

From particle simulations towards a universal continuum theory about jamming, un-jamming transitions

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The dynamic and static behavior of particulate and granular matter is special: they can behave both solid-like and fluid-like. The ultimate goal is a continuum theory that can deal with all states from gas- or fluid-like, or solid-like, as well as all transitions between the states, including jamming and un-jamming. Such a “universal granular rheology” combines the worlds of fluid- and solid-mechanics, eventually allowing to solve real world, large-scale application problems.

