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Electrical charging of granular media in a shaking experiment FREJA NORDSIEK, ALLISON BRADFORD, University of Maryland at College Park, TYLER HOLLAND-ASHFORD, Harvey Mudd College, JULIA SALEVAN, Yale University, ERIC SPIEGLAN, DANIEL LATHROP, University of Maryland at College Park — We present preliminary results on the electrical charging of granular media (particle size ~ 100 μm to ~ 1 mm) shaken between two conducting plates. Voltage measurements were done between the plates for both monodisperse and bidisperse sets of particles. Particle charging and electrical discharges to the plates (~ 1 kV) were observed. We discuss the potential relevance to natural charging phenomena seen in sand storms, volcanic ash clouds, thunderstorms, and thundersnow. Several types of theoretical models seem plausible.

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