

Abstract Submitted
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A Novel Experimental Setup to Investigate Magnetized Dusty Plasmas C.A. ROMERO-TALAMAS, P. LAROCQUE, J. ALVAREZ, J. SARDIN, University of Maryland, Baltimore County, MD 21250 — Progress on the design and construction of a novel experimental setup to investigate dusty plasmas at the University of Maryland, Baltimore County (UMBC) is presented. The setup includes separation adjustability of discharge electrodes and their orientation with respect to gravity without breaking vacuum, and a pair of water-cooled coils to produce magnetic fields with strengths of up to several Tesla. The coils' orientation is also designed to be adjustable with respect to gravity. A pulse-forming network to power the coils with flattop times of several seconds is under design. The setup is mounted inside a large glass bell jar to provide wide optical access to the dusty plasmas, and to minimize interference of chamber walls and mounts with imposed electric or magnetic fields. Planned experiments include crystallization and wave propagation under strong magnetic fields.

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