TeVPA 2023 - Napoli Italy



Contribution ID: 346

Type: not specified

Galatic cosmic rays: state of the art

Monday, 11 September 2023 10:20 (25 minutes)

Over the past decade, AMS02 data have ushered us into a precision era for cosmic-ray physics. By unveiling features in the primary and secondary cosmic-ray spectra, these highly precise data challenge the current paradigms of galactic cosmic rays. In this talk, I will revisit the main results that have sparked interest within the cosmic-ray community, both about particles and antiparticles. I will show that these results call for refined theoretical predictions, which are primarily limited by uncertainties in fragmentation cross-sections. Additionally, efforts from the AMS02 collaboration are required to provide the energy correlations of the data systematic errors. I will conclude by giving outlooks about these limitations and the challenges that open up as we venture towards higher energies.

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Track Classification: Charged Cosmic Rays