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# Investigating the neutrino signatures of candidate neutrino-emitter blazars

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Active galactic nuclei are compelling candidates for astrophysical neutrino sources, as suggested by the detection of a high-energy neutrino positionally consistent with the flaring blazar TXS 0506+056 and evidence of neutrino emission from the nearby Seyfert galaxy NGC 1068. Our recent studies based on the IceCube time-integrated sky maps provided evidence of a statistically significant correlation between blazars and anisotropies in the IceCube neutrino distribution. They highlight a small subset of blazars as promising candidate neutrino point sources. The neutrino emission properties of these blazars remain largely unexplored. While the IceCube collaboration has released a 10-year dataset of track-like events, no public analysis tools were made available to the scientific community. In this contribution, we introduce IceCubePy, an unbinned maximum likelihood framework designed for the analysis of the public data from the IceCube Neutrino Observatory. We present the analysis performance of IceCubePy, showing that they are largely consistent with those published by the IceCube collaboration. We hence demonstrate that the software is mature and reliable for scientific analyses. Finally, we showcase its first application to the study of candidate neutrino-emitter blazars. These initial findings, conducted within the framework of the ERC *MessMapp* project, further support the proposed blazar-neutrino association from both neutrino observations and theoretical perspectives.

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