

Garbaczewski, Piotr

Rotational diffusions as seen by relativistic observers. (English) Zbl 0761.60077
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Summary: The major unsolved problem in the framework of Nelson's stochastic mechanics is addressed and an attempt is made to provide a description of relativistic spin- $\frac{1}{2}$ particles in terms of Markovian diffusions on S_3 . Random rotations are here labeled by the proper time of a particle in relativistic motion and are continuously distributed along a space-time trajectory followed by the particle in Minkowski space.

MSC:

60K40 Other physical applications of random processes

83B05 Observational and experimental questions in relativity and gravitational theory

Cited in 1 Document

Keywords:

spin polarization; Nelson's stochastic mechanics; Minkowski space

Full Text: [DOI](#)

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