

Abstract Submitted
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Spatial effects of flow straining on inertial particles in turbulence CHUNG-MIN LEE, California State University Long Beach, PRASAD PERLEKAR, FEDERICO TOSCHI, Eindhoven University of Technology, ARMANN GYLFASSON, Reykjavik University — The effects of axisymmetric expansion on the movement of inertial particles are studied numerically. Turbulence with different strain rates is simulated with Direct Numerical Simulation and Rogallo's algorithm on a deforming domain, and particle movements are computed with the assumption of one-way coupling between the flow and particle fields. We are interested in the influence of the large scale geometric change on particle movements. We will present distribution results on inertial particles such as temporal correlations on particle locations, stagnation tendency, and encounters among particles with different Stokes numbers.

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