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Innovative Detection Strategies for New Physics Searches

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Message from the Guest Editors

The discovery of the Higgs boson in 2012 represented a major milestone accomplished in the field of high-energy physics. Nevertheless, many issues need a deeper investigation. In recent times, there has been a great novel interest in the searches on two crucial aspects which still need confirmation and whose solution may turn out to be one and the same: the identity of the dark matter that pervades the universe and the existence of supersymmetric particles predicted by particle physics theory.

For this purpose, a new generation of accelerators is being designed, where the detection of the experimental signatures of dark matter and supersymmetric particles will be very challenging and will require the development of innovative experimental strategies and more performant detectors. This will imply a qualitative leap compared to the detection techniques used in the experimental apparatus presently in operation.

This Special Issue aims to recapitulate the state of the art and the new ideas in these fields. Highlights on possible innovative experimental techniques and phenomenological reviews providing hints on new detector designs and experimental detection strategies are welcome.

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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.

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