

COLLISION AVOIDANCE AND PEDESTRIAN DYNAMICS

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ABSTRACT. Experimental findings indicate that collision avoidance plays an important role in pedestrian dynamics model. Hence individuals actively anticipate the future to predict a possible collision time and adjust their velocity accordingly. This behavior served as a basis for different mathematical models, such as [1, 2]. In this talk we present a kinetic model based on collision avoidance and minimal interaction rules. We discuss its relation to similar models in the literature and illustrate the dynamics of the resulting Boltzmann type equation with numerical simulations.

Keywords: Crowd dynamics, Macroscopic models, Boltzmann Equations

Mathematics Subject Classifications (2010): 92D25, 70F45, 35Q20.

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