

Refractive Index: General Formula

António Saraiva – 2009-06-21
ajps2@hotmail.com

See Unified Absolute Relativity Theory at:

<http://www.wbabin.net/saraiva/saraiva105.pdf>

<http://www.wbabin.net/saraiva/saraiva223.pdf>

Light speed is not a limit.

Energies of the maximums and minimums:

$$E_1 = 13.6/137.036eV$$

$$E_2 = 13.6/2eV$$

$$E_3 = 3 \times 13.6eV$$

Wavelengths:

$$x_1 = 12.6\mu m$$

$$x_2 = 182.3nm$$

$$x_3 = 30.4nm$$

Dispersion constants x^2 :

$$k_1 = 1.6 \times 10^{-10} ; \quad k_2 = 3.3 \times 10^{-14} ; \quad k_3 = 9.2 \times 10^{-16}$$

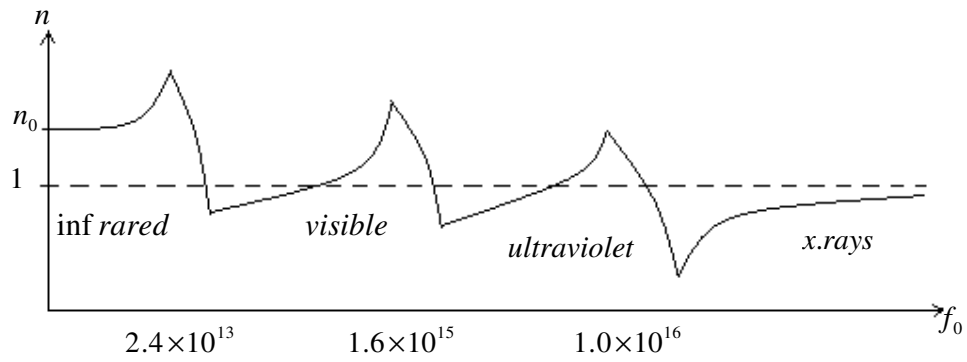
The formula:

$$n = \frac{n_0}{3} (A + B + D)$$

$$A = \frac{\sqrt{|c^2 - 8.6 \times 10^{-11} f_0^2|} + c}{\sqrt{|c^2 - 3.6 \times 10^{-10} f_0^2|} + c}$$

$$B = \frac{\sqrt{|c^2 - 1.3 \times 10^{-14} f_0^2|} + c}{\sqrt{|c^2 - 5.3 \times 10^{-14} f_0^2|} + c}$$

$$D = \frac{\sqrt{|c^2 - 7.2 \times 10^{-16} f_0^2|} + c}{\sqrt{|c^2 - 1.1 \times 10^{-15} f_0^2|} + c}$$



Minimums:

$$f_0 = 3.2 \times 10^{13} \text{ Hz}$$

$$f_0 = 2.6 \times 10^{15}$$

$$f_0 = 1.1 \times 10^{16}$$

Maximums:

$$f_0 = 1.6 \times 10^{13}$$

$$f_0 = 1.3 \times 10^{15}$$

$$f_0 = 9.0 \times 10^{15}$$