

Searching for ultra-high energy neutrinos at the Pierre Auger Observatory

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The Pierre Auger Observatory is the world's largest cosmic ray detector array. It measures the properties of cosmic rays above 10^{17} eV with an array of 1600 water Cherenkov detectors (WCD) spread over an area of 3000 km^2 overlooked by 27 Fluorescence Detectors. The WCD array can also detect neutrinos above 10^{17} eV. No neutrinos have been detected so far, leading to upper limits on their flux at the highest energies. Radio Detector (RD) antennas are currently being installed on top of the WCDs as a part of the AugerPrime upgrade, which will enhance the sensitivity of the Pierre Auger Observatory to ultra-high energy neutrinos by allowing us to detect the radio emission they produce in the 30-80 MHz band. Seven RD stations have been taking data over the last three years. A new trigger algorithm is being developed to include information from the RD. I will present the concept for this trigger, the current status of its development, and the first results of its performance on neutrino simulations.

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