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Traffic flow equations coming from the Grad's method. ROSA M. VELASCO, ALMA R. MÉNDEZ, Department of Physics, Universidad Autónoma Metropolitana, 09340 Iztapalapa, México — The usual Grad's method in kinetic theory of gases is developed to construct a new model in traffic flow problems. This is applied to the kinetic equation called as the Paveri-Fontana equation which tells us how the distribution function evolves in time [1]. We assume a special model for the desired velocity of drivers [2] and the Grad's method provides us with a closure relation in the macroscopic equations. The simulation results for this model allow us to find the behavior of density, mean velocity and the velocity variance in the system. All the results are consistent with the validity region of the kinetic equation and with the qualitative behavior proper to traffic models. We show some comparisons with other models in the literature [3].
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