

Probing the hadronic nature of the gamma-ray emission associated with Westerlund 2

Thursday 15 July 2021 18:36 (12 minutes)

Star-forming regions have been proposed as potential Galactic cosmic ray accelerators for decades. Cosmic ray acceleration can be probed through observations of gamma-rays produced in inelastic proton-proton collisions, at GeV and TeV energies. We analyze more than 11 years of Fermi-LAT data from the direction of Westerlund 2, one of the most massive and best-studied star-forming regions in our Galaxy. The spectral and morphology characteristics of the LAT source agree with the ones in the TeV regime (HESS J1023-575), allowing the description of the gamma-ray source from a few hundreds of MeV to a few tens of TeVs. We will present the results and discuss the implications of the identification with the stellar cluster and radiation mechanism involved.

Keywords

Stellar Clusters; Fermi LAT; Westerlund 2; Cosmic rays; gamma-rays

Collaboration

other Collaboration

Subcategory

Experimental Results

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Session Classification: Discussion

Track Classification: Scientific Field: GAD | Gamma Ray Direct