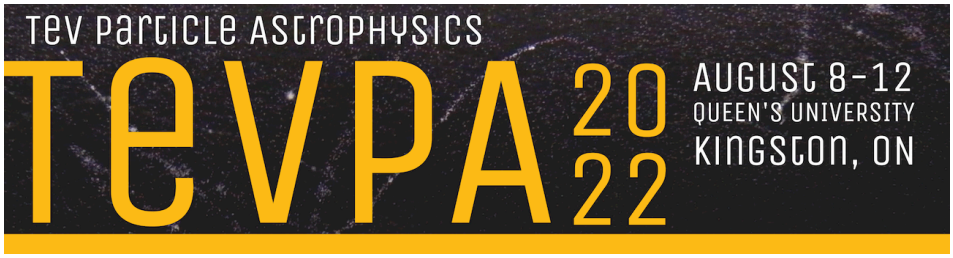

Contribution ID: **144** Type: **Parallel Talk**

Testing the universality of cosmic-ray nuclei from protons to oxygen with AMS-02

Tuesday 9 August 2022 16:30 (20 minutes)

The AMS-02 experiment has provided high-precision measurements of several cosmic-ray (CR) species. I plan to review the implication of the CR measurements of antiprotons, protons, helium, helium 3, boron, carbon, nitrogen, and oxygen. The achieved percent-level accuracy allows us, for example, to investigate different CR propagation scenarios or to study the universality of CR acceleration, a property expected in the standard scenario of CR shock acceleration. I want to discuss two viable but competing propagation scenarios: The first scenario has a break in the diffusion coefficient at a few GVs and includes reacceleration, while the second uses reacceleration and employs breaks in the power law of the primary injection spectra. I intend to carefully address the impact of systematic uncertainties on our analyses, emphasizing those arising from nuclear production cross-sections of secondaries and correlations in the CR data.

Collaboration name

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