

Unité de probabilités

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Conférence en probabilité

Jedi 29 octobre 2009 11h15
[CM 1104](#), EPFL, Ecublens

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Quenched scaling limits for trap models

Résumé

Let $T_n^d = \mathbb{Z}^d/n\mathbb{Z}^d$ be the discrete, d-dimensional torus. To each site x in T_n^d we attach an alpha-stable, positive random variable a_x . We do this independently for each site x . Bouchaud's trap model on T_n^d can be defined as follows. A particle waits an exponential time of parameter $1/a_x$, at the end of which it chooses a neighbouring site with uniform probability. Let $x_n(t)$ be the position at time t of this particle. In dimension d greater or equal than 3, we prove that $n^{-1}x_n(tn^{d/a})$ converges to the K-process introduced in this context by Fontes and Mathieu, where a is the index of the stable law. In dimension $d = 2$, a similar result holds with a logarithmic correction.

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