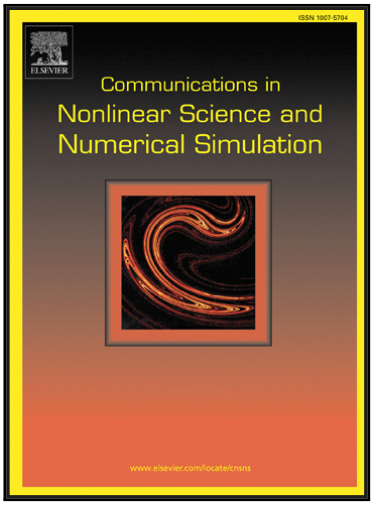

Stability analysis of feedforward anticipation optimal flux difference in traffic lattice hydrodynamic theory

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Highlights

- A new traffic lattice hydrodynamic model is proposed by firstly considering driver's anticipation optimal flux difference effect in light of feedforward control theory.
- Linear stability analysis is conducted to reveal the impact of driver's anticipation effect on traffic stability.
- Nonlinear reductive perturbation method is used to uncover the nonlinear characteristics of traffic density wave.
- The driver's feedforward anticipation optimal flux difference effect can enhance the stability of traffic flow and should be considered in real traffic.