An Invariance Principle under Effective Conditions for Random Walks in Mixing Environments

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Random walk in Random Enviroment is a classic stochastic model, however its asymptotic laws are not well-understood, specially in the multidimensional and mixing environment case. A recent work [Gue17] in mixing framework has proven a Brownian scaling limit in a ballistic sense under condition (T) of Sznitman [Sz01], weakening for the first time the stronger assumption of S. Kalikow [Ka81] used in [CZ02] and [RA03] to get a similar result. In this talk after introducing the main setting and concepts, I shall present an ongoing work which proves an annealed functional central limit theorem of ballistic nature, under a quasi-local assumption in the spirit of the e ective polynomial assumption introduced in [BDR14]. Joint work with: A.F. Ramirez, G. Valle and M. E. Vares.

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