Review of: "New Ideas About the Structure of Reality, or How to Connect Relative Motion With an Absolute Reference Frame and Describe Relativistic Effects Without Einstein's Postulates"

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This paper claims to have developed two new ideas: (1) 'the description of reality as a four-dimensional Euclidean space' and (2) the binding of 'the transmission of signals to the systems of sending and receiving particles.' However, the first idea is not new. We have used and described such a system as a (3 + 1)-dimensional problem. The second idea, strictly, is not new either. The idea to use the complex behaviour of a particle as a basis of transformation has been a well-known technique. Using the classical eigenfunction expansion as an example, every point in the N-dimensional eigenfunction space represents a behaviour of the particle. But a particular combination of the functions can be used to satisfy any one of the conditions imposed on the solution. As the eigenfunctions are analytical, mathematical operations such as translation, velocity, or differentiation can be carried out readily. For those reasons, such a system is chosen even though it is costly to generate those functions, because it is simpler to investigate the behaviour of a problem if the system is a linear one. It should be noted that the same no longer holds if the system is nonlinear.

The paper used a E2 (two-dimensional) model to derive various formulas for distance and movement. Even for those simple examples, 'reality' becomes 'observed reality', with the implication that the transformation is based on a particular observer and not 'independent of the observer' as claimed.

Further development in the paper leads up to the example of a wave function, Eq. (33). But, in this form, Eq. (33) is only part of the full solution that includes a spatially dependent component. Therefore, the E4 model, if based on the full solution of the Schrödinger equation, is not as simple as given.

The claim that the E4 model is the beginning of an 'expected Unified Field Theory' is not justifiable.