Abstract Submitted
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**Dust Particle Dynamics in The Presence of Highly Magnetized Plasmas**[1] BRIAN LYNCH, UWE KONOPKA, EDWARD THOMAS, Auburn University, ROBERT MERLINO, University of Iowa, MARLENE ROSENBERG, University of California San Diego — Complex plasmas are four component plasmas that contain, in addition to the usual electrons, ions, and neutral atoms, macroscopic electrically charged (nanometer to micrometer) sized "dust" particles. These macroscopic particles typically obtain a net negative charge due to the higher mobility of electrons compared to that of ions. Because the electrons, ions, and dust particles are charged, their dynamics may be significantly modified by the presence of electric and magnetic fields. Possible consequences of this modification may be the charging rate and the equilibrium charge. For example, in the presence of a strong horizontal magnetic field (B >1 Tesla), it may be possible to observe dust particle **g** x **B** deflection and, from that deflection, determine the dust grain charge. In this poster, we present recent data from performing multiple particle dropping experiments to characterize the **g** x **B** deflection in the Magnetized Dusty Plasma Experiment (MDPX).

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