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Soft(er) solids: Strain softening near jamming BRIAN TIGHE, JULIA BOSCHAN, TU Delft, ELLÁK SOMFAI, Hungarian Academy of Sciences — Many solids become softer when sheared beyond a threshold strain. The strain softening crossover signals the breakdown of linear superposition and the onset of strain dependent elastic moduli. Using simulations of soft spheres close to their jamming transition, we probe the softening regime to characterize its strain and pressure dependence. We identify a threshold strain that vanishes at unjamming, indicating that marginal solids are easily driven into the softening regime and that softening, rather than linear response, is likely to be observed in experiments.

Brian Tighe
TU Delft

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