
The authors consider Markov jump processes on finite lattices. Their ultimate goal is to rigorously derive a continuum macroscopic equation able to describe models of this type in a suitable scaling limit. This work is restricted to a partial solution of this problem. Specifically, the authors establish a sharp bound on the spectral gap of the generator of the Markov process in terms of the number of lattice sites. Their result suggests the existence of a parabolic scaling limit.

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