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Ultra-High Energy Neutrinos at the Pierre Auger Observatory

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The observation of ultra-high energy netrinos (UHEνs) is a priority in experimental astroparticle physics. This follows from the expectation that energetic cosmic ray particles are likely to be produced with an associated flux of neutrinos, and the belief that UHE cosmic ray interactions will produce neutrinos as the parent particles travel to us through various astrophysical radiation fields.

UHEνs can be detected with a variety of techniques, and the Surface Detector array of the Pierre Auger Observatory is suited to detecting cascades produced when such neutrinos interact in the atmosphere (downward-going ν) or in the Earth's crust (Earth-skimming ν). This presentation will review the signatures of neutrino events and the procedure and criteria established to search for UHEνs in the Pierre Auger Observatory dataset.

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