Modeling and forecasting of traffic dynamics from a stochastic process information-based approach

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ABSTRACT

A traffic flow model based on stochastic microscopic dynamics is presented. At the same time a new parameterization approach based on information theory is introduced and tested under actual non-equilibrium traffic data. The proposed model is shown to be valid for all traffic regimes but most importantly it is used to underscore a not so well known or understood source of modeling error for classic methods.