Contribution ID: **1205**   Type: **Poster**

Symplectic extension of the Haag-Araki axiomatics and its applications in the physics of causal geodesic structures

Monday 30 October 2023 21:45 (15 minutes)

Goal of the work:

Create an axiomatic equivalent to the axiomatics of Haag-Araki and Whiteman, based on the principle of causality for sticky sets.

Relevance of the work:

The new mathematical apparatus proposed in this paper, which includes elements of various interpretations of quantum field theory, nonlinear dynamics and p-addic physics, allows us to solve the problem of constructing a consistent theory for describing compactly generated Cauchy horizons, the vector dominance of the Arnowitt-DeWitt-Mizner energy and others ultrarelativistic effects.

Results:

1. The concept of extended locality of globally hyperbolic sets has been introduced (by introducing a hidden parameter c).

2. A criterion for constructing a network R(O) from a family of sticky sets on a Moran structure is defined.

3. It is proved that such a network is an adhesive network.

4. It is proved that perfectly simple sets with the isotonic property are symplectic.

4. Singular solutions are found in RTG for a geodesic line located outside the light cone

5. It is proved that the polynomial time in the Penner-Kontsevich model is globally hyperbolic

6. The ergodic properties of the temporal ordering operator are studied in the framework of the method of intervals of Markov mappings.

7. The induced integration procedure has been improved using the methods of algebraic field theory /

8. The traceless momentum tensor of matter energy $〚T^*〛\_(\omega\lambda^`)$

9. The notion of non-continuability is generalized to pseudoholomorphic curves.

10. A spectral approach has been introduced to consider operators of the form T_p

11. A connection has been found between superselection rules and the choice of superlight-speed alternatives

12. A new method for localizing eventually periodic points based on epsilon cycles has been created.

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