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Recent results of the Tibet ASγ experiment

Wednesday 27 August 2025 16:00 (25 minutes)

The Tibet Air Shower Array is located in Yangbajing, China, and has been operated since 1990. Its air shower array covers a geometrical area of 65,700 m^2 by featuring about 600 plastic scintillation detectors and captures air showers produced by cosmic rays with energies from 10^{12} eV to more than 10^{15} eV. In particular, since the installation of an underground muon detector array in 2014, the experiment has been performing observations sensitive to the celestial gamma rays with energies reaching beyond 10^{14} eV, the sub-PeV energy range. The use of the underground muon detector combined with the surface air shower array resulted in the first detections of sub-PeV gamma rays from the Crab Nebula and sub-PeV Galactic diffuse gamma rays, and identifications of some PeVatron candidates, such as SNR G106.3+2.7. This talk will mainly focus on how the Tibet ASγ experiment has been contributing to the development of sub-PeV gamma-ray astronomy and present some interpretations of the results accounting for those given by other gamma-ray observatories.

Collaboration you are representing

Tibet ASγ Collaboration

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