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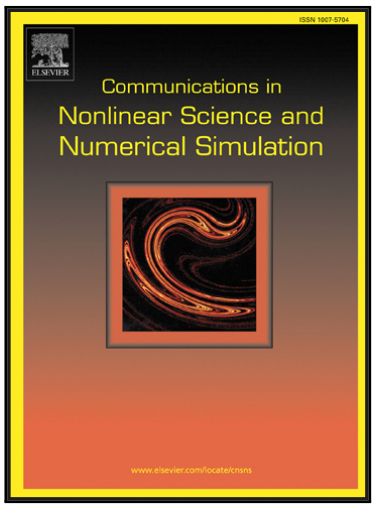

An effective approach to implement the Maxwellian and non-Maxwellian distributions in the fluid simulation of solitary waves in plasmas

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Highlights

- Space and laboratory plasma supports Maxwellian and nonMaxwellian distributions
- Efficient approach presented to incorporate both distributions in fluid simulation
- Successive over relaxation method improves the performance of the Poisson solver
- Methodology to determine optimized value of the relaxation parameter is presented
- New approach is tested for the fluid simulation of ion acoustic waves in plasma

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