

Precession driven flow in a non axisymmetric ellipsoid
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Tidally locked planets, such as the Earth's moon, are ellipsoidal rather than spheroidal under the couple effect of rotation and gravitational coupling with the main orbital partner. Furthermore, the equatorial deformation is comparable to the polar flattening when in hydrostatic equilibrium.

In this study, we present the first numerical and theoretical investigation of the flow driven by precession in a triaxial ellipsoid. A coupled analytical and numerical approach leads us to conclude that the flow of uniform vorticity, the so-called Poincare solution, is not stationary in the frame of precession as it is in the case of an axisymmetric spheroid.