Mathematical Physics

Modeling micro-macro pedestrian counterflow in heterogeneous domains

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We present a micro-macro strategy able to describe the dynamics of crowds in heterogeneous media. Herein we focus on the example of pedestrian counterflow. The main working tools include the use of mass and porosity measures together with their transport as well as suitable application of a version of Radon-Nikodym Theorem formulated for finite measures. Finally, we illustrate numerically our microscopic model and emphasize the effects produced by an implicitly defined social velocity.
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