

Special Issue

Advanced Studies in Ultra-High-Energy Cosmic Rays

Message from the Guest Editors

Ultra-high-energy cosmic rays (UHECRs) are the most energetic, rare and mysterious particles in the Universe. They are either charged or neutral particles, such as light to heavy nuclei, or photons and neutrinos. Galactic and intergalactic magnetic fields are deflecting the charged particles in their way of travel to the Earth, making it hard to identifying their cosmic source from their arrival direction. Within this Special Issue, we would like to highlight the latest analysis results obtained in the field of UHECRs, in frame of complementary studies on the multi-messenger observations of cosmic ray particles, with the focus on their origin and nature, studying their arrival direction and primary particle type identification, their interaction at the highest energies, global fits constraining astrophysical models and new physics, as well as innovative detection techniques.

Guest Editors

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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

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