Sixteenth Marcel Grossmann Meeting



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Type: Talk in the parallel session

Hydrodynamic representation for fermion particles in curved space-times.

Monday, 5 July 2021 16:50 (20 minutes)

We study the hydrodynamic representation of the Dirac equation in arbitrary curved space-times coupled to an electromagnetic field. Using a generalized Madelung transformation we derive an integral of the corresponding Bernoulli equation for ferminos and show the corresponding Bernoulli equation. Using the comparison of the Dirac and the Klein-Gordon equations we derive the balance equations for ferminon particles.

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Presenter: GALLEGOS, Omar (Cinvestav-IPN) **Session Classification:** Quantum Fields

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