

Birth of Granular Mushroom by Localized Heating

C. Morize¹, E. Herbert², Y. D'Angelo³, A. Sauret⁴



The resuspension of particles from an immersed granular bed with a localized heat source exhibits a complex dynamic. Using laboratory experiments, we observe that beyond a threshold temperature a massive entrainment of particles into the fluid volume occurs. The buoyancy driven fluidized bed then leads to the transport of solid particles through the generation of particle-laden plumes that adopt beautiful mushroom shapes.

1 FAST, CNRS/Univ. Paris-Sud, University Paris-Saclay, Orsay, France

2 LIED, CNRS/University Paris Diderot, Paris, France

3 INSA/CORIA, CNRS UMR 6614, Rouen, France

4 SVI, UMR 125 CNRS/Saint-Gobain, France