Dear Ahmet Selcuk,

Thank you for your comment. I have read the paper you suggested. Pal's paper does not contradict to any of my claims, neither to my paper "Does spacial relativity tell us ..." nor to my "On the meaning of Lorentz ...". For, as you write, Pal derives Lorentz transformation from "the homogeneity of space, the homogeneity of time, the symmetry, etc.". The point is what you call "etc.". For what can be derived from homogeneity and symmetry is the following:

Let $\alpha, \beta, \alpha', \beta'$ and ν be real variables. Assume (like (1) and (2) in the paper) that

$$\begin{aligned} \alpha' &= f(\alpha, \beta, \nu) \\ \beta' &= g(\alpha, \beta, \nu) \end{aligned}$$

and prescribe all conditions like (3), (4), (5), (6) ...(9),(10). Then one can derive something like (27):

$$\begin{pmatrix} \alpha' \\ \beta' \end{pmatrix} = \dots$$

Now, consider physical quantities $\widehat{\text{space}}$ and $\widehat{\text{time}}$ (I am using here my own notations from [55] of my "Publications" page in this web site), that is $\hat{x}$ and $\hat{t}$. These quantities satisfy condition $\hat{t}' = \hat{t}$, therefore we arrive at the Galilean transformation of $\hat{x}$ and $\hat{t}$. On the other hand, consider the physical quantities $\widetilde{\text{space}}$ and $\widetilde{\text{time}}$. We know that the $\widetilde{\text{velocity}}$ of light is the same in frames S and S', that is $\tilde{x}$ and $\tilde{t}$ satisfy what Pal calls "extra assumption for Einstein's theory". Therefore, we arrive at the Lorentz transformation of $\tilde{x}$ and $\tilde{t}$ – in full agreement with my [55].

As for my other paper [48], I don't see any contradiction either. I claim that the principle of relativity only holds for such equilibrium quantities as the length of a solid rod or the characteristic periods of a clock-like system. Therefore, it is no problem if we use relativity principle in arguing for the constancy of the $\widetilde{\text{velocity}}$ of light. (See point (j) on page 11 of [55].) In this way we can derive the Lorentz transformation of $\tilde{x}$ and $\tilde{t}$ and so on ... But this fact does not contradict to my claim that the relativity principle does not generally hold in the theory so obtained (that is in SR). It does not hold for the whole range of validity of the Lorentz covariant laws of relativistic physics, but only for the equilibrium quantities characterising the equilibrium state of dissipative systems – like the equilibrium length of a solid measuring rod, etc.

Best wishes,
László E. Szabó