

Radio counterparts of high-energy neutrino sources

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High-energy neutrinos are generated in particularly energetic astrophysical environments. However, it is not easy to identify neutrino sources, given the low spatial resolution of the most sensitive current telescopes, such as IceCube or KM3NeT. The search for electromagnetic counterparts is therefore essential to identify the source and thus to study the physical conditions that lead to neutrino generation. I present a project, funded by Next Generation EU - KM3NeT4RR, aimed at observing radio sources that are potential sources of high-energy neutrinos. We are working on upgrading the 32m radio telescope at Noto (INAF) to extend its observing capabilities up to 100 GHz and have an efficient acquisition system. The observational program aims to perform close cadence monitoring at high radio frequency to build a database of long-term source behavior. By this monitoring, detection of any flares/transients will be used to investigate possible correlations with neutrino events detected by KM3NeT, and thus to consider follow-up observations by both telescopes.

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