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Measurement of Ultra-High-Energy Diffuse Gamma-Ray Emission of the Galactic Plane with LHAASO-KM2A

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The diffuse Galactic γ -ray emission, mainly produced via interactions between cosmic rays and the interstellar medium and/or radiation field, is a very important probe of the distribution, propagation, and interaction of cosmic rays in the Milky Way. In this talk, we will present the measurements of diffuse γ rays from the Galactic plane between 10 TeV and 1 PeV energies, with the square kilometer array of the Large High Altitude Air Shower Observatory (LHAASO). Additionally, we will compare a model prediction of diffuse γ -ray emission with our measurements, based on up-to-date measurements of local cosmic-ray spectra and a simplified propagation setup. Our work reveals clear excesses in diffuse emission between several GeV and approximately 60 TeV.

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