Special Issue

Development of Modern Methods of QFT and Their Applications

Message from the Guest Editor

A new Special Issue in Universe is intended to include articles reflecting progress in development of methods of QFT and analysis of actual physical problems. In particular, articles devoted to nonperturbative methods of treating quantum effects in strong electromagnetic and gravitational fields and their applications to calculating effects of particle creation from the vacuum by such fields, to spontaneous production of electron–positron pairs by the supercritical Coulomb field and so on. We shall also welcome contributions on applications of QFT in physics of advanced nano materials (graphene, topological insulators, Weyl semimetals, etc.). There is also a particular interest in the study of quantum effects in the evolution of particles and fields in a curved space–time. This interest is, in particular, inspired by the recent direct detection of gravitational waves and the observation of the black hole shadow, which can be considered as a test of general relativity in the strong field limit. Finally, we are also looking for contributions on quantum effects in noninertial frames.

Guest Editor

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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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