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Analysis of the cumulative neutrino flux from FERMI-LAT blazar populations using 3 years of IceCube data

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The recent discovery of a diffuse neutrino flux around PeV energies raises the question which populations of astrophysical sources contribute to this diffuse signal. One extragalactic candidate source population to produce high-energy neutrinos are Blazars.

We present results from a likelihood analysis searching for cumulative neutrino emission from Blazar populations selected with the 2nd FERMI-LAT AGN catalogue (2LAC) using an IceCube data set that has been optimized for the detection of individual sources. In contrast to previous searches with IceCube, the investigated populations contain up to hundreds of sources, the biggest one being the entire Blazar sample measured by the Fermi-LAT. No significant neutrino signal was found from any of these populations. Some implications of this non-observation for the origin of the observed PeV diffuse signal will be discussed.

Primary author: Mr GLÜSENKAMP, Thorsten (DESY)

Co-author: Dr ACKERMANN, Markus (DESY)

Presenter: Mr GLÜSENKAMP, Thorsten (DESY)

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