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Recent Results in Galactic Cosmic Ray Physics and Their Interpretation

Thursday 25 October 2018 10:30 (30 minutes)

The latest years have been dense with new developments in the search for the sources of Galactic cosmic rays (CRs): 1) The detection of features in the spectra of some primary chemicals opened new questions on the propagation of CRs in the Galaxy. 2) Precise measurements by AMS-02 of secondary nuclei are providing unique information about the transport processes over a larger energy domain 3) Gamma-rays data by FERMI-LAT revealed an unexpected radial dependence of the gamma-rays emissivity induced by interactions of CRs with the interstellar medium. For the first time, models about the galactic distribution of CR factories, as well as about the CR propagation throughout the Galaxy, can be severely tested against local and not-local observations. Additionally, understanding the feedback of low-energy CRs on interstellar chemistry in our Galaxy can provide unique insights on the physics of galaxy formation and evolution.

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