64), parameter:: &
conventional_value_of_watt_90=1.00000019553d0
real(real64), parameter :: &
u_conventional_value_of_watt_90=0.0d0

real(real64), parameter:: &
copper_x_unit=1.00207697d-13
real(real64), parameter :: &
u_copper_x_unit=0.00000028d-13

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
real(real64), parameter :: &
u_deuteron_mag__mom=0.000000011d-27

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

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deuteron_mag__mom__to_nuclear_magneton_ratio=0.8574382338d0
real(real64), parameter :: &
u_deuteron_mag__mom__to_nuclear_magneton_ratio=0.0000000022d0

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deuteron_mass=3.3435837724d-27
real(real64), parameter :: &
u_deuteron_mass=0.0000000010d-27

real(real64), parameter:: &
deuteron_mass_energy_equivalent=3.00506323102d-10
real(real64), parameter :: &
u_deuteron_mass_energy_equivalent=0.00000000091d-10

real(real64), parameter:: &
deuteron_mass_energy_equivalent_in_mev=1875.61294257d0
real(real64), parameter :: &
u_deuteron_mass_energy_equivalent_in_mev=0.00000057d0

real(real64), parameter:: &
deuteron_mass_in_u=2.013553212745d0
real(real64), parameter :: &
u_deuteron_mass_in_u=0.000000000040d0

real(real64), parameter:: &
deuteron_molar_mass=2.01355321205d-3
real(real64), parameter :: &
u_deuteron_molar_mass=0.00000000061d-3

real(real64), parameter:: &
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real(real64), parameter :: &
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deuteron_proton_mag__mom__ratio=0.30701220939d0
real(real64), parameter :: &
u_deuteron_proton_mag__mom__ratio=0.00000000079d0

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u_deuteron_proton_mass_ratio=0.00000000011d0

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u_deuteron_rms_charge_radius=0.00074d-15

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real(real64), parameter :: &
u_electron_charge_to_mass_quotient=0.00000000053d11

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electron_deuteron_mag__mom__ratio=-2143.9234915d0
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electron_gyromag__ratio_in_mhz_t=28024.9514242d0
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u_electron_gyromag__ratio_in_mhz_t=0.0000085d0

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electron_helion_mass_ratio=1.819543074573d-4
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u_electron_helion_mass_ratio=0.000000000079d-4

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real(real64), parameter:: &
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u_electron_mag__mom__anomaly=0.00000000018d-3

real(real64), parameter:: &
electron_mag__mom__to_bohr_magneton_ratio=-1.00115965218128d0
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u_electron_mag__mom__to_bohr_magneton_ratio=0.00000000000018d0

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electron_mag__mom__to_nuclear_magneton_ratio=-1838.28197188d0
real(real64), parameter :: &
u_electron_mag__mom__to_nuclear_magneton_ratio=0.00000011d0

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u_electron_mass=0.0000000028d-31

real(real64), parameter:: &
electron_mass_energy_equivalent=8.1871057769d-14
real(real64), parameter :: &
u_electron_mass_energy_equivalent=0.0000000025d-14
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real(real64), parameter:: &
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u_electron_mass_energy_equivalent_in_mev=0.00000000015d0
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u_electron_mass_in_u=0.00000000016d-4
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u_electron_molar_mass=0.0000000017d-7
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u_electron_muon_mag__mom__ratio=0.0000046d0
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u_electron_muon_mass_ratio=0.00000011d-3
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u_electron_neutron_mag__mom__ratio=0.00023d0
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u_electron_neutron_mass_ratio=0.0000000026d-4
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u_electron_proton_mag__mom__ratio=0.00000020d0
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u_electron_proton_mass_ratio=0.00000000033d-4
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u_electron_relative_atomic_mass=0.00000000016d-4
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u_electron_tau_mass_ratio=0.00019d-4
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u_electron_to_alpha_particle_mass_ratio=0.000000000045d-4
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u_electron_to_shielded_helion_mag__mom__ratio=0.000010d0
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electron_to_shielded_proton_mag__mom__ratio=-658.2275971d0
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u_electron_to_shielded_proton_mag__mom__ratio=0.0000072d0
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electron_triton_mass_ratio=1.819200062251d-4
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u_electron_triton_mass_ratio=0.000000000090d-4
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electron_volt=1.602176634d-19
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u_electron_volt=0.0d0
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electron_volt_atomic_mass_unit_relationship=1.07354410233d-9
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u_electron_volt_atomic_mass_unit_relationship=0.00000000032d-9
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electron_volt_hartree_relationship=3.6749322175655d-2
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u_electron_volt_hartree_relationship=0.0000000000071d-2

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u_electron_volt_inverse_meter_relationship=0.0d0

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electron_volt_kilogram_relationship=1.782661921d-36
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elementary_charge=1.602176634d-19
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u_fine_structure_constant=0.0000000011d-3

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u_first_radiation_constant=0.0d0

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first_radiation_constant_for_spectral_radiance=1.191042972d-16
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hartree_electron_volt_relationship=27.211386245988d0
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u_hartree_electron_volt_relationship=0.000000000053d0

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hartree_energy=4.3597447222071d-18
real(real64), parameter :: &
u_hartree_energy=0.0000000000085d-18

real(real64), parameter:: &
hartree_energy_in_ev=27.211386245988d0
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u_hartree_energy_in_ev=0.000000000053d0

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hartree_hertz_relationship=6.579683920502d15
real(real64), parameter :: &
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u_hartree_hertz_relationship=0.000000000013d15

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hartree_inverse_meter_relationship=2.1947463136320d7
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u_hartree_inverse_meter_relationship=0.0000000000043d7

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hartree_joule_relationship=4.3597447222071d-18
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u_hartree_joule_relationship=0.0000000000085d-18

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hartree_kelvin_relationship=3.1577502480407d5
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u_hartree_kelvin_relationship=0.0000000000061d5

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hartree_kilogram_relationship=4.8508702095432d-35
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u_hartree_kilogram_relationship=0.0000000000094d-35

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helion_g_factor=-4.255250615d0
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helion_mag__mom=-1.074617532d-26
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helion_mag__mom__to_bohr_magneton_ratio=-1.158740958d-3
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u_helion_mag__mom__to_bohr_magneton_ratio=0.000000014d-3

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helion_mag__mom__to_nuclear_magneton_ratio=-2.127625307d0
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u_helion_mag__mom__to_nuclear_magneton_ratio=0.000000025d0

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u_helion_mass=0.0000000015d-27

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u_helion_mass_energy_equivalent=0.0000000014d-10

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u_helion_relative_atomic_mass=0.000000000097d0

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u_helion_shielding_shift=0.000010d-5

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kilogram_kelvin_relationship=6.509657260d39
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loschmidt_constant__273_15_k__101_325_kpa=2.686780111d25
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molar_volume_of_silicon=1.205883199d-5
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real(real64), parameter:: &
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real(real64), parameter :: &
u_molybdenum_x_unit=0.00000053d-13

real(real64), parameter:: &
muon_compton_wavelength=1.173444110d-14
real(real64), parameter :: &
u_muon_compton_wavelength=0.000000026d-14

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
real(real64), parameter :: &
u_muon_mag__mom=0.00000010d-26

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

real(real64), parameter:: &
muon_mass_energy_equivalent=1.692833804d-11
real(real64), parameter :: &
u_muon_mass_energy_equivalent=0.000000038d-11

real(real64), parameter:: &
muon_mass_energy_equivalent_in_mev=105.6583755d0
real(real64), parameter :: &
u_muon_mass_energy_equivalent_in_mev=0.0000023d0

real(real64), parameter:: &
muon_mass_in_u=0.1134289259d0
real(real64), parameter :: &
u_muon_mass_in_u=0.0000000025d0

real(real64), parameter:: &
muon_molar_mass=1.134289259d-4
real(real64), parameter :: &
u_muon_molar_mass=0.000000025d-4

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
real(real64), parameter :: &
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u_natural_unit_of_action=0.0d0

real(real64), parameter:: &
natural_unit_of_action_in_ev_s=6.582119569d-16
real(real64), parameter :: &
u_natural_unit_of_action_in_ev_s=0.0d0

real(real64), parameter:: &
natural_unit_of_energy=8.1871057769d-14
real(real64), parameter :: &
u_natural_unit_of_energy=0.0000000025d-14

real(real64), parameter:: &
natural_unit_of_energy_in_mev=0.51099895000d0
real(real64), parameter :: &
u_natural_unit_of_energy_in_mev=0.00000000015d0

real(real64), parameter:: &
natural_unit_of_length=3.8615926796d-13
real(real64), parameter :: &
u_natural_unit_of_length=0.0000000012d-13

real(real64), parameter:: &
natural_unit_of_mass=9.1093837015d-31
real(real64), parameter :: &
u_natural_unit_of_mass=0.0000000028d-31

real(real64), parameter:: &
natural_unit_of_momentum=2.73092453075d-22
real(real64), parameter :: &
u_natural_unit_of_momentum=0.00000000082d-22

real(real64), parameter:: &
natural_unit_of_momentum_in_mev_c=0.51099895000d0
real(real64), parameter :: &
u_natural_unit_of_momentum_in_mev_c=0.00000000015d0

real(real64), parameter:: &
natural_unit_of_time=1.28808866819d-21
real(real64), parameter :: &
u_natural_unit_of_time=0.00000000039d-21

real(real64), parameter:: &
natural_unit_of_velocity=299792458.0d0
real(real64), parameter :: &
u_natural_unit_of_velocity=0.0d0

real(real64), parameter:: &
neutron_compton_wavelength=1.31959090581d-15
real(real64), parameter :: &
u_neutron_compton_wavelength=0.00000000075d-15

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
real(real64), parameter :: &
u_neutron_gyromag__ratio=0.00000043d8

real(real64), parameter:: &
neutron_gyromag__ratio_in_mhz_t=29.1646931d0
real(real64), parameter :: &
u_neutron_gyromag__ratio_in_mhz_t=0.0000069d0

real(real64), parameter:: &
neutron_mag__mom=-9.6623651d-27
real(real64), parameter :: &
u_neutron_mag__mom=0.0000023d-27

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

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

real(real64), parameter:: &
neutron_mass_energy_equivalent=1.50534976287d-10
real(real64), parameter :: &
u_neutron_mass_energy_equivalent=0.00000000086d-10

real(real64), parameter:: &
neutron_mass_energy_equivalent_in_mev=939.56542052d0
real(real64), parameter :: &
u_neutron_mass_energy_equivalent_in_mev=0.00000054d0

real(real64), parameter:: &
neutron_mass_in_u=1.00866491595d0
real(real64), parameter :: &
u_neutron_mass_in_u=0.00000000049d0

real(real64), parameter:: &
neutron_molar_mass=1.00866491560d-3
real(real64), parameter :: &
u_neutron_molar_mass=0.00000000057d-3

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

real(real64), parameter:: &
neutron_proton_mass_difference_energy_equivalent=2.07214689d-13
real(real64), parameter :: &
u_neutron_proton_mass_difference_energy_equivalent=0.00000074d-13

real(real64), parameter:: &
neutron_proton_mass_difference_energy_equivalent_in_mev=1.29333236d0
real(real64), parameter :: &
u_neutron_proton_mass_difference_energy_equivalent_in_mev=0.00000046d0

real(real64), parameter:: &
neutron_proton_mass_difference_in_u=1.38844933d-3
real(real64), parameter :: &
u_neutron_proton_mass_difference_in_u=0.00000049d-3

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
real(real64), parameter :: &
u_newtonian_constant_of_gravitation=0.00015d-11

real(real64), parameter:: &
newtonian_constant_of_gravitation_over_h_bar_c=6.70883d-39
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real(real64), parameter :: &
u_newtonian_constant_of_gravitation_over_h_bar_c=0.00015d-39

real(real64), parameter:: &
nuclear_magneton=5.0507837461d-27
real(real64), parameter :: &
u_nuclear_magneton=0.0000000015d-27

real(real64), parameter:: &
nuclear_magneton_in_ev_t=3.15245125844d-8
real(real64), parameter :: &
u_nuclear_magneton_in_ev_t=0.00000000096d-8

real(real64), parameter:: &
nuclear_magneton_in_inverse_meter_per_tesla=2.54262341353d-2
real(real64), parameter :: &
u_nuclear_magneton_in_inverse_meter_per_tesla=0.00000000078d-2

real(real64), parameter:: &
nuclear_magneton_in_k_t=3.6582677756d-4
real(real64), parameter :: &
u_nuclear_magneton_in_k_t=0.0000000011d-4

real(real64), parameter:: &
nuclear_magneton_in_mhz_t=7.6225932291d0
real(real64), parameter :: &
u_nuclear_magneton_in_mhz_t=0.0000000023d0

real(real64), parameter:: &
planck_constant=6.62607015d-34
real(real64), parameter :: &
u_planck_constant=0.0d0

real(real64), parameter:: &
planck_constant_in_ev_hz=4.135667696d-15
real(real64), parameter :: &
u_planck_constant_in_ev_hz=0.0d0

real(real64), parameter:: &
planck_length=1.616255d-35
real(real64), parameter :: &
u_planck_length=0.000018d-35

real(real64), parameter:: &
planck_mass=2.176434d-8
real(real64), parameter :: &
u_planck_mass=0.000024d-8

real(real64), parameter:: &
planck_mass_energy_equivalent_in_gev=1.220890d19
real(real64), parameter :: &
u_planck_mass_energy_equivalent_in_gev=0.000014d19

real(real64), parameter:: &
planck_temperature=1.416784d32
real(real64), parameter :: &
u_planck_temperature=0.000016d32

real(real64), parameter:: &
planck_time=5.391247d-44
real(real64), parameter :: &
u_planck_time=0.000060d-44

real(real64), parameter:: &
proton_charge_to_mass_quotient=9.5788331560d7
real(real64), parameter :: &
u_proton_charge_to_mass_quotient=0.0000000029d7

real(real64), parameter:: &
proton_compton_wavelength=1.32140985539d-15
real(real64), parameter :: &
u_proton_compton_wavelength=0.00000000040d-15

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
real(real64), parameter :: &
u_proton_gyromag__ratio=0.0000000011d8
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real(real64), parameter:: &
proton_gyromag__ratio_in_mhz_t=42.577478518d0
real(real64), parameter :: &
u_proton_gyromag__ratio_in_mhz_t=0.000000018d0

real(real64), parameter:: &
proton_mag__mom=1.41060679736d-26
real(real64), parameter :: &
u_proton_mag__mom=0.00000000060d-26

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

real(real64), parameter:: &
proton_mass_energy_equivalent=1.50327761598d-10
real(real64), parameter :: &
u_proton_mass_energy_equivalent=0.00000000046d-10

real(real64), parameter:: &
proton_mass_energy_equivalent_in_mev=938.27208816d0
real(real64), parameter :: &
u_proton_mass_energy_equivalent_in_mev=0.00000029d0

real(real64), parameter:: &
proton_mass_in_u=1.007276466621d0
real(real64), parameter :: &
u_proton_mass_in_u=0.000000000053d0

real(real64), parameter:: &
proton_molar_mass=1.00727646627d-3
real(real64), parameter :: &
u_proton_molar_mass=0.00000000031d-3

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
real(real64), parameter :: &
u_proton_rms_charge_radius=0.019d-16

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
real(real64), parameter :: &
u_quantum_of_circulation=0.0000000011d-4

real(real64), parameter:: &
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quantum_of_circulation_times_2=7.2738951032d-4
real(real64), parameter :: &
u_quantum_of_circulation_times_2=0.0000000022d-4

real(real64), parameter:: &
reduced_compton_wavelength=3.8615926796d-13
real(real64), parameter :: &
u_reduced_compton_wavelength=0.0000000012d-13

real(real64), parameter:: &
reduced_muon_compton_wavelength=1.867594306d-15
real(real64), parameter :: &
u_reduced_muon_compton_wavelength=0.000000042d-15

real(real64), parameter:: &
reduced_neutron_compton_wavelength=2.1001941552d-16
real(real64), parameter :: &
u_reduced_neutron_compton_wavelength=0.0000000012d-16

real(real64), parameter:: &
reduced_planck_constant=1.054571817d-34
real(real64), parameter :: &
u_reduced_planck_constant=0.0d0

real(real64), parameter:: &
reduced_planck_constant_in_ev_s=6.582119569d-16
real(real64), parameter :: &
u_reduced_planck_constant_in_ev_s=0.0d0

real(real64), parameter:: &
reduced_planck_constant_times_c_in_mev_fm=197.3269804d0
real(real64), parameter :: &
u_reduced_planck_constant_times_c_in_mev_fm=0.0d0

real(real64), parameter:: &
reduced_proton_compton_wavelength=2.10308910336d-16
real(real64), parameter :: &
u_reduced_proton_compton_wavelength=0.00000000064d-16

real(real64), parameter:: &
reduced_tau_compton_wavelength=1.110538d-16
real(real64), parameter :: &
u_reduced_tau_compton_wavelength=0.000075d-16

real(real64), parameter:: &
rydberg_constant=10973731.568160d0
real(real64), parameter :: &
u_rydberg_constant=0.000021d0

real(real64), parameter:: &
rydberg_constant_times_c_in_hz=3.2898419602508d15
real(real64), parameter :: &
u_rydberg_constant_times_c_in_hz=0.0000000000064d15

real(real64), parameter:: &
rydberg_constant_times_hc_in_ev=13.605693122994d0
real(real64), parameter :: &
u_rydberg_constant_times_hc_in_ev=0.000000000026d0

real(real64), parameter:: &
rydberg_constant_times_hc_in_j=2.1798723611035d-18
real(real64), parameter :: &
u_rydberg_constant_times_hc_in_j=0.0000000000042d-18

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
real(real64), parameter :: &
u_second_radiation_constant=0.0d0

real(real64), parameter:: &
shielded_helion_gyromag__ratio=2.037894569d8
real(real64), parameter :: &
u_shielded_helion_gyromag__ratio=0.000000024d8

real(real64), parameter:: &
shielded_helion_gyromag__ratio_in_mhz_t=32.43409942d0
real(real64), parameter :: &
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u_shielded_helion_gyromag__ratio_in_mhz_t=0.00000038d0

real(real64), parameter:: &
shielded_helion_mag__mom=-1.074553090d-26
real(real64), parameter :: &
u_shielded_helion_mag__mom=0.000000013d-26

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
real(real64), parameter :: &
u_shielded_proton_gyromag__ratio=0.000000029d8

real(real64), parameter:: &
shielded_proton_gyromag__ratio_in_mhz_t=42.57638474d0
real(real64), parameter :: &
u_shielded_proton_gyromag__ratio_in_mhz_t=0.00000046d0

real(real64), parameter:: &
shielded_proton_mag__mom=1.410570560d-26
real(real64), parameter :: &
u_shielded_proton_mag__mom=0.000000015d-26

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
real(real64), parameter :: &
u_speed_of_light_in_vacuum=0.0d0

real(real64), parameter:: &
standard_acceleration_of_gravity=9.80665d0
real(real64), parameter :: &
u_standard_acceleration_of_gravity=0.0d0

real(real64), parameter:: &
standard_atmosphere=101325.0d0
real(real64), parameter :: &
u_standard_atmosphere=0.0d0

real(real64), parameter:: &
standard_state_pressure=100000.0d0
real(real64), parameter :: &
u_standard_state_pressure=0.0d0

real(real64), parameter:: &
stefan_boltzmann_constant=5.670374419d-8
real(real64), parameter :: &
u_stefan_boltzmann_constant=0.0d0

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real(real64), parameter:: &
tau_compton_wavelength=6.97771d-16
real(real64), parameter :: &
u_tau_compton_wavelength=0.00047d-16

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
real(real64), parameter :: &
u_tau_energy_equivalent=0.12d0

real(real64), parameter:: &
tau_mass=3.16754d-27
real(real64), parameter :: &
u_tau_mass=0.00021d-27

real(real64), parameter:: &
tau_mass_energy_equivalent=2.84684d-10
real(real64), parameter :: &
u_tau_mass_energy_equivalent=0.00019d-10

real(real64), parameter:: &
tau_mass_in_u=1.90754d0
real(real64), parameter :: &
u_tau_mass_in_u=0.00013d0

real(real64), parameter:: &
tau_molar_mass=1.90754d-3
real(real64), parameter :: &
u_tau_molar_mass=0.00013d-3

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
real(real64), parameter :: &
u_thomson_cross_section=0.0000000060d-29

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
real(real64), parameter :: &
u_triton_mag__mom=0.0000000030d-26

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

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

```
real(real64), parameter :: &
u_triton_mass_energy_equivalent=0.0000000014d-10

real(real64), parameter:: &
triton_mass_energy_equivalent_in_mev=2808.92113298d0
real(real64), parameter :: &
u_triton_mass_energy_equivalent_in_mev=0.00000085d0

real(real64), parameter:: &
triton_mass_in_u=3.01550071621d0
real(real64), parameter :: &
u_triton_mass_in_u=0.00000000012d0

real(real64), parameter:: &
triton_molar_mass=3.01550071517d-3
real(real64), parameter :: &
u_triton_molar_mass=0.00000000092d-3

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

real(real64), parameter:: &
vacuum_electric_permittivity=8.8541878128d-12
real(real64), parameter :: &
u_vacuum_electric_permittivity=0.0000000013d-12

real(real64), parameter:: &
vacuum_mag__permeability=1.25663706212d-6
real(real64), parameter :: &
u_vacuum_mag__permeability=0.00000000019d-6

real(real64), parameter:: &
von_klitzing_constant=25812.80745d0
real(real64), parameter :: &
u_von_klitzing_constant=0.0d0

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
real(real64), parameter :: &
u_wien_frequency_displacement_law_constant=0.0d0

real(real64), parameter:: &
wien_wavelength_displacement_law_constant=2.897771955d-3
real(real64), parameter :: &
u_wien_wavelength_displacement_law_constant=0.0d0

real(real64), parameter:: &
w_to_z_mass_ratio=0.88153d0
real(real64), parameter :: &
u_w_to_z_mass_ratio=0.00017d0

end module codata
```

## 17.18 /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.*

### 17.18.1 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.

### 17.18.2 Function Documentation

#### 17.18.2.1 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.

#### 17.18.2.2 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.

#### 17.18.2.3 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.

#### 17.18.2.4 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.

#### 17.18.2.5 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.

#### 17.18.2.6 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.

#### 17.18.2.7 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.

#### 17.18.2.8 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.

#### 17.18.2.9 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.

#### 17.18.2.10 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.

#### 17.18.2.11 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.

#### 17.18.2.12 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.

#### 17.18.2.13 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.

#### 17.18.2.14 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.

#### 17.18.2.15 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.

#### 17.18.2.16 write_cpython_extension_declaration()

```
void write_cpython_extension_declaration (
            FILE * fcode )
```

Definition at line 469 of file generator.c.

#### 17.18.2.17 write_cpython_extension_end()

```
void write_cpython_extension_end (
            FILE * fcode )
```

Definition at line 490 of file generator.c.

#### 17.18.2.18 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.

#### 17.18.2.19 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.

#### 17.18.2.20 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.

#### 17.18.2.21 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.

#### 17.18.2.22 write_python_module_doc()

```
void write_python_module_doc (
            FILE * fcode )
```

Definition at line 463 of file generator.c.

## 17.19 generator.c

Go to the documentation of this file.

```

#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <ctype.h>

struct codata_file_props{
    size_t n;
    size_t index_header_end;
    char codata_path[18];
    char year[5];
    char fmodule_path[18];
};

static const size_t LINE_LENGTH = 256;
static const size_t NAMES_LENGTH = 60;
static const size_t VALUES_LENGTH = 25;
static const size_t UNCERTAINTIES_LENGTH = 25;
static const size_t UNITS_LENGTH = 25;
void format_names(char *line, char *name){

    size_t i;

    for(i=0; i<NAMES_LENGTH; i++){
        if(!isalnum(line[i])){
            name[i] = '_';
        }else{
            name[i] = line[i];
        }
    }

    for(i=0; i<NAMES_LENGTH; i++){
        if(name[NAMES_LENGTH-1-i]!='_'){
```

```
            break;
        }
        name[NAMES_LENGTH-1-i] = ' ';
    }

    for(i=0; i<NAMES_LENGTH; i++){
        name[i] = toupper(name[i]);
    }
}

void format_values(char *line, char *value){
    size_t i;
    size_t j;
    int flag_decimal = 0;
    int flag_exponent = 0;

    char *temp = (char *)malloc(sizeof(char)*VALUES_LENGTH);

    for(i=0; i<VALUES_LENGTH; i++){
        temp[i] = ' ';
    }
    j = 0;
    temp[j] = line[NAMES_LENGTH];
    j++;
    for(i=(NAMES_LENGTH+1); i<(NAMES_LENGTH+VALUES_LENGTH-2);i++){
        if(isdigit(line[i])){
            temp[j] = line[i];
            j++;
        }
        if((line[i]=='.') & (isdigit(line[i-1])>0) & (isdigit(line[i+1])>0)){
            temp[j] = line[i];
            j++;
        }
        if(line[i]=='e'){
            temp[j] = line[i];
            j++;
        }
        if((line[i]=='-') | (line[i]=='+')){
            temp[j] = line[i];
            j++;
        }
    }
    j = 0;
    for(i=0; i<VALUES_LENGTH; i++){
        value[i] = temp[i];
    }
    for(i=0; i<VALUES_LENGTH; i++){
        if(value[i] == '.'){
            flag_decimal = 1;
            break;
        }
    }
    for(i=0; i<VALUES_LENGTH; i++){
        if (value[i]=='e'){
            value[i] = 'd';
        }
        if(value[i] == 'd'){
            flag_exponent = 1;
        }
    }
    if ((flag_decimal == 0)&(flag_exponent == 0)){
        for(i=0; i<VALUES_LENGTH; i++){
            if(isdigit(value[VALUES_LENGTH-1-i]) > 0){
                value[VALUES_LENGTH-1-i+1] = '.';
                value[VALUES_LENGTH-1-i+2] = '0';
                break;
            }
        }
    }
    if (flag_exponent == 0){
        for(i=0; i<VALUES_LENGTH; i++){
            if(isdigit(value[VALUES_LENGTH-1-i]) > 0){
                value[VALUES_LENGTH-1-i+1] = 'd';
                value[VALUES_LENGTH-1-i+2] = '0';
                break;
            }
        }
    }
    free(temp);
}

void format_uncertainties(char *line, char *uncertainty){
    size_t i;
    size_t j;
    int flag_exponent = 0;

    char *temp = (char *)malloc(sizeof(char)*UNCERTAINTIES_LENGTH);
```

```
    for(i=0; i<UNCERTAINTIES_LENGTH; i++){
        temp[i] = ' ';
    }
    j = 0;
    if(line[NAMES_LENGTH+VALUES_LENGTH] != '('){
        temp[j] = line[NAMES_LENGTH+VALUES_LENGTH];
    }
    j++;
    for(i=(NAMES_LENGTH+VALUES_LENGTH+1); i<(NAMES_LENGTH+VALUES_LENGTH+UNCERTAINTIES_LENGTH-2);i++){
        if (strncmp(&line[NAMES_LENGTH+VALUES_LENGTH], "(exact)", 7)==0){
            temp[0] = '0';
            temp[1] = '.';
            temp[2] = '0';
            break;
        }

        if(isdigit(line[i])){
            temp[j] = line[i];
            j++;
        }
        if((line[i]=='.') & (isdigit(line[i-1])>0) & (isdigit(line[i+1])>0)){
            temp[j] = line[i];
            j++;
        }
        if(line[i]=='e'){
            temp[j] = line[i];
            j++;
        }
        if((line[i]=='-') | (line[i]=='+')){
            temp[j] = line[i];
            j++;
        }
    }
    for(i=0; i<UNCERTAINTIES_LENGTH; i++){
        uncertainty[i] = temp[i];
    }
    for(i=0; i<UNCERTAINTIES_LENGTH; i++){
        if (uncertainty[i]=='e'){
            uncertainty[i] = 'd';
        }
        if(uncertainty[i] == 'd'){
            flag_exponent = 1;
        }
    }
    if (flag_exponent == 0){
        for(i=0; i<UNCERTAINTIES_LENGTH; i++){
            if(isdigit(uncertainty[UNCERTAINTIES_LENGTH-1-i]) > 0){
                uncertainty[UNCERTAINTIES_LENGTH-1-i+1] = 'd';
                uncertainty[UNCERTAINTIES_LENGTH-1-i+2] = '0';
                break;
            }
        }
    }

    free(temp);
}

void format_units(char *line, char *unit){
    size_t i;


    for(i=0; i<UNITS_LENGTH; i++){
        unit[i] = line[i+NAMES_LENGTH+VALUES_LENGTH+UNCERTAINTIES_LENGTH];
    }
}
void convert_value_to_c(char *value){
    size_t i;
    for(i=0; i<VALUES_LENGTH; i++){
        if(value[i] == 'd'){
            value[i] = 'e';
        }
    }
}

void clean_line(char *buf, size_t buffer_size){

    size_t i;
    for(i=0; i<=buffer_size; i++){
        buf[i] = ' ';
    }
    buf[buffer_size] = '\0';
}

int read_line(FILE *f, char *buf, size_t buffer_size){

    char c;
    size_t i = 0;
```

```
    int empty=0;
    clean_line(buf, buffer_size);
    while(((c=fgetc(f)) != '\n') & (!feof(f))){
        if(i<buffer_size){
            buf[i] = c;
            i++;
        }
    }
    if ( i <= 0){
        empty = 1;
    }

    return empty;
}

void ltrim(char *buf, size_t buffer_size){
    size_t i, j, k;
    i = 0;
    j = 0;
    k = 0;
    char *temp = (char *)malloc(sizeof(char)*(buffer_size+1));
    for(i=0; i<buffer_size; i++){
        if(isalnum(buf[i])>0){
            k = i;
            break;
        }
    }
    clean_line(temp, buffer_size);
    for(i=k; i<buffer_size; i++){
        temp[j] = buf[i];
        j++;
    }
    clean_line(buf, buffer_size);
    for(i=0; i<buffer_size; i++){
        buf[i] = temp[i];
    }
    free(temp);

}

void rtrim(char *buf, size_t buffer_size){
    size_t i;
    for(i=0; i<buffer_size; i++){
        if(isalnum(buf[buffer_size-i])>0){
            break;
        }else{
            buf[buffer_size-i] = ' ';
        }
    }
    buf[buffer_size-i+1]= '\0';
}

int is_blank_line(char *buf, size_t buffer_size){
    size_t i;
    size_t j;
    i = 0;
    j = 0;
    for(i=0; i<buffer_size; i++){
        if(isalnum(buf[i])>0){
            j++;
        }
    }
    if(j>0){
        return 0;
    }
    else{
        return 1;
    }
}

void get_props(struct codata_file_props *props){

    FILE *codata;
    char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));
    int empty;

    codata = fopen(props->codata_path, "r");

    props->n = 0;
    props->index_header_end = 0;

    while (!feof(codata)){
        read_line(codata, line, LINE_LENGTH);
        if (line[0] == '-'){
            props->index_header_end = props->index_header_end + 1 ;
            break;
        }
```

```
        props->index_header_end = props->index_header_end + 1 ;
    }

    while (!feof(codata)){
        empty = read_line(codata, line, LINE_LENGTH);

        if (empty == 0){
            props->n = props->n + 1 ;
        }
    }

    fclose(codata);
    free(line);

}

void print_props(struct codata_file_props *props){
    printf("Header ends at index: %zu\n", props->index_header_end);
    printf("Number of constants: %zu\n", props->n);
}


/* FORTRAN */

void write_fortran_file_doc(FILE *fcode){
    char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));

    fprintf(fcode, "%s\n", "!> @file");
    fprintf(fcode, "%s\n", "!! @brief Codata module - autogenerated.");
    fprintf(fcode, "%s\n\n", "");
    free(line);
}

void write_fortran_module_doc(FILE *fcode){
    fprintf(fcode, "!> %s\n", "@brief Codata constants - autogenerated.");
}

void write_fortran_module_declaration(FILE *fcode){
    fprintf(fcode, "module codata\n");
    fprintf(fcode, "%s\n", "use iso_fortran_env");
    fprintf(fcode, "%s\n", "implicit none");
    fprintf(fcode, "%s\n", "");
}

void write_fortran_module_end(FILE *fcode){
    fprintf(fcode, "end module codata\n");
}


/* C */

void write_c_header_doc(FILE *fcode){
    fprintf(fcode, "/**\n* %s\n", "@file");
    fprintf(fcode, "%s\n", "* @brief Codata module - autogenerated.");
    fprintf(fcode, "%s\n\n", "*/");
}


/* Python */

void write_python_module_doc(FILE *fcode){
    fprintf(fcode, "\"\"\"Codata module - autogenerated\"\"\"");
    fprintf(fcode, "\n\n");
}

/* CPython */
void write_cpython_extension_declaration(FILE *fcode){

    fprintf(fcode, "#define PY_SSIZE_T_CLEAN\n");
    fprintf(fcode, "#include <Python.h>\n");
    fprintf(fcode, "#include \"codata.h\"\n");
    fprintf(fcode, "\n\n");
    fprintf(fcode, "PyDoc_STRVAR(module_docstring, \"C extension for codata constants.\");");
    fprintf(fcode, "\n\n");
    fprintf(fcode, "static PyMethodDef myMethods[] = {{ NULL, NULL, 0, NULL }};");
    fprintf(fcode, "\n\n");
    fprintf(fcode, "static struct PyModuleDef codata = {PyModuleDef_HEAD_INIT, \"codata\",
module_docstring, -1, myMethods};");
    fprintf(fcode, "\n\n");
    fprintf(fcode, "PyMODINIT_FUNC PyInit_codata(void){\n");
    fprintf(fcode, "\tPyObject *m;\n");
    fprintf(fcode, "\tPyObject *d;\n");
    fprintf(fcode, "\tPyObject *v;\n");
    fprintf(fcode, "\tm = PyModule_Create(&codata);\n");
    fprintf(fcode, "\td = PyModule_GetDict(m);\n");
    fprintf(fcode, "\n");
}
```

```c

void write_cpython_extension_end(FILE *fcode){
    fprintf(fcode, "\treturn m;\n");
    fprintf(fcode, "}");
}

void write_all_constants(FILE *fcodata,
                         FILE *ffortran,
                         FILE *fcheader,
                         FILE *fpython,
                         FILE *fcpython,
                         struct codata_file_props *props){

    int empty;
    size_t i;

    char *line = (char *)malloc(sizeof(char)*(LINE_LENGTH+1));
    char *name = (char *)malloc(sizeof(char)*(NAMES_LENGTH+1));
    char *value = (char *)malloc(sizeof(char)*(VALUES_LENGTH+1));
    char *uncertainty = (char *)malloc(sizeof(char)*(UNCERTAINTIES_LENGTH+1));
    char *unit = (char *)malloc(sizeof(char)*(UNITS_LENGTH+1));

    fseek(fcodata, 0, SEEK_SET);
    for (i=0; i<props->index_header_end;i++){
        empty = read_line(fcodata, line, LINE_LENGTH);
    }

    for(i=0; i<props->n; i++){
        clean_line(line, LINE_LENGTH);
        clean_line(name, NAMES_LENGTH);
        clean_line(value, VALUES_LENGTH);
        clean_line(uncertainty, UNCERTAINTIES_LENGTH);
        clean_line(unit, UNITS_LENGTH);
        empty = read_line(fcodata, line, LINE_LENGTH);
        if(empty == 0){
            format_names(line, name);
            format_values(line, value);
            format_uncertainties(line, uncertainty);
            format_units(line, unit);
            rtrim(name, NAMES_LENGTH);
            rtrim(value, VALUES_LENGTH);
            rtrim(uncertainty, UNCERTAINTIES_LENGTH);
            rtrim(unit, UNITS_LENGTH);

            // fortran code
            fprintf(ffortran, "real(real64), parameter:: &\n%s=%s !< %s\n", name, value, unit);
            fprintf(ffortran, "real(real64), parameter :: &\nU_%s=%s !< %s\n", name, uncertainty, unit);
            fprintf(ffortran, "\n");

            // C code
            convert_value_to_c(value);
            convert_value_to_c(uncertainty);
            fprintf(fcheader, "const double %s=%s;/**< %s */\n", name, value, unit);
            fprintf(fcheader, "const double U_%s=%s;/**< %s */\n", name, uncertainty, unit);
            fprintf(fcheader, "\n");

            // Python code
            fprintf(fpython, "%s=%s # %s \n", name, value, unit);
            fprintf(fpython, "U_%s=%s # %s \n", name, uncertainty, unit);
            fprintf(fpython, "\n");

            // CPython code
            fprintf(fcpython, "\tv = PyFloat_FromDouble(%s);\n", name);
            fprintf(fcpython, "\tPyDict_SetItemString(d, \"%s\", v);\n", name);
            fprintf(fcpython, "\tPy_INCREF(v);\n");
            fprintf(fcpython, "\tv = PyFloat_FromDouble(U_%s);\n", name);
            fprintf(fcpython, "\tPyDict_SetItemString(d, \"U_%s\", v);\n", name);
            fprintf(fcpython, "\tPy_INCREF(v);\n");
            fprintf(fcpython, "\n");

        }
    }

    free(line);
    free(name);
    free(value);
    free(uncertainty);
    free(unit);

}


int main(int argc, char **argv){

    FILE *fcodata;
    FILE *ffortran;
```

```
    FILE *fcheader;
    FILE *fpython;
    FILE *fcpython;
    struct codata_file_props *props;

    struct codata_file_props props_current = {0, 0, "./codata_2018.txt"};

    // avoid compiler complaining
    if (argc>1){
        printf("%d %s", argc, argv[1]);
    }

    /* Codata current (2018)*/
    props = &props_current;
    fcodata =  fopen(props->codata_path, "r");
    ffortran = fopen("fcodata.f90", "w");
    fcheader = fopen("ccodata.h", "w");
    fpython = fopen("pycodata.py", "w");
    fcpython = fopen("cpycodata.c", "w");
    get_props(props);
    write_fortran_file_doc(ffortran);
    write_fortran_module_doc(ffortran);
    write_fortran_module_declaration(ffortran);
    write_c_header_doc(fcheader);
    write_python_module_doc(fpython);
    write_cpython_extension_declaration(fcpython);
    write_all_constants(fcodata, ffortran, fcheader, fpython, fcpython, props);
    write_fortran_module_end(ffortran);
    write_cpython_extension_end(fcpython);
    fclose(ffortran);
    fclose(fcheader);
    fclose(fpython);
    fclose(fcodata);


    return EXIT_SUCCESS;
}
```

## 17.20 /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 = 6.5796839205 02e15
- 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

## 17.21 pycodata.py

Go to the documentation of this file.

```
"""Codata module - autogenerated"""

ALPHA_PARTICLE_ELECTRON_MASS_RATIO=7294.29954142e0 #
U_ALPHA_PARTICLE_ELECTRON_MASS_RATIO=0.00000024e0 #

ALPHA_PARTICLE_MASS=6.6446573357e-27 # kg
U_ALPHA_PARTICLE_MASS=0.0000000020e-27 # kg

ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=5.9719201914e-10 # J
U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT=0.0000000018e-10 # J

ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=3727.3794066e0 # MeV
U_ALPHA_PARTICLE_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000011e0 # MeV

ALPHA_PARTICLE_MASS_IN_U=4.001506179127e0 # u
U_ALPHA_PARTICLE_MASS_IN_U=0.000000000063e0 # u

ALPHA_PARTICLE_MOLAR_MASS=4.0015061777e-3 # kg mol^-1
U_ALPHA_PARTICLE_MOLAR_MASS=0.0000000012e-3 # kg mol^-1

ALPHA_PARTICLE_PROTON_MASS_RATIO=3.97259969009e0 #
U_ALPHA_PARTICLE_PROTON_MASS_RATIO=0.00000000022e0 #

ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=4.001506179127e0 #
U_ALPHA_PARTICLE_RELATIVE_ATOMIC_MASS=0.000000000063e0 #
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ANGSTROM_STAR=1.00001495e-10 # m
U_ANGSTROM_STAR=0.00000090e-10 # m

ATOMIC_MASS_CONSTANT=1.66053906660e-27 # kg
U_ATOMIC_MASS_CONSTANT=0.00000000050e-27 # kg

ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=1.49241808560e-10 # J
U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT=0.00000000045e-10 # J

ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=931.49410242e0 # MeV
U_ATOMIC_MASS_CONSTANT_ENERGY_EQUIVALENT_IN_MEV=0.00000028e0 # MeV

ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=9.3149410242e8 # eV
U_ATOMIC_MASS_UNIT_ELECTRON_VOLT_RELATIONSHIP=0.0000000028e8 # eV

ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=3.4231776874e7 # E_h
U_ATOMIC_MASS_UNIT_HARTREE_RELATIONSHIP=0.0000000010e7 # E_h

ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=2.25234271871e23 # Hz
U_ATOMIC_MASS_UNIT_HERTZ_RELATIONSHIP=0.00000000068e23 # Hz

ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=7.5130066104e14 # m^-1
U_ATOMIC_MASS_UNIT_INVERSE_METER_RELATIONSHIP=0.0000000023e14 # m^-1

ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=1.49241808560e-10 # J
U_ATOMIC_MASS_UNIT_JOULE_RELATIONSHIP=0.00000000045e-10 # J

ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=1.08095401916e13 # K
U_ATOMIC_MASS_UNIT_KELVIN_RELATIONSHIP=0.00000000033e13 # K

ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=1.66053906660e-27 # kg
U_ATOMIC_MASS_UNIT_KILOGRAM_RELATIONSHIP=0.00000000050e-27 # kg

ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=3.2063613061e-53 # C^3 m^3 J^-2
U_ATOMIC_UNIT_OF_1ST_HYPERPOLARIZABILITY=0.0000000015e-53 # C^3 m^3 J^-2

ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=6.2353799905e-65 # C^4 m^4 J^-3
U_ATOMIC_UNIT_OF_2ND_HYPERPOLARIZABILITY=0.0000000038e-65 # C^4 m^4 J^-3

ATOMIC_UNIT_OF_ACTION=1.054571817e-34 # J s
U_ATOMIC_UNIT_OF_ACTION=0.0e0 # J s

ATOMIC_UNIT_OF_CHARGE=1.602176634e-19 # C
U_ATOMIC_UNIT_OF_CHARGE=0.0e0 # C

ATOMIC_UNIT_OF_CHARGE_DENSITY=1.08120238457e12 # C m^-3
U_ATOMIC_UNIT_OF_CHARGE_DENSITY=0.00000000049e12 # C m^-3

ATOMIC_UNIT_OF_CURRENT=6.623618237510e-3 # A
U_ATOMIC_UNIT_OF_CURRENT=0.000000000013e-3 # A

ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=8.4783536255e-30 # C m
U_ATOMIC_UNIT_OF_ELECTRIC_DIPOLE_MOM=0.0000000013e-30 # C m

ATOMIC_UNIT_OF_ELECTRIC_FIELD=5.14220674763e11 # V m^-1
U_ATOMIC_UNIT_OF_ELECTRIC_FIELD=0.00000000078e11 # V m^-1

ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=9.7173624292e21 # V m^-2
U_ATOMIC_UNIT_OF_ELECTRIC_FIELD_GRADIENT=0.0000000029e21 # V m^-2

ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=1.64877727436e-41 # C^2 m^2 J^-1
U_ATOMIC_UNIT_OF_ELECTRIC_POLARIZABILITY=0.00000000050e-41 # C^2 m^2 J^-1

ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=27.211386245988e0 # V
U_ATOMIC_UNIT_OF_ELECTRIC_POTENTIAL=0.000000000053e0 # V

ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=4.4865515246e-40 # C m^2
U_ATOMIC_UNIT_OF_ELECTRIC_QUADRUPOLE_MOM=0.0000000014e-40 # C m^2

ATOMIC_UNIT_OF_ENERGY=4.3597447222071e-18 # J
U_ATOMIC_UNIT_OF_ENERGY=0.0000000000085e-18 # J

ATOMIC_UNIT_OF_FORCE=8.2387234983e-8 # N
U_ATOMIC_UNIT_OF_FORCE=0.0000000012e-8 # N

ATOMIC_UNIT_OF_LENGTH=5.29177210903e-11 # m
U_ATOMIC_UNIT_OF_LENGTH=0.00000000080e-11 # m

ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=1.85480201566e-23 # J T^-1
U_ATOMIC_UNIT_OF_MAG__DIPOLE_MOM=0.00000000056e-23 # J T^-1

ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=2.35051756758e5 # T
U_ATOMIC_UNIT_OF_MAG__FLUX_DENSITY=0.00000000071e5 # T

ATOMIC_UNIT_OF_MAGNETIZABILITY=7.8910366008e-29 # J T^-2
U_ATOMIC_UNIT_OF_MAGNETIZABILITY=0.0000000048e-29 # J T^-2
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ATOMIC_UNIT_OF_MASS=9.1093837015e-31 # kg
U_ATOMIC_UNIT_OF_MASS=0.0000000028e-31 # kg

ATOMIC_UNIT_OF_MOMENTUM=1.99285191410e-24 # kg m s^-1
U_ATOMIC_UNIT_OF_MOMENTUM=0.00000000030e-24 # kg m s^-1

ATOMIC_UNIT_OF_PERMITTIVITY=1.11265005545e-10 # F m^-1
U_ATOMIC_UNIT_OF_PERMITTIVITY=0.00000000017e-10 # F m^-1

ATOMIC_UNIT_OF_TIME=2.4188843265857e-17 # s
U_ATOMIC_UNIT_OF_TIME=0.0000000000047e-17 # s

ATOMIC_UNIT_OF_VELOCITY=2.18769126364e6 # m s^-1
U_ATOMIC_UNIT_OF_VELOCITY=0.00000000033e6 # m s^-1

AVOGADRO_CONSTANT=6.02214076e23 # mol^-1
U_AVOGADRO_CONSTANT=0.0e0 # mol^-1

BOHR_MAGNETON=9.2740100783e-24 # J T^-1
U_BOHR_MAGNETON=0.0000000028e-24 # J T^-1

BOHR_MAGNETON_IN_EV_T=5.7883818060e-5 # eV T^-1
U_BOHR_MAGNETON_IN_EV_T=0.0000000017e-5 # eV T^-1

BOHR_MAGNETON_IN_HZ_T=1.39962449361e10 # Hz T^-1
U_BOHR_MAGNETON_IN_HZ_T=0.00000000042e10 # Hz T^-1

BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=46.686447783e0 # m^-1 T^-1
U_BOHR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.000000014e0 # m^-1 T^-1

BOHR_MAGNETON_IN_K_T=0.67171381563e0 # K T^-1
U_BOHR_MAGNETON_IN_K_T=0.00000000020e0 # K T^-1

BOHR_RADIUS=5.29177210903e-11 # m
U_BOHR_RADIUS=0.00000000080e-11 # m

BOLTZMANN_CONSTANT=1.380649e-23 # J K^-1
U_BOLTZMANN_CONSTANT=0.0e0 # J K^-1

BOLTZMANN_CONSTANT_IN_EV_K=8.617333262e-5 # eV K^-1
U_BOLTZMANN_CONSTANT_IN_EV_K=0.0e0 # eV K^-1

BOLTZMANN_CONSTANT_IN_HZ_K=2.083661912e10 # Hz K^-1
U_BOLTZMANN_CONSTANT_IN_HZ_K=0.0e0 # Hz K^-1

BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=69.50348004e0 # m^-1 K^-1
U_BOLTZMANN_CONSTANT_IN_INVERSE_METER_PER_KELVIN=0.0e0 # m^-1 K^-1

CHARACTERISTIC_IMPEDANCE_OF_VACUUM=376.730313668e0 # ohm
U_CHARACTERISTIC_IMPEDANCE_OF_VACUUM=0.000000057e0 # ohm

CLASSICAL_ELECTRON_RADIUS=2.8179403262e-15 # m
U_CLASSICAL_ELECTRON_RADIUS=0.0000000013e-15 # m

COMPTON_WAVELENGTH=2.42631023867e-12 # m
U_COMPTON_WAVELENGTH=0.00000000073e-12 # m

CONDUCTANCE_QUANTUM=7.748091729e-5 # S
U_CONDUCTANCE_QUANTUM=0.0e0 # S

CONVENTIONAL_VALUE_OF_AMPERE_90=1.00000008887e0 # A
U_CONVENTIONAL_VALUE_OF_AMPERE_90=0.0e0 # A

CONVENTIONAL_VALUE_OF_COULOMB_90=1.00000008887e0 # C
U_CONVENTIONAL_VALUE_OF_COULOMB_90=0.0e0 # C

CONVENTIONAL_VALUE_OF_FARAD_90=0.99999998220e0 # F
U_CONVENTIONAL_VALUE_OF_FARAD_90=0.0e0 # F

CONVENTIONAL_VALUE_OF_HENRY_90=1.00000001779e0 # H
U_CONVENTIONAL_VALUE_OF_HENRY_90=0.0e0 # H

CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=483597.9e9 # Hz V^-1
U_CONVENTIONAL_VALUE_OF_JOSEPHSON_CONSTANT=0.0e0 # Hz V^-1

CONVENTIONAL_VALUE_OF_OHM_90=1.00000001779e0 # ohm
U_CONVENTIONAL_VALUE_OF_OHM_90=0.0e0 # ohm

CONVENTIONAL_VALUE_OF_VOLT_90=1.00000010666e0 # V
U_CONVENTIONAL_VALUE_OF_VOLT_90=0.0e0 # V

CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=25812.807e0 # ohm
U_CONVENTIONAL_VALUE_OF_VON_KLITZING_CONSTANT=0.0e0 # ohm

CONVENTIONAL_VALUE_OF_WATT_90=1.00000019553e0 # W
U_CONVENTIONAL_VALUE_OF_WATT_90=0.0e0 # W
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COPPER_X_UNIT=1.00207697e-13 # m
U_COPPER_X_UNIT=0.00000028e-13 # m

DEUTERON_ELECTRON_MAG__MOM__RATIO=-4.664345551e-4 #
U_DEUTERON_ELECTRON_MAG__MOM__RATIO=0.000000012e-4 #

DEUTERON_ELECTRON_MASS_RATIO=3670.48296788e0 #
U_DEUTERON_ELECTRON_MASS_RATIO=0.00000013e0 #

DEUTERON_G_FACTOR=0.8574382338e0 #
U_DEUTERON_G_FACTOR=0.0000000022e0 #

DEUTERON_MAG__MOM=4.330735094e-27 # J T^-1
U_DEUTERON_MAG__MOM=0.000000011e-27 # J T^-1

DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=4.669754570e-4 #
U_DEUTERON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000012e-4 #

DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.8574382338e0 #
U_DEUTERON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000022e0 #

DEUTERON_MASS=3.3435837724e-27 # kg
U_DEUTERON_MASS=0.0000000010e-27 # kg

DEUTERON_MASS_ENERGY_EQUIVALENT=3.00506323102e-10 # J
U_DEUTERON_MASS_ENERGY_EQUIVALENT=0.00000000091e-10 # J

DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=1875.61294257e0 # MeV
U_DEUTERON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000057e0 # MeV

DEUTERON_MASS_IN_U=2.013553212745e0 # u
U_DEUTERON_MASS_IN_U=0.000000000040e0 # u

DEUTERON_MOLAR_MASS=2.01355321205e-3 # kg mol^-1
U_DEUTERON_MOLAR_MASS=0.00000000061e-3 # kg mol^-1

DEUTERON_NEUTRON_MAG__MOM__RATIO=-0.44820653e0 #
U_DEUTERON_NEUTRON_MAG__MOM__RATIO=0.00000011e0 #

DEUTERON_PROTON_MAG__MOM__RATIO=0.30701220939e0 #
U_DEUTERON_PROTON_MAG__MOM__RATIO=0.00000000079e0 #

DEUTERON_PROTON_MASS_RATIO=1.99900750139e0 #
U_DEUTERON_PROTON_MASS_RATIO=0.00000000011e0 #

DEUTERON_RELATIVE_ATOMIC_MASS=2.013553212745e0 #
U_DEUTERON_RELATIVE_ATOMIC_MASS=0.000000000040e0 #

DEUTERON_RMS_CHARGE_RADIUS=2.12799e-15 # m
U_DEUTERON_RMS_CHARGE_RADIUS=0.00074e-15 # m

ELECTRON_CHARGE_TO_MASS_QUOTIENT=-1.75882001076e11 # C kg^-1
U_ELECTRON_CHARGE_TO_MASS_QUOTIENT=0.00000000053e11 # C kg^-1

ELECTRON_DEUTERON_MAG__MOM__RATIO=-2143.9234915e0 #
U_ELECTRON_DEUTERON_MAG__MOM__RATIO=0.0000056e0 #

ELECTRON_DEUTERON_MASS_RATIO=2.724437107462e-4 #
U_ELECTRON_DEUTERON_MASS_RATIO=0.000000000096e-4 #

ELECTRON_G_FACTOR=-2.00231930436256e0 #
U_ELECTRON_G_FACTOR=0.00000000000035e0 #

ELECTRON_GYROMAG__RATIO=1.76085963023e11 # s^-1 T^-1
U_ELECTRON_GYROMAG__RATIO=0.00000000053e11 # s^-1 T^-1

ELECTRON_GYROMAG__RATIO_IN_MHZ_T=28024.9514242e0 # MHz T^-1
U_ELECTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000085e0 # MHz T^-1

ELECTRON_HELION_MASS_RATIO=1.819543074573e-4 #
U_ELECTRON_HELION_MASS_RATIO=0.000000000079e-4 #

ELECTRON_MAG__MOM=-9.2847647043e-24 # J T^-1
U_ELECTRON_MAG__MOM=0.0000000028e-24 # J T^-1

ELECTRON_MAG__MOM__ANOMALY=1.15965218128e-3 #
U_ELECTRON_MAG__MOM__ANOMALY=0.00000000018e-3 #

ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.00115965218128e0 #
U_ELECTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000000018e0 #

ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1838.28197188e0 #
U_ELECTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000011e0 #

ELECTRON_MASS=9.1093837015e-31 # kg
U_ELECTRON_MASS=0.0000000028e-31 # kg
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ELECTRON_MASS_ENERGY_EQUIVALENT=8.1871057769e-14 # J
U_ELECTRON_MASS_ENERGY_EQUIVALENT=0.0000000025e-14 # J

ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.51099895000e0 # MeV
U_ELECTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000000015e0 # MeV

ELECTRON_MASS_IN_U=5.48579909065e-4 # u
U_ELECTRON_MASS_IN_U=0.00000000016e-4 # u

ELECTRON_MOLAR_MASS=5.4857990888e-7 # kg mol^-1
U_ELECTRON_MOLAR_MASS=0.0000000017e-7 # kg mol^-1

ELECTRON_MUON_MAG__MOM__RATIO=206.7669883e0 #
U_ELECTRON_MUON_MAG__MOM__RATIO=0.0000046e0 #

ELECTRON_MUON_MASS_RATIO=4.83633169e-3 #
U_ELECTRON_MUON_MASS_RATIO=0.00000011e-3 #

ELECTRON_NEUTRON_MAG__MOM__RATIO=960.92050e0 #
U_ELECTRON_NEUTRON_MAG__MOM__RATIO=0.00023e0 #

ELECTRON_NEUTRON_MASS_RATIO=5.4386734424e-4 #
U_ELECTRON_NEUTRON_MASS_RATIO=0.0000000026e-4 #

ELECTRON_PROTON_MAG__MOM__RATIO=-658.21068789e0 #
U_ELECTRON_PROTON_MAG__MOM__RATIO=0.00000020e0 #

ELECTRON_PROTON_MASS_RATIO=5.44617021487e-4 #
U_ELECTRON_PROTON_MASS_RATIO=0.00000000033e-4 #

ELECTRON_RELATIVE_ATOMIC_MASS=5.48579909065e-4 #
U_ELECTRON_RELATIVE_ATOMIC_MASS=0.00000000016e-4 #

ELECTRON_TAU_MASS_RATIO=2.87585e-4 #
U_ELECTRON_TAU_MASS_RATIO=0.00019e-4 #

ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=1.370933554787e-4 #
U_ELECTRON_TO_ALPHA_PARTICLE_MASS_RATIO=0.000000000045e-4 #

ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=864.058257e0 #
U_ELECTRON_TO_SHIELDED_HELION_MAG__MOM__RATIO=0.000010e0 #

ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-658.2275971e0 #
U_ELECTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000072e0 #

ELECTRON_TRITON_MASS_RATIO=1.819200062251e-4 #
U_ELECTRON_TRITON_MASS_RATIO=0.000000000090e-4 #

ELECTRON_VOLT=1.602176634e-19 # J
U_ELECTRON_VOLT=0.0e0 # J

ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=1.07354410233e-9 # u
U_ELECTRON_VOLT_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000032e-9 # u

ELECTRON_VOLT_HARTREE_RELATIONSHIP=3.6749322175655e-2 # E_h
U_ELECTRON_VOLT_HARTREE_RELATIONSHIP=0.0000000000071e-2 # E_h

ELECTRON_VOLT_HERTZ_RELATIONSHIP=2.417989242e14 # Hz
U_ELECTRON_VOLT_HERTZ_RELATIONSHIP=0.0e0 # Hz

ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=8.065543937e5 # m^-1
U_ELECTRON_VOLT_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1

ELECTRON_VOLT_JOULE_RELATIONSHIP=1.602176634e-19 # J
U_ELECTRON_VOLT_JOULE_RELATIONSHIP=0.0e0 # J

ELECTRON_VOLT_KELVIN_RELATIONSHIP=1.160451812e4 # K
U_ELECTRON_VOLT_KELVIN_RELATIONSHIP=0.0e0 # K

ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=1.782661921e-36 # kg
U_ELECTRON_VOLT_KILOGRAM_RELATIONSHIP=0.0e0 # kg

ELEMENTARY_CHARGE=1.602176634e-19 # C
U_ELEMENTARY_CHARGE=0.0e0 # C

ELEMENTARY_CHARGE_OVER_H_BAR=1.519267447e15 # A J^-1
U_ELEMENTARY_CHARGE_OVER_H_BAR=0.0e0 # A J^-1

FARADAY_CONSTANT=96485.33212e0 # C mol^-1
U_FARADAY_CONSTANT=0.0e0 # C mol^-1

FERMI_COUPLING_CONSTANT=1.1663787e-5 # GeV^-2
U_FERMI_COUPLING_CONSTANT=0.0000006e-5 # GeV^-2

FINE_STRUCTURE_CONSTANT=7.2973525693e-3 #
U_FINE_STRUCTURE_CONSTANT=0.0000000011e-3 #
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FIRST_RADIATION_CONSTANT=3.741771852e-16 # W m^2
U_FIRST_RADIATION_CONSTANT=0.0e0 # W m^2

FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=1.191042972e-16 # W m^2 sr^-1
U_FIRST_RADIATION_CONSTANT_FOR_SPECTRAL_RADIANCE=0.0e0 # W m^2 sr^-1

HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=2.92126232205e-8 # u
U_HARTREE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000088e-8 # u

HARTREE_ELECTRON_VOLT_RELATIONSHIP=27.211386245988e0 # eV
U_HARTREE_ELECTRON_VOLT_RELATIONSHIP=0.000000000053e0 # eV

HARTREE_ENERGY=4.3597447222071e-18 # J
U_HARTREE_ENERGY=0.0000000000085e-18 # J

HARTREE_ENERGY_IN_EV=27.211386245988e0 # eV
U_HARTREE_ENERGY_IN_EV=0.000000000053e0 # eV

HARTREE_HERTZ_RELATIONSHIP=6.579683920502e15 # Hz
U_HARTREE_HERTZ_RELATIONSHIP=0.000000000013e15 # Hz

HARTREE_INVERSE_METER_RELATIONSHIP=2.1947463136320e7 # m^-1
U_HARTREE_INVERSE_METER_RELATIONSHIP=0.0000000000043e7 # m^-1

HARTREE_JOULE_RELATIONSHIP=4.3597447222071e-18 # J
U_HARTREE_JOULE_RELATIONSHIP=0.0000000000085e-18 # J

HARTREE_KELVIN_RELATIONSHIP=3.1577502480407e5 # K
U_HARTREE_KELVIN_RELATIONSHIP=0.0000000000061e5 # K

HARTREE_KILOGRAM_RELATIONSHIP=4.8508702095432e-35 # kg
U_HARTREE_KILOGRAM_RELATIONSHIP=0.0000000000094e-35 # kg

HELION_ELECTRON_MASS_RATIO=5495.88528007e0 #
U_HELION_ELECTRON_MASS_RATIO=0.00000024e0 #

HELION_G_FACTOR=-4.255250615e0 #
U_HELION_G_FACTOR=0.000000050e0 #

HELION_MAG__MOM=-1.074617532e-26 # J T^-1
U_HELION_MAG__MOM=0.000000013e-26 # J T^-1

HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158740958e-3 #
U_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3 #

HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127625307e0 #
U_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0 #

HELION_MASS=5.0064127796e-27 # kg
U_HELION_MASS=0.0000000015e-27 # kg

HELION_MASS_ENERGY_EQUIVALENT=4.4995394125e-10 # J
U_HELION_MASS_ENERGY_EQUIVALENT=0.0000000014e-10 # J

HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.39160743e0 # MeV
U_HELION_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0 # MeV

HELION_MASS_IN_U=3.014932247175e0 # u
U_HELION_MASS_IN_U=0.000000000097e0 # u

HELION_MOLAR_MASS=3.01493224613e-3 # kg mol^-1
U_HELION_MOLAR_MASS=0.00000000091e-3 # kg mol^-1

HELION_PROTON_MASS_RATIO=2.99315267167e0 #
U_HELION_PROTON_MASS_RATIO=0.00000000013e0 #

HELION_RELATIVE_ATOMIC_MASS=3.014932247175e0 #
U_HELION_RELATIVE_ATOMIC_MASS=0.000000000097e0 #

HELION_SHIELDING_SHIFT=5.996743e-5 #
U_HELION_SHIELDING_SHIFT=0.000010e-5 #

HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=4.4398216652e-24 # u
U_HERTZ_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000013e-24 # u

HERTZ_ELECTRON_VOLT_RELATIONSHIP=4.135667696e-15 # eV
U_HERTZ_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV

HERTZ_HARTREE_RELATIONSHIP=1.5198298460570e-16 # E_h
U_HERTZ_HARTREE_RELATIONSHIP=0.0000000000029e-16 # E_h

HERTZ_INVERSE_METER_RELATIONSHIP=3.335640951e-9 # m^-1
U_HERTZ_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1

HERTZ_JOULE_RELATIONSHIP=6.62607015e-34 # J
U_HERTZ_JOULE_RELATIONSHIP=0.0e0 # J
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HERTZ_KELVIN_RELATIONSHIP=4.799243073e-11 # K
U_HERTZ_KELVIN_RELATIONSHIP=0.0e0 # K

HERTZ_KILOGRAM_RELATIONSHIP=7.372497323e-51 # kg
U_HERTZ_KILOGRAM_RELATIONSHIP=0.0e0 # kg

HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=9192631770.0e0 # Hz
U_HYPERFINE_TRANSITION_FREQUENCY_OF_CS_133=0.0e0 # Hz

INVERSE_FINE_STRUCTURE_CONSTANT=137.035999084e0 #
U_INVERSE_FINE_STRUCTURE_CONSTANT=0.000000021e0 #

INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=1.33102505010e-15 # u
U_INVERSE_METER_ATOMIC_MASS_UNIT_RELATIONSHIP=0.00000000040e-15 # u

INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=1.239841984e-6 # eV
U_INVERSE_METER_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV

INVERSE_METER_HARTREE_RELATIONSHIP=4.5563352529120e-8 # E_h
U_INVERSE_METER_HARTREE_RELATIONSHIP=0.0000000000088e-8 # E_h

INVERSE_METER_HERTZ_RELATIONSHIP=299792458.0e0 # Hz
U_INVERSE_METER_HERTZ_RELATIONSHIP=0.0e0 # Hz

INVERSE_METER_JOULE_RELATIONSHIP=1.986445857e-25 # J
U_INVERSE_METER_JOULE_RELATIONSHIP=0.0e0 # J

INVERSE_METER_KELVIN_RELATIONSHIP=1.438776877e-2 # K
U_INVERSE_METER_KELVIN_RELATIONSHIP=0.0e0 # K

INVERSE_METER_KILOGRAM_RELATIONSHIP=2.210219094e-42 # kg
U_INVERSE_METER_KILOGRAM_RELATIONSHIP=0.0e0 # kg

INVERSE_OF_CONDUCTANCE_QUANTUM=12906.40372e0 # ohm
U_INVERSE_OF_CONDUCTANCE_QUANTUM=0.0e0 # ohm

JOSEPHSON_CONSTANT=483597.8484e9 # Hz V^-1
U_JOSEPHSON_CONSTANT=0.0e0 # Hz V^-1

JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=6.7005352565e9 # u
U_JOULE_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000020e9 # u

JOULE_ELECTRON_VOLT_RELATIONSHIP=6.241509074e18 # eV
U_JOULE_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV

JOULE_HARTREE_RELATIONSHIP=2.2937122783963e17 # E_h
U_JOULE_HARTREE_RELATIONSHIP=0.0000000000045e17 # E_h

JOULE_HERTZ_RELATIONSHIP=1.509190179e33 # Hz
U_JOULE_HERTZ_RELATIONSHIP=0.0e0 # Hz

JOULE_INVERSE_METER_RELATIONSHIP=5.034116567e24 # m^-1
U_JOULE_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1

JOULE_KELVIN_RELATIONSHIP=7.242970516e22 # K
U_JOULE_KELVIN_RELATIONSHIP=0.0e0 # K

JOULE_KILOGRAM_RELATIONSHIP=1.112650056e-17 # kg
U_JOULE_KILOGRAM_RELATIONSHIP=0.0e0 # kg

KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=9.2510873014e-14 # u
U_KELVIN_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000028e-14 # u

KELVIN_ELECTRON_VOLT_RELATIONSHIP=8.617333262e-5 # eV
U_KELVIN_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV

KELVIN_HARTREE_RELATIONSHIP=3.1668115634556e-6 # E_h
U_KELVIN_HARTREE_RELATIONSHIP=0.0000000000061e-6 # E_h

KELVIN_HERTZ_RELATIONSHIP=2.083661912e10 # Hz
U_KELVIN_HERTZ_RELATIONSHIP=0.0e0 # Hz

KELVIN_INVERSE_METER_RELATIONSHIP=69.50348004e0 # m^-1
U_KELVIN_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1

KELVIN_JOULE_RELATIONSHIP=1.380649e-23 # J
U_KELVIN_JOULE_RELATIONSHIP=0.0e0 # J

KELVIN_KILOGRAM_RELATIONSHIP=1.536179187e-40 # kg
U_KELVIN_KILOGRAM_RELATIONSHIP=0.0e0 # kg

KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=6.0221407621e26 # u
U_KILOGRAM_ATOMIC_MASS_UNIT_RELATIONSHIP=0.0000000018e26 # u

KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=5.609588603e35 # eV
U_KILOGRAM_ELECTRON_VOLT_RELATIONSHIP=0.0e0 # eV
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KILOGRAM_HARTREE_RELATIONSHIP=2.0614857887409e34 # E_h
U_KILOGRAM_HARTREE_RELATIONSHIP=0.0000000000040e34 # E_h

KILOGRAM_HERTZ_RELATIONSHIP=1.356392489e50 # Hz
U_KILOGRAM_HERTZ_RELATIONSHIP=0.0e0 # Hz

KILOGRAM_INVERSE_METER_RELATIONSHIP=4.524438335e41 # m^-1
U_KILOGRAM_INVERSE_METER_RELATIONSHIP=0.0e0 # m^-1

KILOGRAM_JOULE_RELATIONSHIP=8.987551787e16 # J
U_KILOGRAM_JOULE_RELATIONSHIP=0.0e0 # J

KILOGRAM_KELVIN_RELATIONSHIP=6.509657260e39 # K
U_KILOGRAM_KELVIN_RELATIONSHIP=0.0e0 # K

LATTICE_PARAMETER_OF_SILICON=5.431020511e-10 # m
U_LATTICE_PARAMETER_OF_SILICON=0.000000089e-10 # m

LATTICE_SPACING_OF_IDEAL_SI__220=1.920155716e-10 # m
U_LATTICE_SPACING_OF_IDEAL_SI__220=0.000000032e-10 # m

LOSCHMIDT_CONSTANT__273_15_K__100_KPA=2.651645804e25 # m^-3
U_LOSCHMIDT_CONSTANT__273_15_K__100_KPA=0.0e0 # m^-3

LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=2.686780111e25 # m^-3
U_LOSCHMIDT_CONSTANT__273_15_K__101_325_KPA=0.0e0 # m^-3

LUMINOUS_EFFICACY=683.0e0 # lm W^-1
U_LUMINOUS_EFFICACY=0.0e0 # lm W^-1

MAG__FLUX_QUANTUM=2.067833848e-15 # Wb
U_MAG__FLUX_QUANTUM=0.0e0 # Wb

MOLAR_GAS_CONSTANT=8.314462618e0 # J mol^-1 K^-1
U_MOLAR_GAS_CONSTANT=0.0e0 # J mol^-1 K^-1

MOLAR_MASS_CONSTANT=0.99999999965e-3 # kg mol^-1
U_MOLAR_MASS_CONSTANT=0.00000000030e-3 # kg mol^-1

MOLAR_MASS_OF_CARBON_12=11.9999999958e-3 # kg mol^-1
U_MOLAR_MASS_OF_CARBON_12=0.0000000036e-3 # kg mol^-1

MOLAR_PLANCK_CONSTANT=3.990312712e-10 # J Hz^-1 mol^-1
U_MOLAR_PLANCK_CONSTANT=0.0e0 # J Hz^-1 mol^-1

MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=22.71095464e-3 # m^3 mol^-1
U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__100_KPA=0.0e0 # m^3 mol^-1

MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=22.41396954e-3 # m^3 mol^-1
U_MOLAR_VOLUME_OF_IDEAL_GAS__273_15_K__101_325_KPA=0.0e0 # m^3 mol^-1

MOLAR_VOLUME_OF_SILICON=1.205883199e-5 # m^3 mol^-1
U_MOLAR_VOLUME_OF_SILICON=0.000000060e-5 # m^3 mol^-1

MOLYBDENUM_X_UNIT=1.00209952e-13 # m
U_MOLYBDENUM_X_UNIT=0.00000053e-13 # m

MUON_COMPTON_WAVELENGTH=1.173444110e-14 # m
U_MUON_COMPTON_WAVELENGTH=0.000000026e-14 # m

MUON_ELECTRON_MASS_RATIO=206.7682830e0 #
U_MUON_ELECTRON_MASS_RATIO=0.0000046e0 #

MUON_G_FACTOR=-2.0023318418e0 #
U_MUON_G_FACTOR=0.0000000013e0 #

MUON_MAG__MOM=-4.49044830e-26 # J T^-1
U_MUON_MAG__MOM=0.00000010e-26 # J T^-1

MUON_MAG__MOM__ANOMALY=1.16592089e-3 #
U_MUON_MAG__MOM__ANOMALY=0.00000063e-3 #

MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-4.84197047e-3 #
U_MUON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000011e-3 #

MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-8.89059703e0 #
U_MUON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000020e0 #

MUON_MASS=1.883531627e-28 # kg
U_MUON_MASS=0.000000042e-28 # kg

MUON_MASS_ENERGY_EQUIVALENT=1.692833804e-11 # J
U_MUON_MASS_ENERGY_EQUIVALENT=0.000000038e-11 # J

MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=105.6583755e0 # MeV
U_MUON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.0000023e0 # MeV
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MUON_MASS_IN_U=0.1134289259e0 # u
U_MUON_MASS_IN_U=0.0000000025e0 # u

MUON_MOLAR_MASS=1.134289259e-4 # kg mol^-1
U_MUON_MOLAR_MASS=0.000000025e-4 # kg mol^-1

MUON_NEUTRON_MASS_RATIO=0.1124545170e0 #
U_MUON_NEUTRON_MASS_RATIO=0.0000000025e0 #

MUON_PROTON_MAG__MOM__RATIO=-3.183345142e0 #
U_MUON_PROTON_MAG__MOM__RATIO=0.000000071e0 #

MUON_PROTON_MASS_RATIO=0.1126095264e0 #
U_MUON_PROTON_MASS_RATIO=0.0000000025e0 #

MUON_TAU_MASS_RATIO=5.94635e-2 #
U_MUON_TAU_MASS_RATIO=0.00040e-2 #

NATURAL_UNIT_OF_ACTION=1.054571817e-34 # J s
U_NATURAL_UNIT_OF_ACTION=0.0e0 # J s

NATURAL_UNIT_OF_ACTION_IN_EV_S=6.582119569e-16 # eV s
U_NATURAL_UNIT_OF_ACTION_IN_EV_S=0.0e0 # eV s

NATURAL_UNIT_OF_ENERGY=8.1871057769e-14 # J
U_NATURAL_UNIT_OF_ENERGY=0.0000000025e-14 # J

NATURAL_UNIT_OF_ENERGY_IN_MEV=0.51099895000e0 # MeV
U_NATURAL_UNIT_OF_ENERGY_IN_MEV=0.00000000015e0 # MeV

NATURAL_UNIT_OF_LENGTH=3.8615926796e-13 # m
U_NATURAL_UNIT_OF_LENGTH=0.0000000012e-13 # m

NATURAL_UNIT_OF_MASS=9.1093837015e-31 # kg
U_NATURAL_UNIT_OF_MASS=0.0000000028e-31 # kg

NATURAL_UNIT_OF_MOMENTUM=2.73092453075e-22 # kg m s^-1
U_NATURAL_UNIT_OF_MOMENTUM=0.00000000082e-22 # kg m s^-1

NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.51099895000e0 # MeV/c
U_NATURAL_UNIT_OF_MOMENTUM_IN_MEV_C=0.00000000015e0 # MeV/c

NATURAL_UNIT_OF_TIME=1.28808866819e-21 # s
U_NATURAL_UNIT_OF_TIME=0.00000000039e-21 # s

NATURAL_UNIT_OF_VELOCITY=299792458.0e0 # m s^-1
U_NATURAL_UNIT_OF_VELOCITY=0.0e0 # m s^-1

NEUTRON_COMPTON_WAVELENGTH=1.31959090581e-15 # m
U_NEUTRON_COMPTON_WAVELENGTH=0.00000000075e-15 # m

NEUTRON_ELECTRON_MAG__MOM__RATIO=1.04066882e-3 #
U_NEUTRON_ELECTRON_MAG__MOM__RATIO=0.00000025e-3 #

NEUTRON_ELECTRON_MASS_RATIO=1838.68366173e0 #
U_NEUTRON_ELECTRON_MASS_RATIO=0.00000089e0 #

NEUTRON_G_FACTOR=-3.82608545e0 #
U_NEUTRON_G_FACTOR=0.00000090e0 #

NEUTRON_GYROMAG__RATIO=1.83247171e8 # s^-1 T^-1
U_NEUTRON_GYROMAG__RATIO=0.00000043e8 # s^-1 T^-1

NEUTRON_GYROMAG__RATIO_IN_MHZ_T=29.1646931e0 # MHz T^-1
U_NEUTRON_GYROMAG__RATIO_IN_MHZ_T=0.0000069e0 # MHz T^-1

NEUTRON_MAG__MOM=-9.6623651e-27 # J T^-1
U_NEUTRON_MAG__MOM=0.0000023e-27 # J T^-1

NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.04187563e-3 #
U_NEUTRON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000025e-3 #

NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-1.91304273e0 #
U_NEUTRON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000045e0 #

NEUTRON_MASS=1.67492749804e-27 # kg
U_NEUTRON_MASS=0.00000000095e-27 # kg

NEUTRON_MASS_ENERGY_EQUIVALENT=1.50534976287e-10 # J
U_NEUTRON_MASS_ENERGY_EQUIVALENT=0.00000000086e-10 # J

NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=939.56542052e0 # MeV
U_NEUTRON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000054e0 # MeV

NEUTRON_MASS_IN_U=1.00866491595e0 # u
U_NEUTRON_MASS_IN_U=0.00000000049e0 # u
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NEUTRON_MOLAR_MASS=1.00866491560e-3 # kg mol^-1
U_NEUTRON_MOLAR_MASS=0.00000000057e-3 # kg mol^-1

NEUTRON_MUON_MASS_RATIO=8.89248406e0 #
U_NEUTRON_MUON_MASS_RATIO=0.00000020e0 #

NEUTRON_PROTON_MAG__MOM__RATIO=-0.68497934e0 #
U_NEUTRON_PROTON_MAG__MOM__RATIO=0.00000016e0 #

NEUTRON_PROTON_MASS_DIFFERENCE=2.30557435e-30 # kg
U_NEUTRON_PROTON_MASS_DIFFERENCE=0.00000082e-30 # kg

NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=2.07214689e-13 # J
U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT=0.00000074e-13 # J

NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=1.29333236e0 # MeV
U_NEUTRON_PROTON_MASS_DIFFERENCE_ENERGY_EQUIVALENT_IN_MEV=0.00000046e0 # MeV

NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=1.38844933e-3 # u
U_NEUTRON_PROTON_MASS_DIFFERENCE_IN_U=0.00000049e-3 # u

NEUTRON_PROTON_MASS_RATIO=1.00137841931e0 #
U_NEUTRON_PROTON_MASS_RATIO=0.00000000049e0 #

NEUTRON_RELATIVE_ATOMIC_MASS=1.00866491595e0 #
U_NEUTRON_RELATIVE_ATOMIC_MASS=0.00000000049e0 #

NEUTRON_TAU_MASS_RATIO=0.528779e0 #
U_NEUTRON_TAU_MASS_RATIO=0.000036e0 #

NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.68499694e0 #
U_NEUTRON_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.00000016e0 #

NEWTONIAN_CONSTANT_OF_GRAVITATION=6.67430e-11 # m^3 kg^-1 s^-2
U_NEWTONIAN_CONSTANT_OF_GRAVITATION=0.00015e-11 # m^3 kg^-1 s^-2

NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=6.70883e-39 # (GeV/c^2)^-2
U_NEWTONIAN_CONSTANT_OF_GRAVITATION_OVER_H_BAR_C=0.00015e-39 # (GeV/c^2)^-2

NUCLEAR_MAGNETON=5.0507837461e-27 # J T^-1
U_NUCLEAR_MAGNETON=0.0000000015e-27 # J T^-1

NUCLEAR_MAGNETON_IN_EV_T=3.15245125844e-8 # eV T^-1
U_NUCLEAR_MAGNETON_IN_EV_T=0.00000000096e-8 # eV T^-1

NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=2.54262341353e-2 # m^-1 T^-1
U_NUCLEAR_MAGNETON_IN_INVERSE_METER_PER_TESLA=0.00000000078e-2 # m^-1 T^-1

NUCLEAR_MAGNETON_IN_K_T=3.6582677756e-4 # K T^-1
U_NUCLEAR_MAGNETON_IN_K_T=0.0000000011e-4 # K T^-1

NUCLEAR_MAGNETON_IN_MHZ_T=7.6225932291e0 # MHz T^-1
U_NUCLEAR_MAGNETON_IN_MHZ_T=0.0000000023e0 # MHz T^-1

PLANCK_CONSTANT=6.62607015e-34 # J Hz^-1
U_PLANCK_CONSTANT=0.0e0 # J Hz^-1

PLANCK_CONSTANT_IN_EV_HZ=4.135667696e-15 # eV Hz^-1
U_PLANCK_CONSTANT_IN_EV_HZ=0.0e0 # eV Hz^-1

PLANCK_LENGTH=1.616255e-35 # m
U_PLANCK_LENGTH=0.000018e-35 # m

PLANCK_MASS=2.176434e-8 # kg
U_PLANCK_MASS=0.000024e-8 # kg

PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=1.220890e19 # GeV
U_PLANCK_MASS_ENERGY_EQUIVALENT_IN_GEV=0.000014e19 # GeV

PLANCK_TEMPERATURE=1.416784e32 # K
U_PLANCK_TEMPERATURE=0.000016e32 # K

PLANCK_TIME=5.391247e-44 # s
U_PLANCK_TIME=0.000060e-44 # s

PROTON_CHARGE_TO_MASS_QUOTIENT=9.5788331560e7 # C kg^-1
U_PROTON_CHARGE_TO_MASS_QUOTIENT=0.0000000029e7 # C kg^-1

PROTON_COMPTON_WAVELENGTH=1.32140985539e-15 # m
U_PROTON_COMPTON_WAVELENGTH=0.00000000040e-15 # m

PROTON_ELECTRON_MASS_RATIO=1836.15267343e0 #
U_PROTON_ELECTRON_MASS_RATIO=0.00000011e0 #

PROTON_G_FACTOR=5.5856946893e0 #
U_PROTON_G_FACTOR=0.0000000016e0 #
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PROTON_GYROMAG__RATIO=2.6752218744e8 # s^-1 T^-1
U_PROTON_GYROMAG__RATIO=0.0000000011e8 # s^-1 T^-1

PROTON_GYROMAG__RATIO_IN_MHZ_T=42.577478518e0 # MHz T^-1
U_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.000000018e0 # MHz T^-1

PROTON_MAG__MOM=1.41060679736e-26 # J T^-1
U_PROTON_MAG__MOM=0.00000000060e-26 # J T^-1

PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.52103220230e-3 #
U_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.00000000046e-3 #

PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.79284734463e0 #
U_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.00000000082e0 #

PROTON_MAG__SHIELDING_CORRECTION=2.5689e-5 #
U_PROTON_MAG__SHIELDING_CORRECTION=0.0011e-5 #

PROTON_MASS=1.67262192369e-27 # kg
U_PROTON_MASS=0.00000000051e-27 # kg

PROTON_MASS_ENERGY_EQUIVALENT=1.50327761598e-10 # J
U_PROTON_MASS_ENERGY_EQUIVALENT=0.00000000046e-10 # J

PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=938.27208816e0 # MeV
U_PROTON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000029e0 # MeV

PROTON_MASS_IN_U=1.007276466621e0 # u
U_PROTON_MASS_IN_U=0.000000000053e0 # u

PROTON_MOLAR_MASS=1.00727646627e-3 # kg mol^-1
U_PROTON_MOLAR_MASS=0.00000000031e-3 # kg mol^-1

PROTON_MUON_MASS_RATIO=8.88024337e0 #
U_PROTON_MUON_MASS_RATIO=0.00000020e0 #

PROTON_NEUTRON_MAG__MOM__RATIO=-1.45989805e0 #
U_PROTON_NEUTRON_MAG__MOM__RATIO=0.00000034e0 #

PROTON_NEUTRON_MASS_RATIO=0.99862347812e0 #
U_PROTON_NEUTRON_MASS_RATIO=0.00000000049e0 #

PROTON_RELATIVE_ATOMIC_MASS=1.007276466621e0 #
U_PROTON_RELATIVE_ATOMIC_MASS=0.000000000053e0 #

PROTON_RMS_CHARGE_RADIUS=8.414e-16 # m
U_PROTON_RMS_CHARGE_RADIUS=0.019e-16 # m

PROTON_TAU_MASS_RATIO=0.528051e0 #
U_PROTON_TAU_MASS_RATIO=0.000036e0 #

QUANTUM_OF_CIRCULATION=3.6369475516e-4 # m^2 s^-1
U_QUANTUM_OF_CIRCULATION=0.0000000011e-4 # m^2 s^-1

QUANTUM_OF_CIRCULATION_TIMES_2=7.2738951032e-4 # m^2 s^-1
U_QUANTUM_OF_CIRCULATION_TIMES_2=0.0000000022e-4 # m^2 s^-1

REDUCED_COMPTON_WAVELENGTH=3.8615926796e-13 # m
U_REDUCED_COMPTON_WAVELENGTH=0.0000000012e-13 # m

REDUCED_MUON_COMPTON_WAVELENGTH=1.867594306e-15 # m
U_REDUCED_MUON_COMPTON_WAVELENGTH=0.000000042e-15 # m

REDUCED_NEUTRON_COMPTON_WAVELENGTH=2.1001941552e-16 # m
U_REDUCED_NEUTRON_COMPTON_WAVELENGTH=0.0000000012e-16 # m

REDUCED_PLANCK_CONSTANT=1.054571817e-34 # J s
U_REDUCED_PLANCK_CONSTANT=0.0e0 # J s

REDUCED_PLANCK_CONSTANT_IN_EV_S=6.582119569e-16 # eV s
U_REDUCED_PLANCK_CONSTANT_IN_EV_S=0.0e0 # eV s

REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=197.3269804e0 # MeV fm
U_REDUCED_PLANCK_CONSTANT_TIMES_C_IN_MEV_FM=0.0e0 # MeV fm

REDUCED_PROTON_COMPTON_WAVELENGTH=2.10308910336e-16 # m
U_REDUCED_PROTON_COMPTON_WAVELENGTH=0.00000000064e-16 # m

REDUCED_TAU_COMPTON_WAVELENGTH=1.110538e-16 # m
U_REDUCED_TAU_COMPTON_WAVELENGTH=0.000075e-16 # m

RYDBERG_CONSTANT=10973731.568160e0 # m^-1
U_RYDBERG_CONSTANT=0.000021e0 # m^-1

RYDBERG_CONSTANT_TIMES_C_IN_HZ=3.2898419602508e15 # Hz
U_RYDBERG_CONSTANT_TIMES_C_IN_HZ=0.0000000000064e15 # Hz
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RYDBERG_CONSTANT_TIMES_HC_IN_EV=13.605693122994e0 # eV
U_RYDBERG_CONSTANT_TIMES_HC_IN_EV=0.000000000026e0 # eV
RYDBERG_CONSTANT_TIMES_HC_IN_J=2.1798723611035e-18 # J
U_RYDBERG_CONSTANT_TIMES_HC_IN_J=0.0000000000042e-18 # J
SACKUR_TETRODE_CONSTANT__1_K__100_KPA=-1.15170753706e0 #
U_SACKUR_TETRODE_CONSTANT__1_K__100_KPA=0.00000000045e0 #
SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=-1.16487052358e0 #
U_SACKUR_TETRODE_CONSTANT__1_K__101_325_KPA=0.00000000045e0 #
SECOND_RADIATION_CONSTANT=1.438776877e-2 # m K
U_SECOND_RADIATION_CONSTANT=0.0e0 # m K
SHIELDED_HELION_GYROMAG__RATIO=2.037894569e8 # s^-1 T^-1
U_SHIELDED_HELION_GYROMAG__RATIO=0.000000024e8 # s^-1 T^-1
SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=32.43409942e0 # MHz T^-1
U_SHIELDED_HELION_GYROMAG__RATIO_IN_MHZ_T=0.00000038e0 # MHz T^-1
SHIELDED_HELION_MAG__MOM=-1.074553090e-26 # J T^-1
U_SHIELDED_HELION_MAG__MOM=0.000000013e-26 # J T^-1
SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=-1.158671471e-3 #
U_SHIELDED_HELION_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000014e-3 #
SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=-2.127497719e0 #
U_SHIELDED_HELION_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000025e0 #
SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=-0.7617665618e0 #
U_SHIELDED_HELION_TO_PROTON_MAG__MOM__RATIO=0.0000000089e0 #
SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=-0.7617861313e0 #
U_SHIELDED_HELION_TO_SHIELDED_PROTON_MAG__MOM__RATIO=0.0000000033e0 #
SHIELDED_PROTON_GYROMAG__RATIO=2.675153151e8 # s^-1 T^-1
U_SHIELDED_PROTON_GYROMAG__RATIO=0.000000029e8 # s^-1 T^-1
SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=42.57638474e0 # MHz T^-1
U_SHIELDED_PROTON_GYROMAG__RATIO_IN_MHZ_T=0.00000046e0 # MHz T^-1
SHIELDED_PROTON_MAG__MOM=1.410570560e-26 # J T^-1
U_SHIELDED_PROTON_MAG__MOM=0.000000015e-26 # J T^-1
SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.520993128e-3 #
U_SHIELDED_PROTON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.000000017e-3 #
SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.792775599e0 #
U_SHIELDED_PROTON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.000000030e0 #
SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=2.0200e-8 #
U_SHIELDING_DIFFERENCE_OF_D_AND_P_IN_HD=0.0020e-8 #
SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=2.4140e-8 #
U_SHIELDING_DIFFERENCE_OF_T_AND_P_IN_HT=0.0020e-8 #
SPEED_OF_LIGHT_IN_VACUUM=299792458.0e0 # m s^-1
U_SPEED_OF_LIGHT_IN_VACUUM=0.0e0 # m s^-1
STANDARD_ACCELERATION_OF_GRAVITY=9.80665e0 # m s^-2
U_STANDARD_ACCELERATION_OF_GRAVITY=0.0e0 # m s^-2
STANDARD_ATMOSPHERE=101325.0e0 # Pa
U_STANDARD_ATMOSPHERE=0.0e0 # Pa
STANDARD_STATE_PRESSURE=100000.0e0 # Pa
U_STANDARD_STATE_PRESSURE=0.0e0 # Pa
STEFAN_BOLTZMANN_CONSTANT=5.670374419e-8 # W m^-2 K^-4
U_STEFAN_BOLTZMANN_CONSTANT=0.0e0 # W m^-2 K^-4
TAU_COMPTON_WAVELENGTH=6.97771e-16 # m
U_TAU_COMPTON_WAVELENGTH=0.00047e-16 # m
TAU_ELECTRON_MASS_RATIO=3477.23e0 #
U_TAU_ELECTRON_MASS_RATIO=0.23e0 #
TAU_ENERGY_EQUIVALENT=1776.86e0 # MeV
U_TAU_ENERGY_EQUIVALENT=0.12e0 # MeV
TAU_MASS=3.16754e-27 # kg
U_TAU_MASS=0.00021e-27 # kg
TAU_MASS_ENERGY_EQUIVALENT=2.84684e-10 # J
U_TAU_MASS_ENERGY_EQUIVALENT=0.00019e-10 # J
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TAU_MASS_IN_U=1.90754e0 # u
U_TAU_MASS_IN_U=0.00013e0 # u

TAU_MOLAR_MASS=1.90754e-3 # kg mol^-1
U_TAU_MOLAR_MASS=0.00013e-3 # kg mol^-1

TAU_MUON_MASS_RATIO=16.8170e0 #
U_TAU_MUON_MASS_RATIO=0.0011e0 #

TAU_NEUTRON_MASS_RATIO=1.89115e0 #
U_TAU_NEUTRON_MASS_RATIO=0.00013e0 #

TAU_PROTON_MASS_RATIO=1.89376e0 #
U_TAU_PROTON_MASS_RATIO=0.00013e0 #

THOMSON_CROSS_SECTION=6.6524587321e-29 # m^2
U_THOMSON_CROSS_SECTION=0.0000000060e-29 # m^2

TRITON_ELECTRON_MASS_RATIO=5496.92153573e0 #
U_TRITON_ELECTRON_MASS_RATIO=0.00000027e0 #

TRITON_G_FACTOR=5.957924931e0 #
U_TRITON_G_FACTOR=0.000000012e0 #

TRITON_MAG__MOM=1.5046095202e-26 # J T^-1
U_TRITON_MAG__MOM=0.0000000030e-26 # J T^-1

TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=1.6223936651e-3 #
U_TRITON_MAG__MOM__TO_BOHR_MAGNETON_RATIO=0.0000000032e-3 #

TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=2.9789624656e0 #
U_TRITON_MAG__MOM__TO_NUCLEAR_MAGNETON_RATIO=0.0000000059e0 #

TRITON_MASS=5.0073567446e-27 # kg
U_TRITON_MASS=0.0000000015e-27 # kg

TRITON_MASS_ENERGY_EQUIVALENT=4.5003878060e-10 # J
U_TRITON_MASS_ENERGY_EQUIVALENT=0.0000000014e-10 # J

TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=2808.92113298e0 # MeV
U_TRITON_MASS_ENERGY_EQUIVALENT_IN_MEV=0.00000085e0 # MeV

TRITON_MASS_IN_U=3.01550071621e0 # u
U_TRITON_MASS_IN_U=0.00000000012e0 # u

TRITON_MOLAR_MASS=3.01550071517e-3 # kg mol^-1
U_TRITON_MOLAR_MASS=0.00000000092e-3 # kg mol^-1

TRITON_PROTON_MASS_RATIO=2.99371703414e0 #
U_TRITON_PROTON_MASS_RATIO=0.00000000015e0 #

TRITON_RELATIVE_ATOMIC_MASS=3.01550071621e0 #
U_TRITON_RELATIVE_ATOMIC_MASS=0.00000000012e0 #

TRITON_TO_PROTON_MAG__MOM__RATIO=1.0666399191e0 #
U_TRITON_TO_PROTON_MAG__MOM__RATIO=0.0000000021e0 #

UNIFIED_ATOMIC_MASS_UNIT=1.66053906660e-27 # kg
U_UNIFIED_ATOMIC_MASS_UNIT=0.00000000050e-27 # kg

VACUUM_ELECTRIC_PERMITTIVITY=8.8541878128e-12 # F m^-1
U_VACUUM_ELECTRIC_PERMITTIVITY=0.0000000013e-12 # F m^-1

VACUUM_MAG__PERMEABILITY=1.25663706212e-6 # N A^-2
U_VACUUM_MAG__PERMEABILITY=0.00000000019e-6 # N A^-2

VON_KLITZING_CONSTANT=25812.80745e0 # ohm
U_VON_KLITZING_CONSTANT=0.0e0 # ohm

WEAK_MIXING_ANGLE=0.22290e0 #
U_WEAK_MIXING_ANGLE=0.00030e0 #

WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=5.878925757e10 # Hz K^-1
U_WIEN_FREQUENCY_DISPLACEMENT_LAW_CONSTANT=0.0e0 # Hz K^-1

WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=2.897771955e-3 # m K
U_WIEN_WAVELENGTH_DISPLACEMENT_LAW_CONSTANT=0.0e0 # m K

W_TO_Z_MASS_RATIO=0.88153e0 #
U_W_TO_Z_MASS_RATIO=0.00017e0 #

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