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Intensity and Acceleration of Charges

António Saraiva – 2010-03-31
ajps2@hotmail.com

See Unified Absolute Relativity Theory at:

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

In classical physics an orbiting electron doesn't radiate energy because the total acceleration at the electron is zero.
Also an electron at rest in a gravitational field doesn't radiate because the total acceleration is zero.
When an electron accelerates it emits a photon.
When the electron decelerates it absorbs a photon.
In hydrogen atom the change of orbits are accelerations and decelerations.

The Larmor formula is wrong:

$$P = \frac{q^2 a^2}{6\pi \varepsilon_0 c^3}$$

Correct formulas:

Force:

$$F = m_e a$$

m_e - Electron mass; a – Acceleration; c – Light speed.

Power:

$$P = Fc \qquad \Leftrightarrow \qquad P = m_e ca$$

Intensity:

$$I = P / 4\pi R^2 \quad ; \quad \mathrm{R = 1m}$$

$$I = \frac{m_e ca}{4\pi}$$

Approximate values for hydrogen:

$$F = \frac{13.6 \times 2\pi}{137 x_e} = 4.12 \times 10^{-8} N = m_e a$$

$$\Leftrightarrow \qquad a = 4.52\times 10^{22} = \frac{\pi .c^2}{137^3 x_e} \quad ; \qquad \Delta t = \frac{137^2 x_e}{2\pi .c}$$

$$P = 12.35W \quad ; \qquad I = 0.983W/m^2$$

For $R = R_e = \frac{137x_e}{2\pi}$ $\Leftrightarrow$ $I = 3.51\times 10^{20} W/m^2$

Intensity:

$$I = \frac{m_e ca}{4\pi} \qquad \text{and} \qquad a = \frac{\Delta v}{\Delta t}$$

$$\Delta v = \frac{c}{137}\left(\frac{1}{n_1} - \frac{1}{n_2}\right)$$

$$\lambda = n137x_e \quad ; \qquad v = \frac{c}{n137}$$

$$t = \frac{\lambda}{v} = \frac{n^2 137^2 x_e}{c}$$

$$\Delta t = \frac{1372x_e}{c}(n_1{}^2 - n_2{}^2)\frac{137}{2\pi}$$; x_e - Electron Compton wavelength.

$$a = \frac{2\pi .c^2}{137^4 x_e n_1 n_2 (n_1 + n_2)}$$

$$I = \frac{m_e c}{4\pi}\frac{2\pi .c^2}{137^4 x_e n_1 n_2 (n_1 + n_2)}$$

This is not correct but the correct solution is very near.
This is the way we must go.