

Abstract Submitted
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The Surface Enhancement of the IceTop Air Shower Array ALAN COLEMAN, FRANK SCHROEDER, University of Delaware — IceTop is a cosmic ray (CR) detector, comprised of a surface array of ice-Cherenkov detectors and is part of the IceCube Neutrino Observatory, located at the geographic South Pole. I will present the enhancement that this surface array is currently undergoing, an addition of scintillator panels and radio antennas. This enhancement boosts the scientific capabilities of the array in multiple ways. On one hand, the inclusion of the scintillator panels will allow for a precise characterization of the effects of snow accumulation on the existing IceTop detectors, which can be applied to previously measured data. On the other hand, future measurements will have an enhanced sensitivity to ≥ 100 TeV CRs and thus will provide a better veto for the neutrino studies conducted in the ice volume below IceTop. Secondly, the differing response of the scintillators and antennas to the air showers will improve mass-discrimination power of the array, a hurdle that the next generation of CR experiments needs to overcome. The current status and foreseen timeline for expansion will be outlined.

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