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A Cosmic Ray Muon Tracker and its Applications to Astronomy and Archaeology[1] JOANN SYDNEY RIST, EDMUNDO GARCIA, Chicago State University — This research focuses on compiling the design parameters to build a muon tracker detector to support an ongoing effort to measure cosmic ray events as part of a network of detectors based on the QuarkNet program. Currently the individual detectors used in the QuarkNet network are capable of measuring cosmic ray flow but not the direction of the tracks. If instead we use a network of trackers (that will measure the direction of the muon showers) we will increase the probability of detecting high energy cosmic ray events. In addition, cosmic ray trackers can also be used for other interesting applications. In this talk we delineate the general characteristics of the proposed tracker detectors and its applications. We show the results of the experimental work done so far to define the design characteristics of the detector: experimental determination of the optimal linear dimensions the proposed tracker detector and preliminary results of the amount signal that reaches the phototubes when an optical fiber is used carry out the light from the scintillator.

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