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Ion-dust interactions at high magnetic field[1] SPENCER LEBLANC, EDWARD THOMAS, UWE KONOPKA, Auburn University, ROBERT MERLINO, University of Iowa, MARLENE ROSENBERG, University of California - San Diego — While complex plasma have been studied for over three decades, many of the mechanisms of interactions between ions and charged dust grains are not yet fully understood and remain a topic of intense study in the field. In particular, in the presence of a magnetic field, as the ions become magnetized, this can have a profound influence on the ion-dust interaction as it is anticipated that the Debye screen around the dust grain will become asymmetric with increasing magnetic field. In the Magnetized Dust Plasma Experiment (MDPX), recent studies have focused on the creation of probe-induced dust-free regions (i.e. voids) and characterizing the influence of the magnetic field on the void region. Other recent experiments focus on the role of ion-dust interaction in the formation of waves and studies of dust heating (with and without magnetic fields).

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