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Computer simulation for quasi-linear equations of traffic flow

A mathematical description of traffic flows is discussed. We present computer program ``Cars'', which simulates the behavior of big clusters of cars on a single lane road. A connection between microscopic settings of the program and macroscopic parameters of the traffic flow is considered. We compare the calculation results with predictions of the theory of quasi-linear differential equations for some typical cases (Greenberg, Nagel-Schreckenberg). Some special effects connected with kinematic traffic waves are provided.