

Abstract Submitted  
for the DPP14 Meeting of  
The American Physical Society

**Selective mode excitation in 2D dust clusters**<sup>1</sup> JAN SCHABLINSKI, DIETMAR BLOCK, University of Kiel, ANDRE MELZER, University of Greifswald, ALEXANDER PIEL, University of Kiel — The dynamical properties of dust clusters are still a hot topic in recent research activities. In many applications intense lasers are used as a tool for the manipulation of the dynamics of particle systems. For example, specific particle motion patterns like the intershell rotation of small clusters can be driven or the systems can be effectively heated by randomized momentum transfer using multiple lasers. In this contribution we present a method to drive a selection of eigenmodes of the particle system, which are mainly associated with radial particle oscillations, and give a characterization of the driving mechanism. Further, the impact of a localized driving force on the ability to excite either breathing or wave-like modes is discussed.

<sup>1</sup>DFG grant SFB TRR 24, project A3

Jan Schablinski  
University of Kiel

Date submitted: 10 Jul 2014

Electronic form version 1.4