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Connection between neutrinos and flaring activity in radio and optical bands in blazar jets

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Identifying the most likely sources for high-energy neutrino emission has been one of the main topics in high-energy astrophysics ever since the first observation of high-energy neutrinos by the IceCube Neutrino Observatory. Active galactic nuclei with relativistic jets pointing close to our line of sight, blazars, have been considered to be one of the main candidates due to their ability to accelerate particles to high energies. In our earlier study, we investigated the connection between radio emission and IceCube neutrino events using data from the Owens Valley Radio Observatory and Metsähovi Radio Observatory blazar monitoring programs. While not all neutrinos arrive during strong radio flares, our results suggest that when they do, it is unlikely to be a random coincidence. In this talk, I will give an update on these results using three years of additional data. I will also show the first results from our study investigating the connection between optical flares and neutrino arrival times.

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