

Abstract Submitted
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Impact of a solid object on a foam ANNE LE GOFF, ESPCI, CHRISTOPHE CLANET, Ecole Polytechnique, DAVID QUERE, ESPCI — Solid foams are commonly used to absorb shocks. We consider here the efficiency of liquid foams as kinetic energy absorbers. We first discuss the possibility of trapping a projectile in the foam. Then we focus on the dynamics of the impacting object, which depends on the foam's rheological properties. By varying the impact velocity, we explore different regimes and observe the foam's response. We finally propose a model capturing these impact features and predicting the amount of foam needed to stop a projectile.

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