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Superrandom states of thermodynamical traffic gas and their mathematical properties

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This paper deals with a thermodynamical traffic gas model, variance of clearances in traffic data and super random states in traffic theory.

The first part offers an introduction to vehicular headway modelling and its history. Furthermore, it is focused on the aforementioned thermodynamical traffic gas model and its mathematical properties. Relevant functions for clearance distributions are from the GIG class of functions, which is exceptionally suitable for traffic flow description. This paper also contains improved proofs from particle systems mathematics and recurrent equation for GIG functions moments. The last part includes an algorithmic simulation of a traffic system that has a super random stationary state.

Primary author: PÁNEK, Vít (Department of Mathematics, FNSPE, Czech Technical University in Prague)

Presenter: PÁNEK, Vít (Department of Mathematics, FNSPE, Czech Technical University in Prague)

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