

Abstract Submitted  
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**Shock and Release Behaviour of Silica Based Granular Materials** CHRIS BRAITHWAITE, JAMES PERRY, NICHOLAS TAYLOR, SMF Group, Cavendish Laboratory, University of Cambridge — A large number of experiments have been conducted using the Cavendish single stage gas gun to investigate the dynamic properties of sand. The results included successful measurements of release in dry materials, demonstrating that this is markedly different to the loading path. The effect of moisture was examined and shown to be strongest where the material was close to saturation, at which point the microstructure of the exact sample configuration plays a significant role in the response. Finally, the effect of sample morphology was probed, and whilst it was found to be significant at low rates, in the shock regime impedance appears to be more strongly influenced by the presence of moisture or a fraction of small particle size debris.

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