

Abstract Submitted
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Improving the efficiency of Cosmic Radiation Detection¹ JOSE OROZCO, JOSE GARCIA, Hartnell Comm Coll, STEFAN RITT, Paul Scherrer Institute in Switzerland — High energy cosmic radiation constantly surges trough the universe. In order to accurately analyze cosmic radiation precise measurements must be acquired. The equipment used to detect these particles included two micro photomultiplier (PMT) detectors, plastic scintillators, and green wavelength shifting optic fibers. In order to prove the authenticity of the electrical signals produced by the micro PMT detector several trigger settings were implemented including double, triple and quadruple coincidence. The purpose of the experiment was to explore, implement and analyze variations of the original experiment to improve both amplitude and amount of counts collected. Our research involved three main activities: 1) separation of the Micro PMT detectors to limit the arrival directions of cosmic rays 2) determining the efficiency of detecting cosmic rays at selected areas on the scintillator sheets 3) improving the efficiency with an arrangement of optical fibers based on findings from activities (1) and (2) above.

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