

# Cutoff phenomenon for the asymmetric simple exclusion process and the biased card shuffling

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We consider the biased card shuffling and the Asymmetric Simple Exclusion Process (ASEP) on the segment. We obtain the asymptotic of their mixing times, thus showing that these two continuous-time Markov chains display cutoff. Our analysis combines several ingredients including: a study of the hydrodynamic profile for ASEP, the use of monotonic eigenfunction, stochastic comparisons and concentration inequalities.