

Abstract Submitted  
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**Electron Velocity Distribution Functions from the Merger of Two Magnetic Flux Ropes in the Phase Space Mapping Experiment**<sup>1</sup> RUPUDAMAN SINGH NIRWAN, EARL SCIME, PEIYUN SHI, PRABHAKAR SRIVASTAVA, West Virginia University — The Phase Space Mapping experiment is designed to observe the magnetic reconnection of two magnetic flux ropes generated by biased plasma guns. The resulting opportunity to study electron velocity distribution functions in the reconnection area is exploited by the use of incoherent Thomson scattering. The suppression of stray light at the input wavelength (532 nm) is achieved by the use of Volume Bragg Gratings with minimal bandwidth (<0.1nm), allowing for more precise data to be compared with those obtained from a triple Langmuir probe. Measurements of the distribution functions obtained perpendicular and parallel to the ambient magnetic field, the first of such observations in a controlled setting, will be presented.

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