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Analysis Techniques for the TA SD Detector

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Abstract: The Telescope Array experiment is the largest cosmic ray experiment in the northern hemisphere. It consists of a surface detector (SD) of 507 scintillation counters and three fluorescence stations overlooking the SD. We develop new techniques for estimating cosmic ray energies and calculating the aperture for TA SD which utilize an accurate CORSIKA Monte Carlo (MC) simulation of natural cosmic rays with appropriate energy spectrum, angular distribution, and composition so that the generated MC has all characteristics of the real data. The simulation is verified by detailed comparisons of MC distributions and fit results with those of the real data. Results of applying these analysis techniques to the actual TA SD data will be shown.

If this is a contributed presentation, please indicate preference for Oral (O) or Poster (P):

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