

Abstract Submitted  
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**Shape Dependence of Settling Velocities for Particles in Wavy Flows**<sup>1</sup> LAURA CLARK, Stanford University, MICHELLE DIBENEDETTO, Woods Hole Oceanographic Institute, NICHOLAS OUELLETTE, JEFFREY KOSSEFF, Stanford University — We investigated the effect of particle shape and oscillatory flow on the settling velocities of negatively buoyant particles with intermediate particle Reynolds numbers. In a laboratory wave tank, we tested a range of particle shapes, including discs, rods, and spheres, and wave characteristics, including shallow, deep, and intermediate surface gravity waves. By simultaneously measuring the velocities of the non-spherical particles and the fluid flow field, we extracted the instantaneous particle slip velocities, the statistics of how the particles preferentially sample the wave field, and their net settling velocities. We find that all of these quantities display a significant shape dependence.

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