About the energy of the photon in relation to curvatures

<u>Introduction</u>

In the main article that was published on the internet on 21 November 2016 we described the basis of the theory. In the article we suggested that the most elementary particle in existence is the dimensional basic (db). This particle has only one property: an infinite curvature in the center.

The accompanying formula for the particle is: $\sqrt{x^2 + y^2 + z^2} \times Kr = 1$ (0)

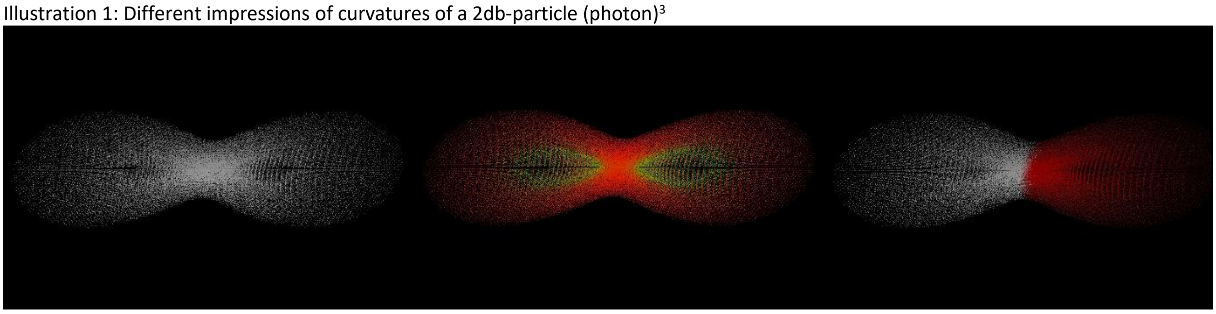
In the formula Kr = curvature [m^{-1}], x,y,z are coordinates in space/time [m].

In the article we also introduced a formula to present the curvatures caused by a photon. In this present article we suggest a relation between the curvature of a photon and it's energy.

<u>The photon</u>

The hypothesis is that the 2-db-particle is a photon. A depiction of curvatures that the observer can detect is shown in Illustration 1. The wavelength (λ) of the photon is equal to the distance between both particles. The mathematic depiction of the curvatures of a photon is shown in Figure 1. We used a simplified representation were y=0 and z=0. Both db-particles are thus put on the x-axis.

Illustration 1: Different impressions of curvatures of a 2db-particle (photon)[3]



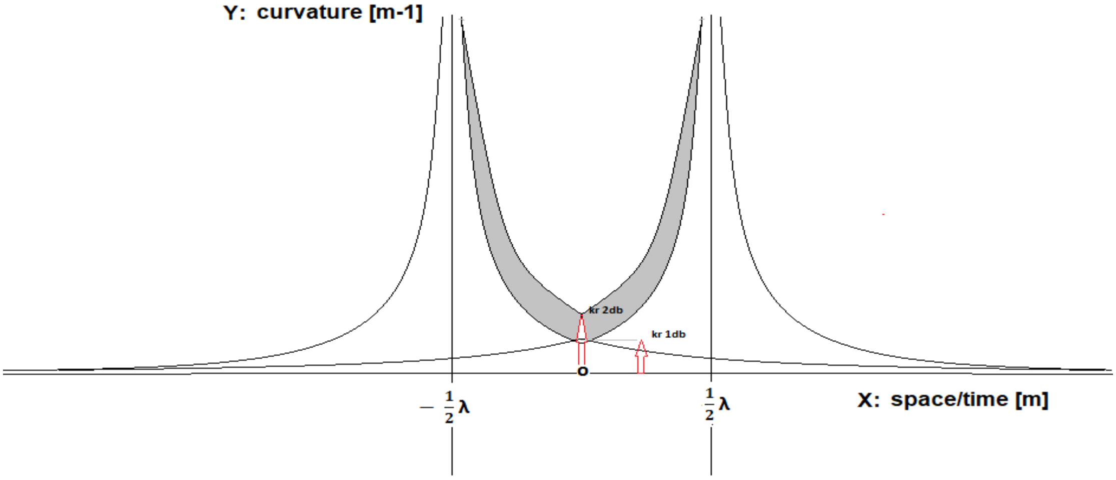


Fig. 1 (Schematic depiction 2db-particle)[3]

The curvature of the combined particles is found using the formula (1).

$$kr = \text{abs}\frac{1}{x+\frac{1\lambda}{2}} + \text{abs}\frac{1}{x-\frac{1\lambda}{2}} \qquad (1)$$

In the formula Kr = curvature [m^{-1}], λ = distance between both particles/wavelength [m].

The curvature in the center of the photon is found when x=0. When we choose x=0 we can write formula (1) as:

$$Kr = \frac{4}{\lambda} \qquad (2)$$

In the formula Kr = curvature [m^{-1}], λ = distance between both particles/wavelength [m].

The curvatures of the photons specially differ in the center (see formula (1)). The curvature rises when the wavelength gets smaller (gamma photon 0,001 nm: Kr = $4{,}0x10^{12}$ m^{-1}). The curvature drops when the wavelength gets bigger (visible light 620 nm, Kr = $6{,}5x10^{6}$ m^{-1}). In the center of the photon the coordinates of the system are: x=0, y=0 and z=0. When we use x=0, in formula (1), we can find formula (2). It is remarkable that in equation (2) we recognize the equation (3). Equation (3) is the traditional equation for photon energy. This makes it possible to set up an equation (4). With equation (4) we can use curvature in the center of the photon to calculate the energy of a photon.

Energy of a photon https://en.wikipedia.org/wiki/Photon_energy

The traditional equation for photon energy is:

$$E = \frac{h \times c}{\lambda} \qquad (3)$$

E = energy of a photon [Joule or kg.m^2s^{-2}]
h = Planck's constant: 6,626 × 10^{-34} [Joule·s]
c = Speed of light: 2,998 × 10^{8} [m.s^{-1}]
λ = wavelength [m]

Combining energy and curvature

When we combine formula (2) and formula (3) we will get:

$$E[Joule] = \frac{h \times c \times Kr}{4} \qquad (4.1)$$

$$E[joule] = 5{,}0x10^{-26} \times Kr \qquad (4.2)$$

$$E[eV] = 3{,}1x10^{-7} \times Kr \qquad (4.3)$$

E = energy of a photon [Joule or kg.m^2s^{-2}]
E [eV] = energy of a photon [eV] (1 eV = 1,602 × 10^{-19} Joule)
h = Planck's constant: 6,626 × 10^{-34} [Joule·s]
c = Speed of light: 2,998 × 10^{8} [m.s^{-1}]
Kr = curvature in the center of the photon ($Kr = \frac{4}{\lambda}$) [m^{-1}]
λ = wavelength [m]

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