

Abstract Submitted
for the DFD08 Meeting of
The American Physical Society

Green function measurements in the bulk of the 2D granular systems¹ JIE ZHANG, JUNYAO TANG, SOMAYEH FARHADI, JIE REN, ROBERT BEHRINGER, Duke University, Department of Physics — We have performed experiments to measure the Green function responses to local perturbations in the bulk of the 2D granular systems using photo-elastic disks. The local perturbations were created in several different ways by applying pulling forces along a fixed direction, by applying forces pushing uniformly outwards, and by removing individual particles from force chains. Responses of systems were studied at different packing fractions for systems under isotropic compression and pure shear. We will present the results from the measurements of contact forces, particle displacement and rotation, and force chain networks.

¹This work is supported by NSF grant DMR0555431.

Jie Zhang
Duke University, Department of Physics

Date submitted: 28 Aug 2008

Electronic form version 1.4