

## DYNAMIC BEHAVIOR OF “SOFT” HETEROGENEOUS MATERIALS

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### **Abstract**

The behavior of “soft” heterogeneous materials (granular, granular composites, laminates composed from granular layers, forest of carbon nanotubes) in a broad range of impact conditions and types of deformation (shock, shear) will be discussed. The current interest on these materials is due to their efficiency as mitigators of blast/impact loading and due to the fact that penetration resistance in some impact scenario is mainly influenced by the behavior of heavily deformed and fractured armor, being actually a dense granular material. These materials also help to address contradictory requirements for some applications, combining high compressive strength with the ability to bulk distribute fracture and even possible reaction on later stages of dynamic deformation. They present challenging fundamental questions related to their multiscale structure and strongly nonlinear behavior.

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