

Abstract Submitted  
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**Determination of hadronic interaction characteristics with the Pierre Auger Observatory** EUN-JOO AHN, Fermilab, PIERRE AUGER COLLABORATION — The Pierre Auger Observatory measures extensive air showers (EAS) up to the highest energies. One of the biggest challenges in current data analyses is to interpret these data in terms of the primary mass composition. Due to the insufficient constraint of interactions in EAS this is afflicted with large uncertainties. On the other hand, this high sensitivity of EAS to interaction features can be exploited to determine or constrain properties of interactions up to 450TeV. We demonstrate how specific EAS observations are suited for this task and thus may contribute to limit the uncertainties in the interpretation of air showers. These are the estimation of the muon number at ground level and the study of the hadronic cross-section for particle production via EAS fluctuations.

Angela Olinto  
The University of Chicago

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