

## HITTING, ESCAPING AND MIXING

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Some recurrence limit laws are more sensitive to slow mixing in a dynamical system than others. Fixing a hole and considering the exponential rate of escape of mass through it as time goes to infinity will result in a degenerate limit if the mixing is too slow for the hole size (i.e. slow exponential, or even subexponential). Shrinking the hole linearly with time (Hitting Time Statistics) gives non-degenerate limit laws in all known mixing cases. Ill discuss a general framework for these limits and show how they can detect mixing rates. This is joint work with Henk Bruin and Mark Demers.