

### Problema n° 10

radiación solar sobre la tierra es  $1340 \text{ W/m}^2 = S$

a)  $P = ?$  radiada por el sol si  $r = 1,49 \times 10^{11} \text{ m}$

$$S = \frac{P}{A} \rightarrow P = S \cdot A = 1340 \times 4\pi r^2$$
$$P = 1340 \times 4 \times \pi \times (1,49 \times 10^{11})^2$$
$$P = 3,74 \times 10^{26} \text{ W}$$

b)  $E_m = ?$   $B_m = ?$

$$S = \frac{B_m^2 c}{2\mu_0} \rightarrow B_m = \sqrt{\frac{2\mu_0 S}{c}} = 3,35 \text{ } \mu\text{T}$$

$$S = \frac{E_m^2}{2\mu_0 c} \rightarrow E_m = \sqrt{2\mu_0 c S} = 1,01 \times 10^3 \text{ V/m}$$