

Abstract Submitted  
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**Elliptical Particle Clustering in Cellular Flows** SEVERINE ATIS,  
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— The transport of finite-sized objects by fluid flows is relevant to a wide variety of  
phenomena, such as debris transport on the ocean surface or bacteria advection in  
fluid environment. The shape of the advected objects can strongly alter their cou-  
pling with the surrounding flow field, and hence, greatly affecting their dispersion  
by the flow. We present the results of investigations of the behavior of neutrally  
buoyant, elliptical particles in two-dimensional cellular flows. We find that their  
trajectories, and overall organization, are markedly different than for spherical par-  
ticles, with clear clustering for the elliptical particles associated with vortices.

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