

Abstract Submitted
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Calibration of the HMS Scintillators in Hall C at Jefferson Lab.¹

MARIA MANRIQUE, Florida Intl Univ, SIMONA MALACE, Jefferson Laboratory, JONATHAN CASTELLANOS, Florida Intl Univ, MARK JONES, Jefferson Laboratory, ERIK KVENLOG, CHARLES MILLER, Christopher Newport University — Jefferson Laboratory has undergone a multi-year upgrade in order for the accelerator to provide an electron beam with a maximum energy of 12 GeV. To accommodate the high energy beam, a new experimental hall (Hall D) has been built, and the existing halls (A, B, and C) have been upgraded. In Hall C specifically, the Super High Momentum Spectrometer (SHMS) was added and the High Momentum Spectrometer (HMS) was upgraded to sustain the 12 GeV beam. This poster focuses on the re-calibration of the HMS scintillator detector in order for the HMS to be ready to take scientific data, Spring 2016. The detector is made of BC-404 plastic scintillator bars arranged in four planes, both vertically and horizontally, to maximize particle detection. The light produced by the scintillators is detected by XP2262 Photomultiplier Tubes (PMTs) located at both ends of each bar. The detector re-calibration involved checking for and fixing light leaks and gain matching all of the PMTs using a ⁶⁰Co source to insure 100% detection efficiency for the particles of interest.

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