The K-process on a tree as a scaling limit of the GREM-like trap model

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We introduce trap models on a finite volume k-level tree as a class of Markov jump processes with state space the leaves of that tree. They serve to describe the GREM-like trap model of Sasaki-Nemoto. Under suitable conditions on the parameters of the trap model, we establish its infinite volume limit, given by what we call a K process in an infinite k-level tree. From this we deduce that the K-process also is the scaling limit of the GREM- like trap model on extreme time scales under a fine tuning assumption on the volumes. This is a joint work with L. R. G. Fontes, V. Gayrard.

Key words: random dynamics, random environments, K-process, scaling limit, trap models

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