Review of: "Paradigm shift in Special Relativity: From the Michelson-Morley experiment, Lorentz and light speed invariance, to the reciprocal linear Sagnac effect and conservation of simultaneity"

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In this very interesting article the authors argue in favor of a particular set of transformations between inertial frames that preserve simultaneity, what they call LTA (Lorentz transformations based on absolute simultaneity). As Lévy-Leblond and others have shown (see, for instance, J. M. Lévy-Leblond, AJP, 44, 271, 1976) with the sole foundation of space-time homogeneity and isotropy, causality, and group structure, only Galilean and Lorentz transformations are possible. Any other transformation violates at least one of those principles. For this, I don't think that the LTA can be taken as valid relations for a physical theory. I also think that the ideas of absolute simultaneity, different and measurable one-way speeds of light, etc. require some kind of ether theory, like Lorentz's or Ives' (see, for instance, H. Erlichson, AJP, 41, 1068, 1973) to be meaningfully discussed.