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Performance of Aerogels as Cherenkov Light Radiators ISAAC SALDIVAR, DAVID BLYTH, MATT GIBSON, RICARDO ALARCON, Arizona State University — Aerogels with indexes of refraction ranging approximately from 1.01 to 1.05 can fill an important need as high-yield Cherenkov light radiators and they are widely used by the scientific community, particularly in the experimental nuclear and particle physics arena. We have designed, constructed, and operated equipment to measure the Cerenkov light produced by the passage of relativistic charged particles through different aerogel samples. The samples come from Matsushita Electric Works (Japan) and Aspen Aerogels (USA). The measurements were conducted using a light-tight box, which housed the aerogel samples, two photomultiplier tubes (to measure Cherenkov radiation), and a pair of scintillators to count the number of particles through the aerogel. The photon yields from the samples have been analyzed and results will be presented in terms of the detected number of photoelectrons.

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