APERTURE AND PRECISION OF THE AUGER SURFACE DE-TECTOR

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The expected sensitivity of the water Cherenkov surface detector array of the southern Auger Observatory site is described by calculations of the energy and zenith angle dependent aperture function, $A(E,\theta)$ (km^2 sr). The calculations are based, whenever possible, on the forms of the lateral density distribution and zenith angle dependent shower size attenuation that have been empirically determined from previous giant air shower arrays (HP, AGASA). The uncertainties arising from extrapolation to distances beyond 2 km and to extreme zenith angles ("horizontal showers") are discussed. Particular attention is paid to the effect of trigger schemes on the acceptance "turn-on" at the array threshold and the energy dependent station multiplicity. Finally, the aperture calculations are compared with estimates provided by simple Monte Carlo simulations.