Abstract Submitted
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Fluidization of wet granulates under hydrodynamic shear - experiments[1] CHRISTOPH GÖGELEIN, ILENIA BATTIATO, MATTHIAS SCHRÖTER, STEPHAN HERMINGHAUS, JÜRGEN VOLLMER, Max-Planck-Institute for Dynamics and Self-Organization, Göttingen, Germany — Very recently, the fluidization threshold of a wet granular bed under hydrodynamic shear forces were predicted theoretically [1]. This theory described the flow through a wet granular bed by a continuum model and provides analytical expressions for the averaged drag foce on a single particle. Moreover, the theory predicts the stability of the granular bed in dependence of the strength of the capillary and buoyancy forces. These theoretical predictions are tested in the present study by a newly designed flow channel. We will present our first experimental results for the fluidization onset of granular beds.

[1] I. Battiato, and J. Vollmer,"Fluidization of wet granulates under hydrpdynamic shear," submitted for pubblication.

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