Einstein's Error
in the special theory of relativity

Dr.-Ing. Wolfgang Lange

31. März 2011

Einstein wrote in [1] p. 898:

$$\frac{1}{2}\left[\tau\left(0,0,0,t\right)+\tau\left(0,0,0,\left\{t+\frac{x'}{V-v}+\frac{x'}{V+v}\right\}\right)\right]=\tau\left(x',0,0,t+\frac{x'}{V-v}\right). \tag{1}$$

He changed x' and τ, but is it not neccessary, both values to change. When we hold $x' = const.$ and we differentiate the equation (1), then will be step by step

$$\frac{1}{2}\left[\frac{d}{dt}\tau\left(0,0,0,t\right)+\frac{d}{dt}\tau\left(0,0,0,\left\{t+\frac{x'}{V-v}+\frac{x'}{V+v}\right\}\right)\right]=\frac{d}{dt}\tau\left(x',0,0,t+\frac{x'}{V-v}\right). \tag{2}$$

$$\frac{d}{dt}\tau\left(0,0,0,t\right)=\frac{d\tau}{dt}\frac{dt}{dt}=\frac{d\tau}{dt} \tag{3}$$

$$\frac{d}{dt}\tau\left(0,0,0,\left\{t+\frac{x'}{V-v}+\frac{x'}{V+v}\right\}\right)=\frac{d\tau}{d\left\{t+\frac{x'}{V-v}+\frac{x'}{V+v}\right\}}\frac{d\left\{t+\frac{x'}{V-v}+\frac{x'}{V+v}\right\}}{dt}=\frac{d\tau}{dt} \tag{4}$$

$$\frac{d}{dt}\tau\left(0,0,0,\left\{t+\frac{x'}{V-v}\right\}\right)=\frac{d\tau}{d\left\{t+\frac{x'}{V-v}\right\}}\frac{d\left\{t+\frac{x'}{V-v}\right\}}{dt}=\frac{d\tau}{dt} \tag{5}$$

or all in the equation (2)

$$\frac{1}{2}\left[\frac{d\tau}{dt}+\frac{d\tau}{dt}\right]=\frac{d\tau}{dt}. \tag{6}$$

Therefore we can choose

$$\frac{d\tau}{dt}=1 \tag{7}$$

with

$$\tau=t+C. \tag{8}$$

C is a free integrating constant. We write the Galilei transformation with a separate time line, and it will be a new Lorentz transformation.

$$\begin{pmatrix}\xi\\ \eta\\ \zeta\\ \tau\end{pmatrix}=\begin{pmatrix}1&0&0&-v_x\\0&1&0&-v_y\\0&0&1&-v_z\\a&b&c&1+C_1\end{pmatrix}\begin{pmatrix}x\\y\\z\\t\end{pmatrix}=\begin{pmatrix}x-v_xt\\y-v_yt\\z-v_zt\\ax+by+cz+t+C_1t\end{pmatrix} \tag{9}$$

We normalize the moving speed of the second system in the following kind:

$$\overline{v}_x=\frac{v_x}{V}\qquad\overline{v}_y=\frac{v_y}{V}\qquad\overline{v}_z=\frac{v_z}{V}. \tag{10}$$

The lower line shall be symmetrically to the last row, because we have the free constant C_1. With this the matrix equation becomes:

$$\begin{pmatrix}\xi\\ \eta\\ \zeta\\ V\tau\end{pmatrix}=\begin{pmatrix}1&0&0&-\overline{v}_x\\0&1&0&-\overline{v}_y\\0&0&1&-\overline{v}_z\\\alpha&\beta&\gamma&1+C_1\end{pmatrix}\begin{pmatrix}x\\y\\z\\Vt\end{pmatrix}=\begin{pmatrix}1&0&0&-\overline{v}_x\\0&1&0&-\overline{v}_y\\0&0&1&-\overline{v}_z\\-\overline{v}_x&-\overline{v}_y&-\overline{v}_z&1+C_1\end{pmatrix}\begin{pmatrix}x\\y\\z\\Vt\end{pmatrix} \tag{11}$$

Here we found Minkowskis light ways $V\tau$ and Vt. Now we choose the determinant of the matrix to $det\,(M) = 1$, and the constant C_1 will be free absolutely, and we choose

$$C_1 = \overline{v}^2 = \overline{v}_x^2 + \overline{v}_y^2 + \overline{v}_z^2. \tag{12}$$

That is all, folks! I would publicate a paper with 12 pages in the "Annalen der Physik" including a five-transformation like the five-theory in the general theory of relativity, but one meens, Einstein has the only truth. That is the modern science.

I think, all the problems with length contraction, time delation, twin paradox and others are to forgotten. When everybody meens, I have done errors, then write me an e-mail, please. I will set my paper in the next time in the internet.

Literatur

[1] EINSTEIN, A.: Zur Elektrodynamik bewegter Körper. In: *Annalen der Physik* 17 (1905), 891–921. `http://users.physik.fu-berlin.de/~kleinert/files/1905_17_891-921.pdf`

Dr.-Ing.Wolfgang Lange

Pfeifferhannsstr. 14

D-01307 Dresden

Germany

eMail w.w.lange@freenet.de