Review of: "Exploring the causal Minkowski-like spaces of observer ensembles and their relational event universes"

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Report on "Exploring the causal Minkowski-like spaces of observer ensembles and their relational event universes"

In this manuscripts, the authors delve into a unique area of research that attempts to bridge the gap between relational event physics and conventional models based on real space-time. They propose the Dendrogramic Holographic Theory (DHT), which models the universe as a collection of events and observer ensembles, represented by finite trees or dendrograms. The authors introduce a causal structure on the dendrogramic space, which they argue is statistical and reflects the dynamics of observer ensembles. The paper is theoretically dense and packed with innovative ideas. The comments are listed as following.

1. The paper is theoretically intriguing and presents a fresh perspective on the representation of events and the causal structures of observers. However, the paper is complex and requires a high level of pre-knowledge for proper interpretation. Despite these authors providing some elucidation on this novel physical idea in their previously published works (Entropy 2021, 23, 584, Symmetry 2022, 14, 1089 and etc.), even after reading those articles, I still find it extremely challenging to grasp this innovative physical theory. The authors might consider simplifying certain sections or providing more context to make it more accessible to readers who are not experts in this specific area.

2. The authors' proposal of a causal structure on the dendrogramic space is an interesting concept. However, more illustrations or visual aids could be beneficial for the reader to better grasp this concept.

3. The authors mention that DHT is directly coupled to experimentation and that it can describe any kind of dynamics of experimental statistical data. However, the paper lacks a practical demonstration or application of DHT, which would provide much-needed validation and clarity to their theory.

4. There are a few typographical errors in the paper that need to be corrected. For instance, in the keywords list, "casual structure" should probably be "causal structure".

5. The paper could benefit from a clearer explanation of some of the key terms introduced, such as p-adic numbers and dendrograms. For unfamiliar readers, these terms can be difficult to comprehend.

6. The figures are not sufficiently clear. All figures need to be updated in terms of quality and layout to meet the publication requirements.

In conclusion, the paper presents a novel approach to event-observational physics and proposes a new mathematical

model for the representation of events and observer ensembles. However, it is recommended that the authors provide some context and practical examples to support their theory. The paper would also benefit from a more thorough proofreading to correct minor errors.