

Asymptotic properties of supercritical branching processes in random environments

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Abstract:

We consider a supercritical branching process (Z_n) in an independent and identically distributed random environment ξ , and present some recent results on the asymptotic properties of the branching process. In particular, we show a criterion for the existence of weighted moments of the limit variable W of the normalized population size $W_n = Z_n/\mathbb{E}[Z_n|\xi]$, and limit theorems (such as moderate and large deviations principles) on $(\log Z_n)$.