

Semi-Analytic Simulation for a "HAWC-like" Detector

Friday, 11 November 2016 09:30 (30 minutes)

A semi-analytical model for computing the sensitivity of a large class of wide-field surfaces arrays has been developed. This phenomenological model approximates the exact response as simulated by CORSIKA and GEANT and provides a very simple interface to approximate effective area and background rates as a function of various particle and detector design parameters, such as gamma-ray energy and zenith angle, detector size, trigger threshold, and detector geometry. The hope is that this tool can serve to inform designers of the next generation of TeV-scale wide-field gamma-ray detectors.

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Session Classification: Motivation for a Wide-FOV Observatory

Track Classification: Future detectors