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On the micro-to-macro limit for 1D scalar conservation laws

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 modelling. We present results on the derivation of entropy solutions of the Cauchy problem of the LWR model [1, 3] and later extensions of this result on problems with Dirichlet boundary data [2] and on similar models such as the ARZ model [4] for traffic flow and the Hughes model [5] for pedestrians. The results are joint with S. Fagioli, M. Di Francesco and G. Russo.

References

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