Abstract Submitted
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Using Bayesian Inference to Determine Upper Limits on Exotic Cosmic Ray Composition Fractions DAVID SCHUSTER, Colorado School of Mines — A method for determining cosmic ray composition fractions using Bayesian inference is presented. By systematically comparing observables from simulated extensive air showers to a given set of data, this method sets an upper limit on the compositional makeup of the data. The method is demonstrated on a simulated dataset of known composition and applications to a search for exotic particles in the Southern Pierre Auger Observatory dataset are discussed.

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