Multi-Messenger Astrophysics 2024



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Radio-neutrino studies of blazars: inspiring progress and exciting opportunities

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We present results from a joint analysis of VLBI observations of blazars and neutrino data from IceCube supplemented by ANTARES and Baikal-GVD. We have found a 4sigma-significant observational evidence that high energy neutrinos are generated in radio-bright blazars and arrive preferentially during their flares. VLBI effectively selects active galaxies with jets whose electromagnetic and neutrino emission is relativistically boosted towards us. We summarize ongoing efforts and new opportunities for multi-messenger studies to explore the nature of blazars' nuclei as powerful proton accelerators.

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