evidence For the speed over the speed of light is equal to imaginary quantity

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Abstract

Hypothesize that there is a form (Diagram) to express the speed of the body and compare them with the speed of light and each case of the speeds of the body their is a diagram and we will see the speed which over the speed of light is equal to imaginary quantity

1 the first case , the speed of the particle is equal to the speed of the light

Take that the velocities are represented by distances, which are equal to vt and ct and those distances are represented by linear functions in time ct, vt The shape to represent the two speeds by comparing each other is the speed of light and the velocity of the particle.In the case that the two equals each of them, the figure is a circle because the circle has a single radius and We can tell the Lorentz factor[**Lorentz**] of the figure and the relationship is that the Lorentz factor is equal to the inverted eccentricity of this form and we will now see the law as follows.

$$e = \sqrt{(1 - b^2/a^2)} \tag{1}$$

if b = a in circle case e will be 0 , So the gamma factor

$$\gamma = \sqrt{(1 - v^2/c^2)} \tag{2}$$

is going to make his own infinity like we know of the special relativity of the particle to move at the speed of light.

2 the second case , the speed of the particle is tends to the speed of light

and we will have a 2 radii and it is the ellipse case and the first will be ct and it is a semi-major axis and vt will be the minor axis , and the eccentricity will equal to

$$e = \sqrt{(1 - b^2/a^2)} \tag{3}$$

if b not equal to a in ellipse case e will be 0 <e <1 and if we substituted by b equal to vt and a equal to ct

$$e = \sqrt{(1 - v^2/c^2)} \tag{4}$$

and this is the reciprocal of the gamma factor

3 the third case,the speed of the particle is equal to zero

the speed of the particle is equal to zero then the semi-minor axis b is equal to zero and the semi-minor axis is equal to ct and the diagram is parabola and the eccentricity is equal to 1 , b = 0 , a=ct e=1

4 the forth case , the speed of particle over than the speed of light

the speed of particle over than the speed of light then , a is finite and equal to ct , and the minor axis bigger than ct , and from the geometry the eccentricity of the hyperbola is equal to

$$e = \sqrt{(1 + b^2/a^2)} \tag{5}$$

and the gamma factor is equal to

$$\gamma = \sqrt{(1 - v^2/c^2)} \tag{6}$$

and if we compare the 2 formulas we will see as a follow

$$b^2 = -v^2 \tag{7}$$

then

$$v = +i\sqrt{b}, v = -i\sqrt{b} \tag{8}$$