

Abstract Submitted
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Continuity waves in fully resolved simulations of settling particles¹ DANIEL WILLEN, ADAM SIERAKOWSKI, Johns Hopkins University, ANDREA PROSPERETTI, University of Houston, University of Twente — Fully resolved simulations of 500 to 2,000 particles settling in a fluid have been conducted with the Physalis method. A new approach to the reconstruction of pseudo-continuum fields is described and is used to examine the results with the purpose of identifying concentration waves. The velocity of concentration waves is successfully deduced from the simulations. A comparison of the results with continuity wave theory shows good agreement. Several new insights about the particle microstructure conditionally averaged on volume fraction and velocity are also described.

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