Demonstration

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Abstract – Einstein's spacetime doesn't exist because the Lorentz's invariance equation is equal to a constant.

The Lorentz equations are the mathematical basis of the relativity theory.

x, x_0 - space; t, t_0 - time; v - relative speed; c - light speed

$$\begin{cases} x = \dfrac{x_0 + vt_0}{\sqrt{1 - v^2/c^2}} \\ t = \dfrac{t_0 + vx_0/c^2}{\sqrt{1 - v^2/c^2}} \end{cases} \Leftrightarrow$$

$$\Leftrightarrow \quad \begin{cases} v^2(c^2 t_0^{\,2} + x^2) + 2vc^2 x_0 t_0 + c^2(x_0^{\,2} - x^2) = 0 \\ v^2(c^2 t^2 + x_0^{\,2}) + 2vc^2 x_0 t_0 + c^4(t_0^{\,2} - t^2) = 0 \end{cases}$$

Equalling the coefficients we remove *v*:

$$\frac{2c^2 x_0 t_0}{c^2 t_0^{\,2} + x^2} = \frac{2c^2 x_0 t_0}{c^2 t^2 + x_0^{\,2}} \quad \Leftrightarrow \quad c^2 t_0^{\,2} - x_0^{\,2} = c^2 t^2 - x^2$$

$$\frac{c^2(x_0^{\,2} - x^2)}{c^2 t_0^{\,2} + x^2} = \frac{c^4(t_0^{\,2} - t^2)}{c^2 t^2 + x_0^{\,2}} \quad \Leftrightarrow \quad c^2 t_0^{\,2} - x_0^{\,2} = c^2 t^2 - x^2$$

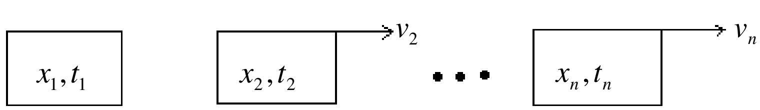
We get only one equation:

$$S^2 = c^2 t_0^{\,2} - x_0^{\,2} = c^2 t^2 - x^2$$

According with relativity theory the value S^2, the spacetime squared, is constant for two frames but can has a different value for two other frames and can be = 0, > 0, or < 0.

But that is an error because we can prove that $S^2 = k$ is a universal constant for all the frames in the universe:

Using *n* frames with several relative speeds:



We can write n equations
:

$$\begin{cases} x_2 = \dfrac{x_1 + v_2 t_1}{\sqrt{1 - v_2{}^2 / c^2}} \\ t_2 = \dfrac{t_1 + v_2 x_1 / c^2}{\sqrt{1 - v_2{}^2 / c^2}} \end{cases} \Leftrightarrow \qquad c^2 t_1{}^2 - x_1{}^2 = c^2 t_2{}^2 - x_2{}^2$$

$$\begin{cases} x_n = \dfrac{x_1 + v_n t_1}{\sqrt{1 - v_n{}^2 / c^2}} \\ t_n = \dfrac{t_1 + v_n x_1 / c^2}{\sqrt{1 - v_n{}^2 / c^2}} \end{cases} \Leftrightarrow \qquad c^2 t_1{}^2 - x_1{}^2 = c^2 t_n{}^2 - x_n{}^2$$

According to the relativity theory the speed between n and 2 is:

$$v = c^2 \frac{v_n - v_2}{c^2 - v_n v_2}$$

But in any case the value doesn't mater.

$$\begin{cases} x_n = \dfrac{x_2 + v t_2}{\sqrt{1 - v^2 / c^2}} \\ t_n = \dfrac{t_2 + v x_2 / c^2}{\sqrt{1 - v^2 / c^2}} \end{cases} \Leftrightarrow \qquad c^2 t_2{}^2 - x_2{}^2 = c^2 t_n{}^2 - x_n{}^2$$

So:

$$c^2 t_1{}^2 - x_1{}^2 = c^2 t_2{}^2 - x_2{}^2 = \ldots = c^2 t_n{}^2 - x_n{}^2$$

That means:

$$c^2 t_n{}^2 - x_n{}^2 = k \quad \text{(Constant)}$$

So we have proved that this equation is equal to a universal constant and not a variable. This is a evident error of relativity theory. It's possible to calculate the value of k:

$$k = 1.9 \times 10^{-34} m^2$$

So there's no spacetime. The values x and t are wavelength and period of an electromagnetic wave.