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**The Effect of Particle Shape on the Density of Acoustic Modes in Granular Materials** ALEX MAUNEY, SARA BERRY, THEODORE BRZINSKI, KAREN DANIELS, North Carolina State Univ — Most granular simulations and experiments are conducted using circular particles. We report on the effect of particle shape on the density of vibrational modes in a real two dimensional granular material. We acoustically excite static packings composed of one of four shapes: circles, ellipses, pentagons, and concave stars. Using embedded piezoelectric sensors we measure the particle-scale vibrational response. We observe shape-dependence in the acoustic spectra and density of modes, particularly at low frequency.

Alexander Mauney  
North Carolina State Univ

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