

Special Issue

Rotation, Spin and Position Operators in Relativistic Gravity and Quantum Electrodynamics

Message from the Guest Editor

This Special Issue aims to examine how spin is treated in special relativity, the necessity of introducing spin supplementary conditions (SSC), and how SSC are related to the choice of a center-of-mass of a spinning particle. Of particular interest are quantum electrodynamics and the Foldy–Wouthuysen transformation, which we note is a position operator identical to the Pryce–Newton–Wigner position operator. The classical version of the operators is shown to be essential for the treatment of classical relativistic particles in general relativity, with the case of binary systems (black holes/neutron stars) which emit gravitational radiation being of special interest. Only short letters and communications (about 5–10 pages) will be considered for publication in this Special Issue.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The multidisciplinary journal *Universe* is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the Advisory and Editorial Boards, I extend my welcome to this journal and look forward to hearing from the interested contributors and learning about their valuable research.

Editor-in-Chief

Prof. Dr. Lorenzo Iorio
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