

Abstract Submitted
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Tilt-over mode in a precessing triaxial ellipsoid DAVID CEBRON, MICHAEL LE BARS, PATRICE MEUNIER, IRPHE — The tilt-over mode in a precessing triaxial ellipsoid is studied theoretically and numerically. Inviscid and viscous analytical models previously developed for the spheroidal geometry by Poincare (1910) and Busse (1968) are extended to this more complex geometry, which corresponds to a tidally deformed spinning astrophysical body. As confirmed by three-dimensional numerical simulations, the proposed analytical model provides an accurate description of the stationary flow in an arbitrary triaxial ellipsoid, until the appearance at more vigorous forcing of time dependent flows driven by tidal and/or precessional instabilities.

David Cebron
IRPHE

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