the general science journal

Sun intensity at earth

Antonio Saraiva – 2010-07-21
ajps2@hotmail.com

See the Unified Absolute Relativity Theory at:

www.wbabin.net/saraiva/saraiva305.pdf
www.wbabin.net/saraiva/saraiva306.pdf
www.wbabin.net/saraiva/saraiva307.pdf
www.wbabin.net/saraiva/saraiva328.pdf
www.wbabin.net/stham/saraiva347.pdf

The Stefan-Boltzmann formula is wrong.

Classical wrong calculations:

$$I = 5.67 \times 10^{-8} T^4 \; ; \qquad \text{T} = 5778 \text{ K}$$

$$I_S = 6.32 \times 10^7 W/m^2$$

$$P = I_S 4\pi {R_S}^2 = 3.9 \times 10^{26} W \; ; \qquad R_S = 7 \times 10^8 m$$

$$P = I_T 4\pi {D_{TS}}^2 \; ; \qquad D_{TS} = 1.5 \times 10^{11} m$$

$$I_T = 1376.3 W/m^2$$

This intensity at earth is too high.
Correct calculations:

$$I = \frac{T}{t} \; ; \qquad T = 5 \times 10^6 K \; ; \qquad t = 1s$$

We must use the corona temperature and radius. $R_C = 1.4 \times 10^9 m$

$$I_S = 5 \times 10^6 W/m^2$$

$$P = I_S 4\pi {R_C}^2 = 1.23 \times 10^{26} W$$

$$P = I_T 4\pi {D_{TS}}^2$$

$$I_T = 435.6 W/m^2$$

This is the correct intensity at earth. Is almost this value that we measure at earth.

Curie's constant

Magnetic susceptivity:

$$X_m = \mu_R - 1 \; ; \qquad X_m = \frac{C}{T}$$

μ_R -- Relative permeability; C – Curie's constant; T – Temperature.

Magnetization:

$$M = \frac{C}{T} H \; ; \qquad \text{H – Magnetic field strength.}$$

Wrong Curie's constant:

$$C = \frac{N_A \mu^2 \mu_0}{k_B} \; ; \qquad N_A = 6.022 \times 10^{23}$$

Correct Curie's constant:

$$C = \frac{n_0 \mu^2 \mu_0}{k_B} \; ; \qquad n_0 = 2.687 \times 10^{25} m^{-3}$$

n_0 -- Loschmidt constant; μ -- Usual magnetic moment that is only a momentum; μ_0 -- Vacuum permeability; k_B -- Boltzmann constant; N_A -- Avogadro number.

$$M = \frac{CB}{T\mu_0} \; ; \qquad M = \frac{\mu}{L^3}$$

B – Magnetic field; L – Distance.