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Signal Propagation in Dense Granular Systems¹ LOU KONDIC, New Jersey Institute of Technology, ROBERT BEHRINGER, Duke University — The exact manner in which signals propagate through dense granular systems is still open for discussion. In this work, we present the results of discrete element simulations of the system response to space and time dependent perturbations. Fourier analysis of the system response shows that the properties of the propagating signal strongly depend on the spatial scales introduced by the perturbation itself. We concentrate particularly on the influence of shearing on the signal propagation and discuss whether continuous breaking of the particle contacts due to shear has an influence on this process.

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