ATMOSPHERIC MONITORING FOR THE AUGER FLUORESCENCE DETECTOR

John A.J. Matthews (1) for the The Pierre Auger Observatory Collaboration (2)
(1) New Mexico Center for Particle Physics, University of New Mexico, Albuquerque, NM 87131, U.S.A., (2) Observatorio Pierre Auger, Av. San Martin Norte 304, (5613) Malargüe, Argentina.

johnm@dot.phys.unm.edu

A subset of all of the showers observed by the Auger experiment will be measured by both the ground array and the fluorescence detectors. These special hybrid events will be used to set the shower energy scale (based on the fluorescence detector determination of the shower energies) and to measure the shower energy resolution for the experiment. Consequently, the uncertainties in the fluorescence measurements must be well understood. The largest uncertainties come from uncertainties in the atmospheric transmission, air Cherenkov subtraction, light multiple-scattering and cloud corrections to the fluorescence data. The Auger program of atmospheric monitoring, formulated to minimize these uncertainties, is summarized.