1145-91-2520 **Daewa Kim*** (daewakim@math.uh.edu), 3551 Cullen Blvd., Room 641, Philip Guthrie Hoffman Hall, Houston, TX 77204, and **Annalisa Quaini**. *A Kinetic Theory Approach to Pedestrian Motion.* Preliminary report.

We present a kinetic theory approach to model pedestrian dynamics. This approach models the dynamics caused by the interactions of pedestrians with other pedestrians as well as with the boundary of the domain. Four factors are taken into account: (1) the pedestrian's goal (e.g., to reach an exit), (2) the desire to avoid collisions with the walls, (3) the tendency to look for less congested areas, and (4) the tendency to follow the stream unconsciously in a panic situation. Thanks to this approach, we simulate evacuation from a room under several different conditions. We analyze the role of the exit size and devise a strategy to handle obstacles within the domain. Moreover, we consider different numbers of pedestrians evacuating the room with two exits in order to compare with experimental data. In the end, we see the bidirectional motion in a straight periodic corridor to compare the numerical results with the experimental data. (Received September 25, 2018)