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Response of floating grains on a capillary Faraday wave in the dense limit CEYDA SANLI, DEVARAJ VAN DER MEER, DETLEF LOHSE, Physics of Fluids, University of Twente, The Netherlands — When macroscopic grains float on a water-air interface, they aggregate into a static cluster due to attractive gravity-induced capillary interaction between the grains. Here we study what happens when the grains in the cluster are excited using capillary Faraday waves with a wavelength comparable to the grain size. The grains are found to exhibit cooperative motion in domains which tend to become larger as the particle concentration ϕ increases towards the jamming point. We measure the average grain velocity and the velocity-velocity correlations of the grains in space and time as a function of ϕ and the driving amplitude a .

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