

Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Magnetic Field Measurement Corrections for Double Probe and B-dot Design DRUE HOOD-MCFADDEN, DOUGLASS ENDRIZZI, CARY FOREST, University of Wisconsin - Madison, WISCONSIN PLASMA PHYSICS LABORATORY TEAM — Pulsed power and turbulence experiments conducted in the Big Red Ball at the Wisconsin Plasma Physics Laboratory present unique measurement challenges. When the double probe tips collect current, that current induces a magnetic field. With large fluctuations in plasma density, the fluctuation currents interfere with the B-dot coils. To properly adjust for this interference, the mutual inductance between the probe tips and the B-dot coils is calculated theoretically and measured experimentally. The induced EMF due to the additional magnetic field for a given current can then be subtracted from the total signal collected. The theoretical reasoning, methods, and results will be presented.

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Date submitted: 26 Jun 2020

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