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Characterization of Lead Glass Cherenkov Detectors Using Cosmic-Ray Muons DAVID ELOFSON, Bridgewater State University, CODIE LEWIS, ERIN O'BRIEN, James Madison University, KELSEY BUGGELLI, NEVIN MILLER, KYLE O'CONNOR, GRANT O'RIELLY, University of Massachusetts Dartmouth, MAX-TAG COLLABORATION — A 16 by 16 array of small lead glass Cherenkov detectors is being prepared for use in nuclear physics experiments to be performed at the Paul Scherrer Institute in Switzerland. This highly segmented array provides information on the angle (both θ and ϕ) as well as the energy of the detected particles. It contains over 200 optically isolated lead glass detectors, each 4.2 cm by 4.2 cm and 30 cm long, which are sensitive to both charged particles and gamma rays. The characteristics of a sample of these detectors were determined by measuring the energy resolution for cosmic-ray muons traversing the detector. The typical resolution of the detectors was found to be approximately 10% at 53.5 MeV. Details of the measurement technique and results will be presented. These results can be used as a general expectation for the remainder of the detectors in the array.

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