

Abstract Submitted  
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**The nuclear mass composition of UHECR with the Pierre Auger Observatory** MARIA MONASOR, The University of Chicago, PIERRE AUGER COLLABORATION — The Fluorescence Detector of the Pierre Auger Observatory measures the atmospheric depth  $X_{\max}$  where the longitudinal profile of the UHECR (Ultra High Energy Cosmic Ray) induced electromagnetic cascade reaches its maximum. This is sensitive to the nuclear mass composition of the cosmic rays. Due to its hybrid design, the Pierre Auger Observatory also provides independent experimental observables for the study of the nuclear mass composition coming from the Surface Detector. We present  $X_{\max}$  distributions and an update of the average and RMS values in different energy bins and compare them to the predictions for different nuclear masses and hadronic models. We also present the results of the composition sensitive parameters derived from the ground level component.

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