

$$S_t \circ c(h)(a_s)_{ti} c(s) + \mathfrak{S}_e m^i n(a_r)$$

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Mixing times via super-fast coupling

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We provide a coupling proof that the transposition shuffle on a deck of n cards is mixing of rate $n \log(n)$ with a moderate constant. This has already been shown by Diaconis and Shahshahani but no natural coupling proof has been demonstrated to date. We also enlarge the methodology of coupling to include intuitive but nonadapted coupling rules, for example, to take in account future events and to prepare for their occurrence. (Joint work with R.Burton)

The paper for this talk can be found on Math ArXiv at <http://front.math.ucdavis.edu/math.PR/0609568>