



Poster session 2 – Tuesday 5 July

P2.019 Diffuse neutrino emission from the Galaxy above the TeV

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The Fermi-LAT measurements of the diffuse Galactic gamma-ray emission reveal a hardening of the cosmic-ray (CR) spectrum with decreasing Galactocentric radius. This result can be the signature of different CR transport properties in the inner Galaxy, and in particular a harder rigidity scaling of the diffusion coefficient.

We model this effect with the numerical package DRAGON and we provide a good description of both Fermi-LAT and MILAGRO gamma-ray data in the most relevant sky windows and local cosmic-ray measurements. We discuss the implication of such model for the Galactic neutrino emission, and we show that our scenario provides an explanation for a significant fraction of the astrophysical flux measured by IceCube above 25 TeV; moreover, we discuss how the neutrino telescopes in the Northern hemisphere (ANTARES and the future KM3NeT) will be able to confirm and constrain our picture.