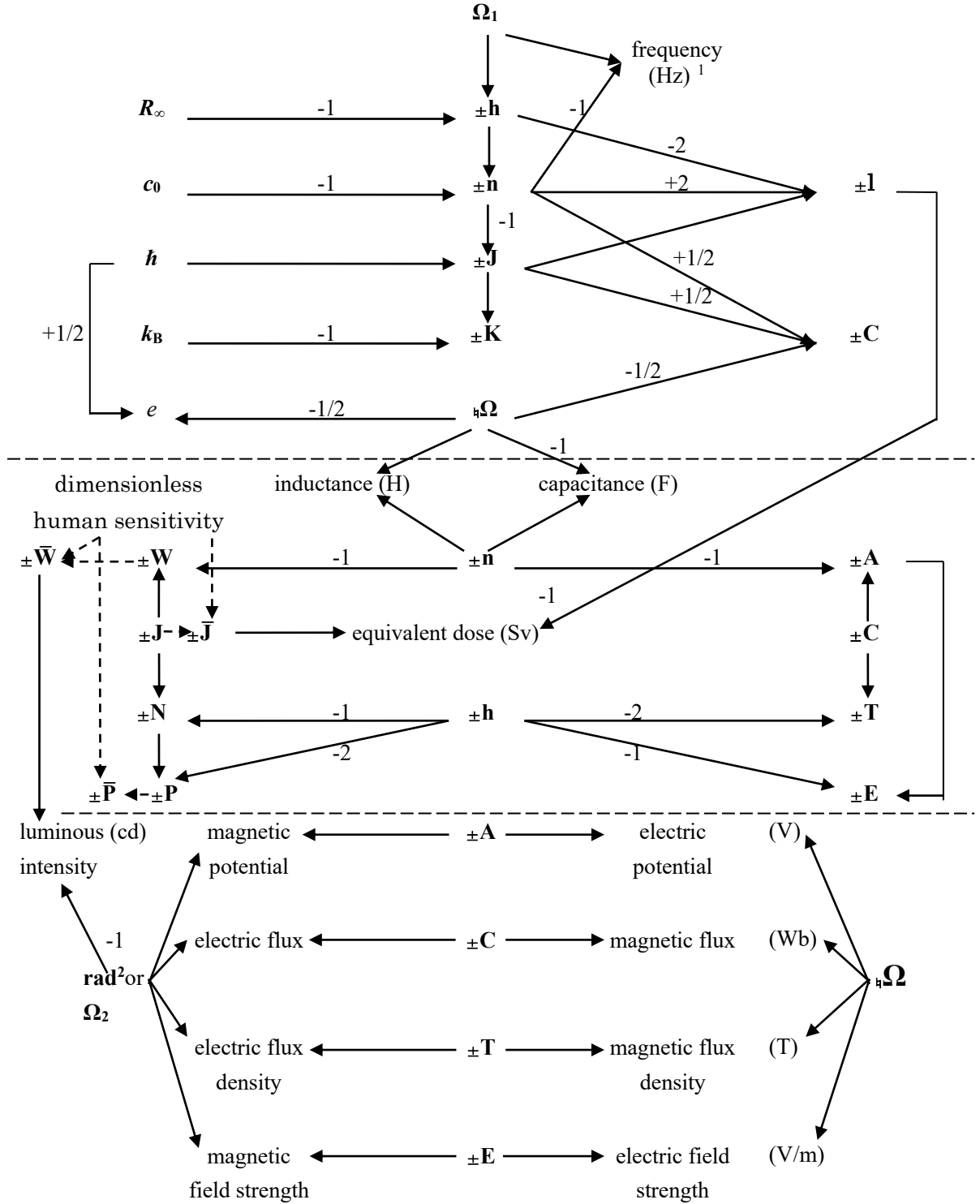


## E. Relation of Units and Dimensions



<sup>1</sup> The units enclosed with '()' are units of SI.

Force between electrical quantities

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

Force between electrical currents

$$df = \mu_0 \frac{\Omega_2 I}{2\pi r} I' = \frac{2\Omega_n}{\epsilon_0} \frac{I I'}{r}$$

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

$$\left\{ \begin{array}{l} \nabla \cdot \mathbf{D} = \Omega_2 \rho \\ \nabla \cdot \mathbf{B} = 0 \end{array} \right.$$

Scalar potential

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

Vector potential

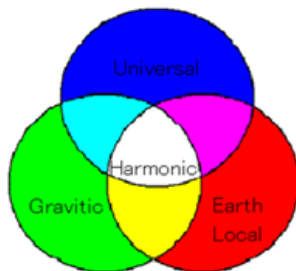
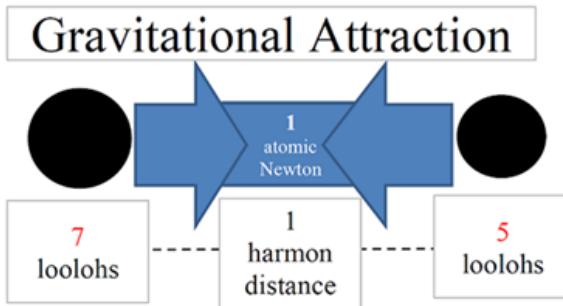
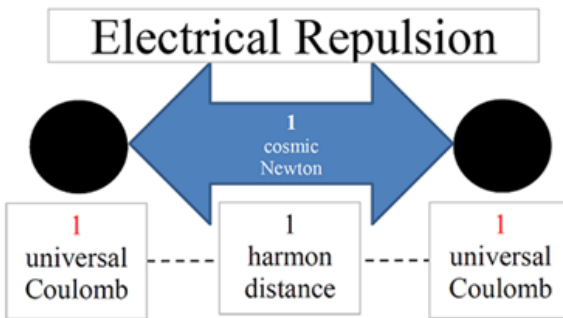
$$\mathbf{E} = -\nabla \phi - \frac{\partial \mathbf{A}}{\partial t}$$

Equation that satisfies the potential

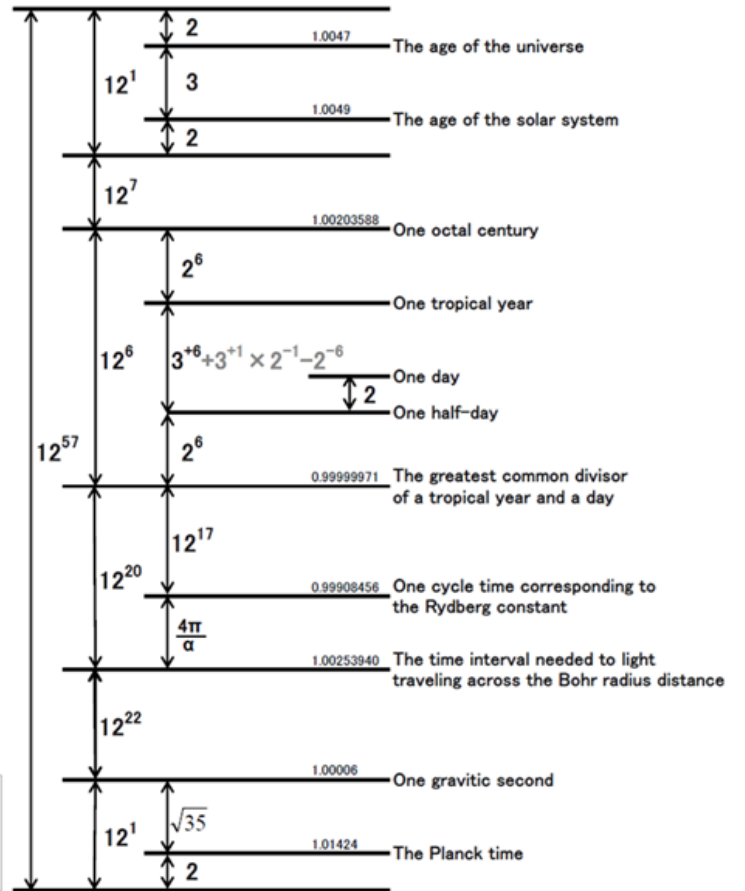
$$\mathbf{B} = +\nabla \times \mathbf{A}$$

$$\left\{ \begin{array}{l} \Delta \phi - \epsilon_0 \mu_0 \frac{\partial^2 \phi}{\partial t^2} = -\Omega_2 \frac{\rho}{\epsilon_0} \\ \Delta \mathbf{A} - \epsilon_0 \mu_0 \frac{\partial^2 \mathbf{A}}{\partial t^2} = -\Omega_2 \mu_0 \mathbf{J} \end{array} \right.$$

Constant  $\approx \Omega_0^n \times 12^m$ , where  $n \in \{0, \pm 1\}, m \in \mathbb{Z}$



## Natural Time Scale



1 hexon = 2 <sup>6</sup> years $\doteq 10;(12.)^6$ nodus = 10;(12.) <sup>9</sup> ternons			
0 <sup>th</sup> year	1 <sup>st</sup> year	...	53;(63.) <sup>nd</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