

Results from multi-flavor neutrino searches for galactic diffuse emission with IceCube

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In 2023, the IceCube Neutrino Observatory reported on the strong evidence of neutrinos from the galactic plane at a significance of 4.5 sigma. Since then, additional years of data, along with improvements in ice modeling, calibration and reconstruction have allowed for an updated selection of contained and partially contained cascades, which are signatures arising from neutrino-induced in-ice particle showers. In this talk, we report on a multi-flavor search of galactic neutrinos, by combining the cascade sample with through-going and starting tracks that arise primarily from muon secondaries produced in muon-neutrino charged current interactions. Results from tests of four galactic diffuse emission models will be presented.

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