

Abstract Submitted
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Trinity: An air-shower imaging instrument to detect ultrahigh-energy neutrinos NEPOMUK OTTE, Georgia Tech — The detection of TeV-PeV neutrinos with IceCube has cracked open a new window in astrophysics. The revelation of a relatively hard spectrum and the unknown origin of the neutrino flux are two motivations to extend neutrino measurements to even higher energies, namely the ultrahigh-energy (UHE) regime above 10^7 GeV. The seemingly preferred way to search for UHE neutrinos nowadays is with radio detectors employed in ice (e.g. ARA and ARIANNA), on balloons (ANITA), or by pointing antennas at mountainous terrain (GRAND). In this talk, I show that a system of imaging detectors can also be a viable UHE neutrino detector if designed right. Based on these design considerations I present *Trinity*, a system of six Cherenkov telescopes. I discuss the sensitivity of the system, how it can be built, address operational constraints, and plans to test the concept.

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