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Normal Modes of Magnetized Finite Two-Dimensional Yukawa Crystals GABRIEL-DOMINIQUE MARLEAU, McGill University, HANNO KAEHLERT, MICHAEL BONITZ, ITAP, University of Kiel — The normal modes of a finite two-dimensional dusty plasma in an isotropic parabolic confinement, including the simultaneous effects of friction and an external magnetic field, are studied. The ground states are found from molecular dynamics simulations with simulated annealing, and the influence of screening, friction, and magnetic field on the mode frequencies is investigated in detail. The two-particle problem is solved analytically and the limiting cases of weak and strong magnetic fields are discussed.

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Gabriel-Dominique Marleau
McGill University

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