Abstract Submitted
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Oblate-prolate Faraday waves on a spherical drop: precession, torsion and symmetry breaking LAURETTE TUCKERMAN, Physique et Mecanique des Milieux Heterogenes (PMMH), ANTOINE MILLE, ENS-Paris-Saclay, JALEL CHERGUI, DAMIR JURIC, LIMSI-CNRS — When a spherical drop is subjected to an oscillating radial force, surface waves are excited whose pattern depends on the forcing frequency and amplitude. For frequencies leading to spherical harmonic degree $\ell = 2$, the Faraday instability leads to a periodic oscillation between axisymmetric prolate and oblate shapes (Ebo-Adou et al. JFM 2019). We find that this regime is succeded by several further transitions: (1) precession of the drop, (2) breaking of axisymmetry leading to a general ellipsoid, and (3) torsion leading to elongation and rupture.

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