

UCLA Department of Physics & Astronomy

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Using Radio Detectors to Discover the Highest Energy Astrophysical Neutrinos

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The detection of high energy astrophysical neutrinos is an important step toward understanding the most energetic cosmic accelerators. IceCube, an observatory at the South Pole, has observed the first astrophysical neutrinos and identified at least one potential source. However, the best sensitivity at the highest energies comes from detectors that look for coherent radio Cherenkov emission from neutrino interactions.

I will give an overview of the state of current experimental efforts, and then discuss two new experiments, RNO-G and PUEO, that are currently being constructed to discover neutrinos at the highest energies and push the energy threshold for radio detection down to overlap with the energy range probed by IceCube, covering the full astrophysical energy range out to the highest energies, and opening up new phase space for discovery.