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A cellular automata model for traffic flow based on kinetics theory,
vehicles capabilities and driver reactions

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Highlights

- A cellular automata model to avoid impulsive vehicle's acceleration is proposed.
- The model it is suitable to reproduce car-truck interaction.
- Concepts of cellular automata, kinematics theory and transport engineering are incorporated.
- Prediction analysis to guarantee that collision between vehicles may not happen is used.
- The model uses integer values for its calculations, thus reducing the execution time.
- Simulations results show close agreement to those observed from empirical findings.

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