

Radio Detection of the Highest Energy Neutrinos

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Ultra-high energy neutrino astronomy sits at the boundary between particle physics and astrophysics. Through neutrino astrophysics, we can probe the nature of the ultra-high energy universe in a unique way and test our understanding of particle physics at energies much greater than those achievable at particle colliders. The future of ultra-high energy neutrino detection lies with ground-based radio arrays, which would represent an enormous leap in sensitivity. I will discuss designs and plans for radio detection experiments that would discover cosmogenic neutrinos (peaking at ~ 100 PeV) even in the most pessimistic of GZK production models, and how to design a detector that would extend the IceCube detection of PeV astrophysical neutrinos to higher energies by using a radio phased array.

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