

Abstract Submitted
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Evolution of a dynamic suspension created by the invasion of an air flow in a granular bed TESS HOMAN, VALERIE VIDAL, SYLVAIN JOUBAUD, Laboratoire de Physique-ENS de Lyon — We experimentally investigate the behavior of an immersed granular bed when perturbed by an air inflow from a single inlet at the bottom of a 2D cell. In particular, we focus on quasi-suspensions, meaning that the grains are slightly heavier than the fluid. We observe the creation of a dynamic suspension. We characterize the evolution of the local packing fraction, the percentage of particles mixed in the dynamic suspension and the shape of the “dead zone,” *i.e.* a region where the grains remain motionless. In particular, we study the influence of the air flow-rate or injection pressure. We complement the study by considering the effect of the density difference between the grains and the fluid, the initial height of the fluid or the height of the bed.

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