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Dust Acoustic Wave Excitation in a Plasma with Warm Dust[1]
M. ROSENBERG, University of California San Diego, E. THOMAS, JR., L. MARCUS, R. FISHER, Auburn University, J.D. WILLIAMS, Wittenberg University, R.L. MERLINO, University of Iowa — Measurements of the dust acoustic wave dispersion relation in dusty plasmas formed in glow discharges at the University of Iowa [1] and Auburn University [2] have shown the importance of finite dust temperature effects. The effect of dust grains with large thermal speeds was taken into account using kinetic theory of the ion-dust streaming instability [3]. The results of analytic and numerical calculations of the dispersion relation based on the kinetic theory will be presented and compared with the experimental results. [1] E. Thomas, Jr., R. Fisher, and R. L. Merlino, Phys. Plasmas 14, 123701 (2007). [2] J. D. Williams, E. Thomas Jr., and L. Marcus, Phys. Plasmas 15, 043704 (2008). [3] M. Rosenberg, E. Thomas Jr., and R. L. Merlino, Phys. Plasmas 15, 073701 (2008).

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