Showcasing experiments from the State Key Laboratory of Explosive Science and Technology, the Beijing Institute of Technology, from the group of Dr Kun Xue.

Morphodynamics of a dense particulate medium under radial explosion

Hierarchical structures are observed in the destabilized interfaces of granular media impacted by blast waves. Analogous to the classic hydrodynamic RM instability, the shock loaded surface of granular media will also develop into a signature spike-bubble structure despite of distinct underlying physics. Xue et al. characterize the spatiotemporal evolution of a hierarchical pattern arising from the blast loaded surfaces of granular media which is found to be related to the heterogeneous granular flows as a result of shock interaction.

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