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Forces and displacements near the granular jamming threshold¹ MAHESH BANDI, Los Alamos National Laboratory, ANDRAS LIBAL, Johns Hopkins University, MICHAEL RIVERA, ROBERT ECKE, Los Alamos National Laboratory — We experimentally study the dynamics of jamming by dragging a probe disk in a two-dimensional bi-dispersed system of randomly packed photo-elastic disks. All measurements are made at packing fractions relative to the critical fraction at which jamming occurs. We measure the local force felt by the probe disk and compare it with the system's global response with sensors placed along the system boundaries. We also visually monitor the disk displacements in the system, which are expected to become increasingly constrained as a function of increasing packing fraction.

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