Restricted permutations and random $(0,1)$-matrices in symmetric simple exclusion processes in discrete time over graphs

Author:
J. Ricardo G. Mendonça
Escola de Artes, Ciências e Humanidades, Universidade de São Paulo
Av.~Arlindo Béttio 1000, Ermelino Matarazzo -- 03828-000 São Paulo, SP, Brazil
Email: jricardo@usp.br

Abstract:
We describe the dynamics of the symmetric simple exclusion process in discrete time over arbitrary graphs by means of suitably restricted, projected permutations over the indices of the vertices of the graphs. Sampling strategies for restricted permutations are implemented and compared. As an illustration, the mixing times of the symmetric simple exclusion process in discrete time over small-world networks are estimated numerically.