

Review of: "Matter Is the Representation of Space-Time"

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Potential competing interests: No potential competing interests to declare.

The article presents a theoretical framework suggesting that matter and interaction fields are representations of space-time groups, with the Poincaré group being a fundamental group for space-time. It proposes that matter, including visible matter, dark matter, and dark energy, is composed of quantized space-time units, which determine their types through aggregation modes of space-time degrees of freedom. The paper also discusses the implications of this theory for understanding charge conjugation symmetry, external parity breaking in neutrinos, and the nature of quantum entanglement, suggesting that space-time entanglement contains the essence of quantum entanglement.

Following the paper, this referee recommends some major revisions to the manuscript before it can formally be accepted.

1. First, the author delves into a thorough explanation of symmetry, space-time, and how these concepts relate. Unfortunately, many of the claims and formalisms made by the authors lack sufficient references, which limits readers' ability to follow up on the information and diminishes the academic credibility of this work. So, I suggest the authors add proper references throughout the text.
2. Some references currently provided in the manuscript are wrongly cited. See, for example, Refs. **[1]** and **[5]**. These should be properly cited.
3. There are many instances where the author simply states the word "quantum" without any proper following word. For example, in the sentence, "One of the wonderful reasons why the probabilistic interpretation can be effective is that the space-time amplitude of a **quantum** is equivalent to the probability amplitude." Here, scientifically, a better contextual sentence would be "..... amplitude of a quantum particle/system". This issue is present in several sentences. I would suggest that the authors check and correct this throughout the manuscript.