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The Stress and Ballistic Properties of Granular Materials¹

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Granular materials are widespread in nature and in manufacturing. Their particulate nature gives them compressive strength of a similar order of magnitude as many continuous solids, while also giving a vanishing small tensile strength and a variable shear strength which is highly dependent on loading conditions. Previous studies have shown the effect of composition, morphology and particle size. However, compared to metals and polymers, granular materials are not so well characterised or understood. The talk will present some recent results in this study of granular materials and show how these studies fit within the wider context of this area. In particular studies which examine the changes in stress transmission and ballistic response will be emphasized.

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