Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Observations vs. Simulations of Golden Hybrid Events at the Pierre Auger Observatory JEFF ALLEN, New York University, PIERRE AUGER COLLABORATION — The hybrid detection method employed by the Pierre Auger Observatory, detecting the longitudinal development with the Florescence Detector (FD) and the ground particle signal with the Surface Detector (SD), places strong constraints on individual detected air showers. We utilize events well measured by both methods, Golden Hybrid events, to create simulated air showers which attempt to simultaneously match the signal seen in the FD and SD on an event-by-event basis. The comparison of the simulated and measured events provides a direct test for air shower simulations and the high energy hadronic event generators upon which they depend. The nature of the discrepancies seen in this comparison can provide guidance as to the primary cosmic ray composition, overall energy calibration, and hadronic interactions beyond the reach of accelerator experiments.

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Date submitted: 23 Oct 2009 Electronic form version 1.4