

Abstract Submitted
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Signal Propagation through Dense Granular Media LOU KONDIC,
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We consider propagation of signals through dense granular systems. The results are
obtained by relatively large scale (up to 40,000 particles) discrete element simulations
in two spatial dimensions. The properties of the signals are used to deduce the basic
physical mechanisms of the force and energy transmission. In addition, we discuss
the possibility of developing effective models for signal propagation which bridge the
spatial scales between micro (grain scale) and meso (hundreds or thousands of grains)
description of granular systems. We also discuss the influence of force anisotropy
on the characteristics of the propagating signal. Finally, we will present preliminary
results regarding signal propagation through dynamic (sheared) granular system.

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