

### Cooper Pair Capacitor

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We can generate negative mass with a Cooper pair capacitor.

Dielectric width:

$$R = \frac{x_e \alpha^{-2}}{\pi} = 1.45 \times 10^{-8} m$$

R – Cooper pair distance;  $x_e$  -- Electron Compton wavelength;  
 $\alpha$  -- Fine structure constant.

We can store a large amount of negative charge with a Cooper pair capacitor, generating a negative dipole that is a negative mass.

$$m = \frac{Q \cdot k_B}{R}$$

m – Mass; Q – Electric charge;  $k_B$  -- Boltzmann constant;

### Longitudinal waves and absolute time

For Einstein light must be absolute, like god.

The truth is that transverse light is relative. The Doppler effect and astronomical aberration are proofs that light speed is relative.

Causality is related not with transversal light but with longitudinal light speeds reaching infinite. For longitudinal waves time is absolute.

$$\lim_{c \rightarrow \infty} \begin{cases} x = \frac{x_0 + vt_0}{\sqrt{1 - v^2/c^2}} \\ t = \frac{t_0 + vx_0/c^2}{\sqrt{1 - v^2/c^2}} \end{cases} = \begin{cases} x = x_0 + vt_0 \\ t = t_0 \end{cases}$$

$$\frac{x}{t} = \frac{x_0 + vt_0}{t_0} \Leftrightarrow w = w_0 + v$$

It's impossible to violate causality because it's not related with light speed.  
Time doesn't exist in nature.

### Electron rest energy

It's possible that some constants have wrong values, with errors greater than we say.

Force inside the electron:

$$F = 2q_e E ; \quad q_e = E \frac{4}{3} \pi R^3 ; \quad R = \frac{x_e}{2\pi}$$

F – Force;  $q_e$  -- Electron charge; E – Electric field;  $x_e$  -- Compton wavelength.

Energy:

$$E_e = FR \quad \Leftrightarrow \quad E_e = \frac{6\pi \cdot q_e^2}{x_e^2}$$

Exact value:

$$E_e = \frac{6\pi \cdot q_e^2}{x_e^2} \frac{1}{1 + \frac{\alpha}{2}} = 0.511 MeV$$

$\alpha$  -- Fine structure constant.

Supposing that the mass and wavelength are correct:

New electron charge:

$$q_{eB} = 1.60196042 \times 10^{-19} C$$

$$q_e = 1.602176462 \times 10^{-19} C$$

Or must exist another correction to the energy.