

The diagram illustrates the relationships between various physical quantities and their dimensions, organized into three horizontal sections separated by dashed lines.

**Top Section:**

- $\Omega_1$  (frequency) is linked to  $\pm \mathbf{h}$  (Planck constant) with a coefficient of -1, and to  $\pm \mathbf{n}$  (Boltzmann constant) with a coefficient of -1.
- $R_\infty$  (Rydberg constant) is linked to  $\pm \mathbf{h}$  with a coefficient of -1.
- $c_0$  (speed of light) is linked to  $\pm \mathbf{n}$  with a coefficient of -1.
- $\mathbf{h}$  (Planck constant) is linked to  $\pm \mathbf{J}$  (action) with a coefficient of -1.
- $k_B$  (Boltzmann constant) is linked to  $\pm \mathbf{K}$  (temperature) with a coefficient of -1.
- $e$  (elementary charge) is linked to  $\pm \mathbf{K}$  with a coefficient of -1/2.
- $\pm \mathbf{h}$  is linked to  $\pm \mathbf{J}$  with a coefficient of -1.
- $\pm \mathbf{n}$  is linked to  $\pm \mathbf{J}$  with a coefficient of -1.
- $\pm \mathbf{J}$  is linked to  $\pm \mathbf{K}$  with a coefficient of -1.
- $\pm \mathbf{K}$  is linked to  $\pm \mathbf{C}$  (capacitance) with a coefficient of +1/2.
- $\pm \mathbf{J}$  is linked to  $\pm \mathbf{C}$  with a coefficient of +1/2.
- $\pm \mathbf{K}$  is linked to  $\pm \mathbf{C}$  with a coefficient of -1/2.
- $\pm \mathbf{C}$  is linked to  $\pm \mathbf{A}$  (area) with a coefficient of -1.
- $\pm \mathbf{A}$  is linked to  $\pm \mathbf{T}$  (torque) with a coefficient of -1.
- $\pm \mathbf{T}$  is linked to  $\pm \mathbf{E}$  (electric field strength) with a coefficient of -1.
- $\pm \mathbf{E}$  is linked to  $\pm \mathbf{C}$  with a coefficient of -1.

**Middle Section:**

- $\pm \mathbf{W}$  (human sensitivity) is linked to  $\pm \mathbf{J}$  (action) with a coefficient of -1.
- $\pm \mathbf{J}$  is linked to  $\pm \mathbf{N}$  (newton) with a coefficient of -1.
- $\pm \mathbf{N}$  is linked to  $\pm \mathbf{P}$  (power) with a coefficient of -1.
- $\pm \mathbf{P}$  is linked to  $\pm \mathbf{C}$  (capacitance) with a coefficient of -1.
- $\pm \mathbf{C}$  is linked to  $\pm \mathbf{T}$  (torque) with a coefficient of -1.
- $\pm \mathbf{T}$  is linked to  $\pm \mathbf{E}$  (electric field strength) with a coefficient of -1.
- $\pm \mathbf{E}$  is linked to  $\pm \mathbf{C}$  with a coefficient of -1.

**Bottom Section:**

- $\pm \mathbf{W}$  (human sensitivity) is linked to  $\pm \mathbf{J}$  (action) with a coefficient of -1.
- $\pm \mathbf{J}$  is linked to  $\pm \mathbf{N}$  (newton) with a coefficient of -1.
- $\pm \mathbf{N}$  is linked to  $\pm \mathbf{P}$  (power) with a coefficient of -1.
- $\pm \mathbf{P}$  is linked to  $\pm \mathbf{C}$  (capacitance) with a coefficient of -1.
- $\pm \mathbf{C}$  is linked to  $\pm \mathbf{T}$  (torque) with a coefficient of -1.
- $\pm \mathbf{T}$  is linked to  $\pm \mathbf{E}$  (electric field strength) with a coefficient of -1.
- $\pm \mathbf{E}$  is linked to  $\pm \mathbf{C}$  with a coefficient of -1.

**Dimensions and Units:**

- frequency (Hz):**  $\Omega_1$
- Planck constant:**  $\mathbf{h}$
- Boltzmann constant:**  $\mathbf{n}$
- action:**  $\mathbf{J}$
- temperature:**  $\mathbf{K}$
- capacitance (F):**  $\mathbf{C}$
- area:**  $\mathbf{A}$
- torque:**  $\mathbf{T}$
- electric field strength:**  $\mathbf{E}$
- human sensitivity:**  $\mathbf{W}$
- action:**  $\mathbf{J}$
- newton:**  $\mathbf{N}$
- power:**  $\mathbf{P}$
- capacitance:**  $\mathbf{C}$
- torque:**  $\mathbf{T}$
- electric field strength:**  $\mathbf{E}$
- luminous intensity (cd):**  $\Omega_2$
- magnetic potential:**  $\mathbf{A}$
- electric potential (V):**  $\mathbf{V}$
- electric flux:**  $\mathbf{C}$
- magnetic flux (Wb):**  $\mathbf{Wb}$
- electric flux density:**  $\mathbf{T}$
- magnetic flux density (T):**  $\mathbf{T}$
- magnetic field strength:**  $\mathbf{E}$
- electric field strength (V/m):**  $\mathbf{V/m}$

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Force between electrical quantities

$$f = \frac{1}{\epsilon_0} \frac{\Omega_2 Q}{4\pi r^2} Q' = \Omega_n c_0 \frac{Q Q'}{r^2}$$

Force between electrical currents

$$df = \mu_0 \frac{\Omega_2 I}{2\pi r} I' = \frac{2\Omega_n}{c_0} \frac{I I'}{r}$$

Lorentz force

$$\mathbf{F} = Q(\mathbf{E} + \mathbf{v} \times \mathbf{B})$$

Energy density of an electromagnetic field

$$u = \frac{1}{2\Omega_2} (\mathbf{E} \cdot \mathbf{D} + \mathbf{H} \cdot \mathbf{B})$$

Poynting vector

$$\mathbf{S} = \frac{1}{\Omega_2} \mathbf{E} \times \mathbf{H}$$

Electromagnetic induction law

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$$

Gauss' theorem (differential form)

$$\nabla \times \mathbf{H} = +\frac{\partial \mathbf{D}}{\partial t} + \Omega_2 \mathbf{J}$$

Charge conservation law

$$\begin{cases} \nabla \cdot \mathbf{D} = \Omega_2 \rho \\ \nabla \cdot \mathbf{B} = 0 \end{cases}$$

Scalar potential

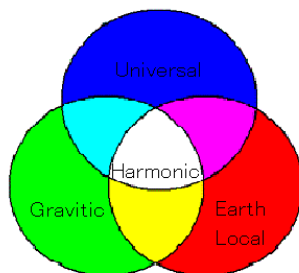
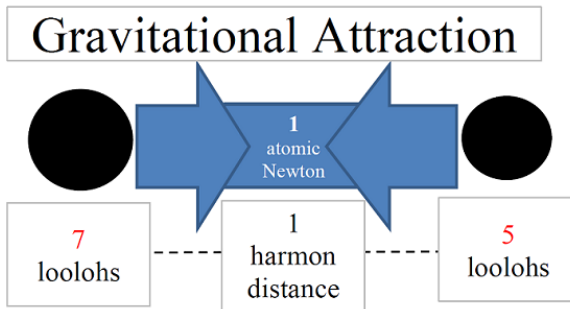
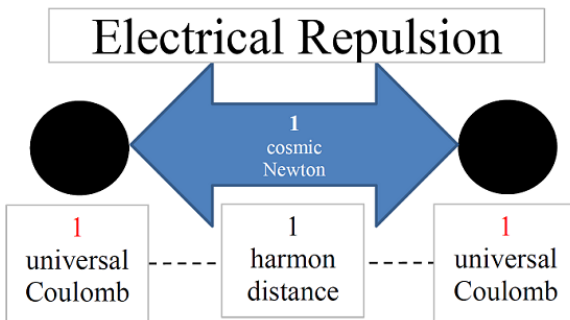
$$\nabla \cdot \mathbf{J} + \frac{\partial \rho}{\partial t} = 0$$

Vector potential

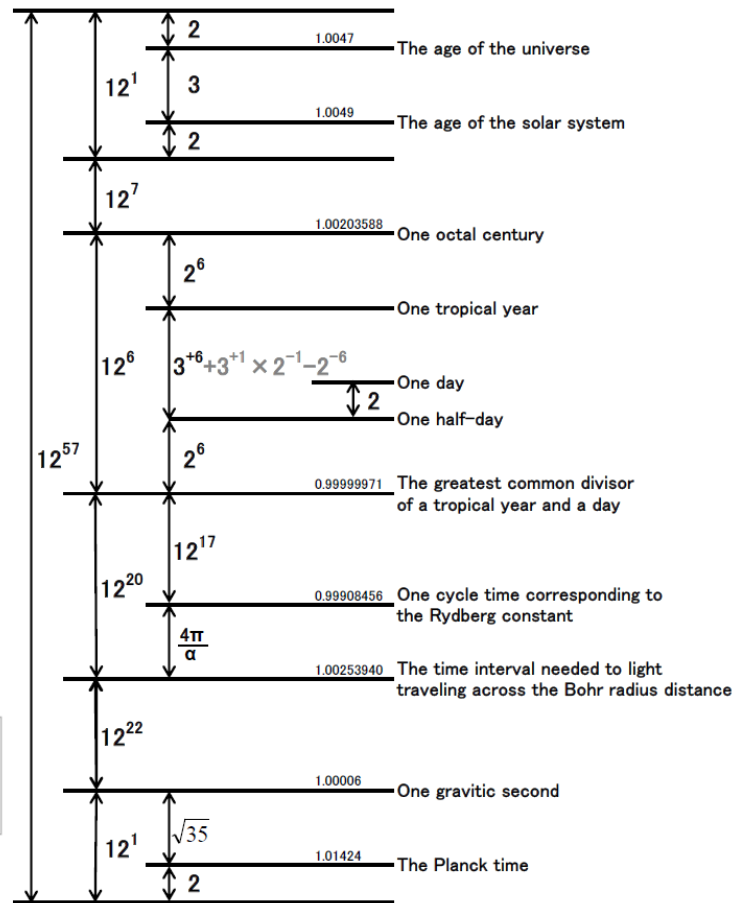
$$\mathbf{E} = -\nabla \phi - \frac{\partial \mathbf{A}}{\partial t}$$

Equation that satisfies the potential

$$\begin{cases} \Delta \phi - \epsilon_0 \mu_0 \frac{\partial^2 \phi}{\partial t^2} = -\Omega_2 \frac{\rho}{\epsilon_0} \\ \Delta \mathbf{A} - \epsilon_0 \mu_0 \frac{\partial^2 \mathbf{A}}{\partial t^2} = -\Omega_2 \mu_0 \mathbf{J} \end{cases}$$



## Natural Time Scale



1 hexon = 2 <sup>6</sup> years ≐ 10;(12.) <sup>6</sup> nodus = 10;(12.) <sup>9</sup> ternons			
0 <sup>th</sup> year	1 <sup>st</sup> year	...	53;(63.) <sup>rd</sup> year
1 year = 10;(12.)months			
0 <sup>th</sup> month	1 <sup>st</sup> month	...	E;(11.) <sup>th</sup> month
1 month = 26;(30.)days or 27;(31.)days			
0 <sup>th</sup> day	1 <sup>st</sup> day	...	last day
1 day = 10; <sup>3</sup> (12. <sup>3</sup> ) tertias			
0 <sup>th</sup> tertia	1 <sup>st</sup> tertia	...	EEE;(1727.) <sup>th</sup> tertia
1 tertia = 2 <sup>7</sup> ternons			
0 <sup>th</sup> ternon	1 <sup>st</sup> ternon	...	X7;(127.) <sup>th</sup> ternon