Occupation times of exclusion processes with conductances

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Abstract:
We obtain the fluctuations for the occupation time of one-dimensional symmetric exclusion processes with speed change, where the transition rates (conductances) are driven by a general function W. The approach does not require sharp bounds on the spectral gap of the system nor the jump rates to be bounded from above or below. We present some examples and for one of them, we observe that the fluctuations of the current are trivial, but the fluctuations of the occupation time are given by a fractional Brownian Motion. This shows that, in general, the fluctuations of the current and of the occupation time are not of same order. Joint work with A. Neumann and P. Gonçalves.