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Calibration of the HMS Scintillators in Hall C at Jefferson Lab.
MARIA MANRIQUE, Florida International University, SIMONA MALACE, Jefferson Laboratory, JONATHAN CASTELLANOS, Florida International University, MARK JONES, Jefferson Laboratory, ERIC 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/localization. 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 ^{60}Co source to ensure 100% detection efficiency for the particles of interest.

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