**The modified Einstein-Planck law document**

Planck’s law should be modified so that the frequencies, respectively, wavelengths of 380.43nm and 3.08 nm have the same energy, 3.259eV. The suppositions are:

1) The electromagnetic radiation of the black-body radiation is in thermal equilibrium.

2) The photons do not interact with one another (the superposition principle), so the radiation may be regarded as a photon gas like an ideal gas. The distribution of photons among the various quantum states with definite values of the momentum and energies ε = ~~h⸱~~ω is given by the formula: n = 1/(e~~h~~ω/T-1). Planck’s distribution law of black-body for photons of Bose statistics is(according to 63.3) [1]:

 (1) where V is the volume of photonic gas. We have Or we can multiply with h·ν to obtain the spectral distribution in the interval ω & ω + dω, so the energy density: (2) with ω = 2πν and N(ν) = And V is the quanta of photonic gas with cylindrical symmetry of the height of the cylinder is Tq·c, and with radius rb and area π· Thus, the volume (V) of photic gas has the value Tq·c·π· = π· => The energy per quanta Tq is:

For the unit energy per time quanta per angle unit, where U(ν, T) (or < E >) is the internal energy

 written and are the number of states of the oscillators times the volume of photonics gas Tq·c·π·rB2, so the differential energy quanta for a photon with velocity c, period of oscillations t0, and the sum of infinitesimal value for Tq(quanta => Tq =1.765·10-19 sec) is:

 (3)

We make the supposition that the energy of photons is proportional to the integral path with respect to the oscillation period of Tq. All-optical integral paths from the derivative of Planck body low are quantically equivalent (Ap is a constant for photons, Aa audion, Am monopole, Amw microwave that occurs from the Feynman principle of the Optical Lagrange Function). We have photons (λ=>3nm ÷ 30μm). Thus the the total amount of energy quanta, for an interval of frequencies between (100nm-3μm), one should approximate Planck’s formula ε = ~~h⸱~~ω. Planck empirically supposes that all quantum energies are equal to one another by looking at experimental data from infrared to UV (1μm-200nm).

 (4)

Thus the the total amount of energy quanta, for an interval of frequencies between (100nm-3μm), one should approximate Planck’s formula ε = ~~h~~⸱ω. Planck empirically supposes that all quantum energies are equal (the linear proportionality) by looking at experimental data from infrared to UV (3μm-100nm) page 9 paragraph #10 => [“On the Law of the Energy Distribution; Max Planck January 7, 1901”](http://www.michaelvio.byethost8.com/MPlanck.pdf)

Einstein's original paper: <https://einsteinpapers.press.princeton.edu/vol2-trans/100>

For photons, we assume that the quantum energy is different from the Planck law E ~ h⸱ν, thus for the frequency of extended UV, visible light to infrared is usually 100nm - 3μm