Contribution ID: **303** Type: **Talk**

【354】Cosmic-ray propagation under consideration of spatially resolved source distributions

Wednesday, September 1, 2021 5:45 PM (15 minutes)

Numerical simulations for cosmic-ray propagation through the Galaxy are important e.g. for understanding the diffuse γ-ray emission seen by different experiments. Up to now, the source distributions used as input for such simulations are often relying on analytical functionals rather than individual, observation-based sources. Here, we investigate the impact of cosmic-ray source distributions produced by combining sources observed with the H.E.S.S. experiment and simulated random sources, which follow the matter density in the Galaxy. We show the impact of different realisations of source distributions on the local γ-ray emission, simulated using the PICARD code.

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Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)