

Huge Magnetic Fields

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See Unified Absolute Relativity Theory at:

www.wbabin.net/saraiva/saraiva305.pdf
www.wbabin.net/saraiva/saraiva306.pdf
www.wbabin.net/saraiva/saraiva307.pdf

Rotating superconductors generate a magnetic field because the electrons stay at rest and the positive charges rotate.

By this way we can generate huge magnetic fields.

Magnetic field:

$$B = \frac{\mu_0 I}{2R} \quad \Leftrightarrow \quad B = \frac{\mu_0 n q_e \omega}{4\pi R}$$

$$n = \frac{m}{m_p} \quad \Leftrightarrow \quad B = 9.6 \frac{m\omega}{R}$$

B – Magnetic field; μ_0 - Vacuum permeability; I – Electric current; R – Radius;
 q_e - Electron charge; ω - Angular speed; m – Mass of the superconductor;
 m_p - Proton mass.

For:

$$\omega = 1000 \text{rot} / \text{min} = 16.7; \quad m = 1000 \text{kg}; \quad R = 0.3 \text{m}$$

$$\Leftrightarrow \quad B = 5.3 \times 10^5 T$$

Magnetic field of a wave

$$B = \frac{\pi \cdot q_e}{x^2} \sqrt{\frac{\mu_0}{\epsilon_0}} ; \quad E = Bc$$

$$B = c \quad \Leftrightarrow \quad x = 7.953 \times 10^{-13} m \quad \Leftrightarrow \quad m = 2.78 \times 10^{-30} kg$$

x - Compton wavelength; ϵ_0 - Vacuum permittivity.

Volume of the energy:

$$\rho_E = \frac{E_Y}{V} = \frac{B^2}{\mu_0} \quad \Leftrightarrow$$

$$V = 137 \frac{x^3}{2\pi^2}$$