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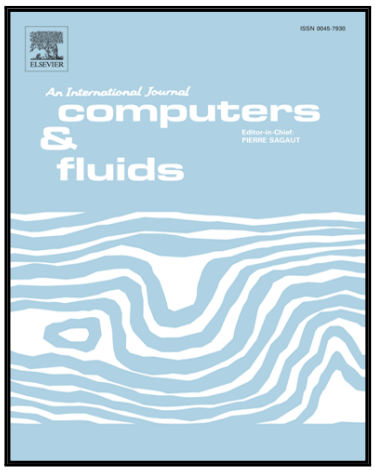

Unexpected convergence of lattice Boltzmann schemes

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Highlights

- Lack of convergence of scalar lattice Boltzmann schemes towards the heat equation.
- A dispersion equation analysis is proposed when relaxation parameters tend to zero.
- A damped acoustic model is emerging from this analysis.
- Numerical experiments prove the convergence towards solutions of damped acoustics.

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