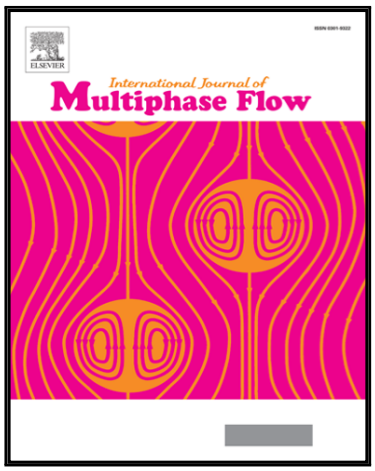

Transport of finite-size particles in a turbulent Couette flow: the effect of particle shape and inertia

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Highlights

- Numerical simulations are performed with finite-size non-spherical particles in turbulent plane Couette flow, which is a generic and simple flow configuration to point out interesting features of the complex dynamics of non-spherical (prolate and oblate) particles.
- Regarding particle preferential orientation: the symmetry axis of oblate particles is almost parallel to the wall-normal direction and the major axis of prolate particles tends to align in the flow direction
- The particle spatial distribution is strongly correlated to the flow coherent structures (streaks and large scale vortices).