

Abstract Submitted  
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**Saturation Corrections for the High Momentum Spectrometer in Hall C at Jefferson Lab**<sup>1</sup> JACOB MURPHY, Ohio University, MARK JONES, Jefferson Lab — With the 12 GeV upgrade at Jefferson Lab, experiments in Hall C require precise measurements of particles at high momenta in the High Momentum Spectrometer (HMS). The HMS central momentum ranges from 0.5 to 7.5 GeV/c. However, when set above 5 GeV/c, saturation effects begin to occur in the dipole and quadrupole magnets of the HMS. These saturation effects significantly affect both the angle and momentum reconstruction of the particle, information which is essential for precise cross section measurements. I will present the results of a new magnetic optics calibration for correcting saturation effects at a central momentum of 6.59 GeV/c. This calibration was performed in two parts, first using Deep Inelastic Scattering data with a carbon foil target and a sieve slit to calibrate angle reconstruction, then using elastic scattering off a hydrogen target to calibrate momentum reconstruction.

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Jacob Murphy  
Ohio University

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