

# On the Uniqueness of Measure Solutions to the Zero Pressure Gas Model

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The talk describes a uniqueness theorem for the 2 by 2 system of conservation laws describing conservation of mass and momentum in a gas with zero pressure. Smooth solutions may not only develop shocks but also become singular measures. The model is related to the Burgers equation in some respects. The classical Oleinik entropy is not sufficient to guarantee uniqueness. An additional cohesion condition is introduced which leads to uniqueness. The method of proof involves an extension of the theory of generalized characteristics to the measure solutions and the use of a flow map. This work was achieved jointly with Jiequan Li.