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Numerical algorithms for simulations of a traffic model on road networks.

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Summary: We introduce a simulation algorithm based on a fluid-dynamic model for traffic flows on road networks, which are considered as graphs composed by arcs that meet at some junctions. The approximation of scalar conservation laws along arcs is made by three velocities kinetic schemes with suitable boundary conditions at junctions. Here we describe the algorithm and we give an example.

Keywords: scalar conservation laws; traffic flow; fluid-dynamic models; finite difference schemes; boundary conditions
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