



Mathematics > Probability

# An Inhomogeneous Multispecies TASEP on a Ring

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We reinterpret and generalize conjectures of Lam and Williams as statements about the stationary distribution of a multispecies exclusion process on the ring. The central objects in our study are the multiline queues of Ferrari and Martin. We make some progress on some of the conjectures in different directions. First, we prove their conjectures in two special cases by generalizing the rates of the Ferrari-Martin transitions. Secondly, we define a new process on multiline queues, which have a certain minimality property. This gives another proof for one of the special cases; namely arbitrary jump rates for three species.

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