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# Diffuse high energy neutrino factories in our Galaxy

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In this work we present a detailed study of the high-energy neutrino flux expectation from different diffuse regions of our Galaxy, like the Central Molecular Zone (CMZ), the Galactic Ridge and the Fermi Bubbles. The TeV gamma-ray observations from the mentioned regions, suggest a careful modeling of this guaranteed neutrino factories. We consider a recently introduced cosmic-ray transport model motivated by the Fermi-LAT diffuse gamma-ray data, and compute the expected neutrino emission from the mentioned regions. In addition to the last catalog (PASS8) of Fermi-LAT data we consider also the last observations of H.E.S.S. and HAWC experiments to constrain the presented models. We eventually compare our predictions with the results obtained by IceCube and ANTARES telescopes and underline the importance of having a future KM3NeT/ARCA observatory.

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