

Abstract Submitted  
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**Finite dust clusters under strong magnetic fields**<sup>1</sup> ANDRE MELZER, HARALD KRUEGER, STEFAN SCHUETT, Institute of Physics, University Greifswald, Greifswald, Germany, MATTHIAS MULSOW, Max Planck Institute for Plasma Physics, 17489 Greifswald, Germany — Dusty plasmas consist of (micron-sized) dust particles trapped in a gaseous discharge plasma. The effects of magnetic fields on such dusty plasmas have attracted high interest, recently, due to the availability of superconductive magnets. Here, experiments on dust clusters of micron-sized particles have been performed. The clusters are trapped in the sheath of an rf discharge and their dynamics is measured for different magnetic field strengths ranging from a few milliteslas to 5.8 T. From the normal modes of the clusters various dust properties such as the kinetic temperature, the dust charge and the screening length are derived.

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