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Electromagnetic Followup of High Energy Neutrino Alerts with the Grandma Telescope Network

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Since the first measurement of the diffuse flux of cosmic high energy neutrinos (HEN) by IceCube in 2013, only a handful of possible correlations between HEN and astrophysical sources have been established, involving blazars and tidal disruption events (TDE), not all completely conclusive. The identification of the possible astrophysical engines behind the emission of HEN is feasible through the observation of their electromagnetic counterparts, which also allow to discard the possible atmospheric origin of the detected neutrinos. These HEN can be observed with neutrino telescopes currently operating or under construction, IceCube, Baikal/GVD, or the 2 KM3NeT telescopes, ARCA and ORCA.

A followup program of HEN alerts issued by these telescopes can be set up using the Grandma telescope network, with observation strategies depending on the kind of transients, from short-lived (e.g. gamma-ray bursts) to long-duration (e.g. TDE). This contribution aims at describing the scientific case behind such a followup program, from the sources at work to the implementation of the observations and the possible scientific outcomes.

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