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Droplet formation and neck rupture in granular streams and dense suspensions HEINRICH JAEGER, University of Chicago — When a pendant drop of liquid breaks off, the final stages of neck formation before the singular event of separation are well described by a power law with an exponent that characterizes the liquid. Specifically, a linear decrease of the neck width with time to breakup implies a highly viscous liquid, while sublinear behavior with exponent 2/3 signals the inviscid limit. It therefore has come as a complete surprise that droplet neck formation in dry granular streams as well as concentrated suspensions, both systems with high apparent viscosity, exhibits the same scaling as the inviscid case. I will discuss some of the experimental evidence for this behavior and attempt an explanation that explicitly considers an aspect unique to the presence of the particles: the feedback between the ability of a (nearly) jammed state to deform and the Gaussian curvature introduced by the neck

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