

MANY-PARTICLE APPROXIMATION OF SCALAR CONSERVATION LAWS

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We provide an overview of results on the derivation of 1D scalar conservation laws via ODEs systems of deterministic particles interacting via follow-the-leader interactions. The main motivation behind this problem arises in traffic flow and pedestrian modelling. We present results on the derivation of entropy solutions of the Cauchy problem of the LWR model [5] and later extensions of this result on problems with Dirichlet boundary data [3] and on similar models such as the ARZ model [2] for traffic flow and the Hughes model [4, 1] for pedestrians. The results are joint with B. Andreianov, M. Di Francesco, S. Fagioli, G. Russo and F. Stivaletta.

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