

Abraham-Minkowski Controversy

António Saraiva – 2009-05-05
ajps2@hotmail.com

See Unified Absolute Relativity Theory at:

<http://www.wbabin.net/saraiva/saraiva105.pdf>

Electromagnetic momentum in matter:

Wrong formula: $E = mc^2$; Correct formula: $E = mcw$

Wrong formula: $E = hf$; Correct formula: $E = \frac{hcf}{w}$

$$\Leftrightarrow p = mw = \frac{hf}{w} = \frac{nhf}{c} \quad \text{and} \quad n = \frac{c}{w}$$

Minkowski is correct.

Particle confinement

The confinement energy calculated with the uncertainty principle formula is not correct.

True formula: $Ex = ch$

E – Energy; x – Wavelength; c – Light speed; h – Planck's constant

A positron confined to the size of a proton is a proton.

All particles are made of electrons, positrons and neutrinos. They are made of monopoles. The proton is composed of a positron and two neutrinos.

There are equal amounts of matter and antimatter in the universe. If a electron is matter, protons are antimatter.

Systems of units

Any formula must be equal in any system of units.
Systems of units that change the formulas are wrong.
CGS system and natural systems are incorrect.

Quantum of circulation = $x_e c / 2$; x_e -- Electron's Compton wavelength

Milne's formula:

$$G = \left(\frac{c^3}{M} \right) T$$

G – Gravitational constant; M – Universe's mass; T – “Age of the universe «

Milne's formula proves that the “age of the universe” is a period of rotation. If not the gravitational constant is variable.

Why $E = mc^2$? Why the rest mass is moving at light speed?
Because the local universe is rotating at light speed.

Magnetic field B:

$$B = \frac{q_m v}{R^2} = \mu_0 \frac{q_e v}{R^2} \quad \Leftrightarrow \quad v = c 137.036 / 4$$

Electric field E:

$$E = \frac{q_m v}{R^2} = \frac{q_e}{4\pi\epsilon_0 R^2} \quad \Leftrightarrow \quad v = c / (\pi 137.036)$$

$q_m = \frac{h}{2q_e}$ -- Elementary magnetic charge; q_e -- Elementary electric charge

v – Speed; c – Light speed; R – Distance

μ_0 ..and.. ϵ_0 -- Vacuum permeability and permittivity

$$E = vB \quad \Leftrightarrow$$

$$\frac{q_m v}{R^2} = \frac{\mu_0 q_e v^2}{R^2} \quad \Leftrightarrow \quad v = c 137.036 / 4$$

$$\frac{q_e}{4\pi\epsilon_0 R^2} = \frac{q_m v}{R^2} \quad \Leftrightarrow \quad v = c / (\pi 137.036)$$

$$\frac{q_e}{4\pi\epsilon_0 R^2} = \frac{\mu_0 q_e v^2}{R^2} \quad \Leftrightarrow \quad v = \frac{c}{2\sqrt{\pi}}$$

There are only two forces: electric and magnetic.

The four forces: electric, strong, weak and gravitational are all electric.

