Energy of a photon : $E = h\nu$

$h = 6.63 \times 10^{-34}$ joule-sec $= 6.63 \times 10^{-27}$ erg-sec (Planck's constant)

$\nu = c/\lambda = 3 \times 10^{8}$ m-sec^{-1} / $.5 \times 10^{-6}$ m (for 500 nm light)

$= 6 \times 10^{14}$ sec^{-1}

$E = 6 \times 10^{14}$ sec^{-1} $\times$ 6.63×10^{-27} erg-sec $= 3.96 \times 10^{-12}$ erg

(Energy of one photon of green light)

.0002 dynes/cm^2 $= 2 \times 10^{-4}$ dynes/cm^2; acting on 1 cm^2 $= 2 \times 10^{-4}$ dynes

Threshold amplitude $= 10^{-9}$ cm

Threshold energy in ergs

$= 2 \times 10^{-4}$ dynes $\times 10^{-9}$ cm $= 2 \times 10^{-13}$ ergs

Assuming 1 cm^2 tympanic membrane and $\frac{1}{2}$ cycle for threshold

ν = frequency; λ = wavelength

1 erg = 10^{-7} joules

c = speed of light

1 erg = 1 dyne $\times$ 1 cm