Abstract Submitted
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The influence of surface roughness on the rheology of immersed and dry frictional spheres ELISABETH GUAZZELLI, MSC, CNRS, University of Paris, FRANCO TAPIA, OLIVIER POULIQUEN, Aix Marseille University, CNRS, IUSTI — Pressure-imposed rheometry is used to examine the influence of surface roughness on the rheology of immersed and dry frictional spheres in the dense regime. The quasi-static value of the effective friction coefficient is not significantly affected by particle roughness while the critical volume fraction at jamming decreases with increasing roughness. These values are found to be similar in immersed and dry conditions. Rescaling the volume fraction by the maximum volume fraction leads to collapses of rheological data on master curves. The asymptotic behaviors are examined close to the jamming transition.

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