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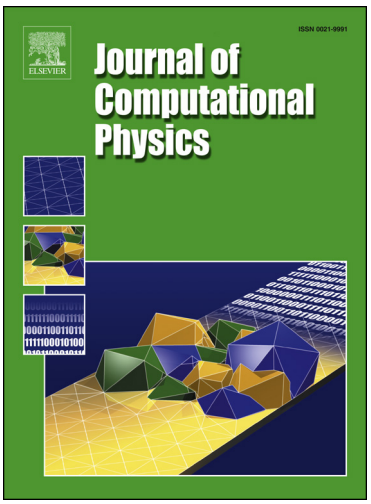

High-order finite-volume modeling of drift waves

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Highlights

- The paper discusses high-order finite-volume numerical modeling of drift waves, which is an ubiquitous phenomenon in magnetized plasmas.
- It is found that standard discretization methods applied to the conservative form of the governing equations can lead to a numerical instability.
- A method to stabilize high-order discretization is proposed and demonstrated to work in numerical simulations performed with the fourth-order finite-volume code COGENT.
- As practical examples, a stable drift-wave solution with adiabatic electrons and the collisionless (universal) drift-wave instability driven by electron kinetic effects are considered.