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Consistent modelling of the neutrino and gamma-ray Galactic diffuse emissions

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IceCube has recently discovered a neutrino diffuse emission from the Galactic Plane up to the PeV.
The spectrum of that emission is significantly higher and harder than expected to be generated by the cosmic ray (CR) population of the Galaxy if that is computed using conventional transport models.
Rather it is in good agreement with the KRA_γ model adopting spatial dependent diffusion.
We show that an upgraded version of that model —accounting for KASCADE CR data up to tens of PeVs —consistently reproduces the energy spectrum and the angular distribution of the γ-ray diffuse emission recently measured by LHAASO from 1 TeV to 1 PeV.

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