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Heterogeneous agents in cellular models of pedestrian flow

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Despite their simplicity, cellular models are able to capture important phenomena of collective behaviour. In order to obtain higher level of realism, indistinguishable particles in cellular models are replaced by agents having various properties or following different strategies.

Several approaches how to introduce heterogeneity into multi-agent cellular systems have been investigated in last decades. Contrary to continuous models, where heterogeneity is usually achieved by variations in agents parameters, the space and time discrete nature of cellular models implied to introduce the heterogeneity in agents rules or preferences defining its strategy.

A review of various concepts of heterogeneity in cellular models is provided together with the discussion of the impact on system realism and advantages over the simple system with homogeneous agents-particles.

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