

STRENGTH OF STRONG APPROXIMATION WITH BROWNIAN MOTION

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How close is motion of a particle in Lorentz gas to Brownian motion? One way to measure the closeness is known as the strong approximation, or the almost sure invariance principle. It is rather well understood for random processes with independent increments, but quite the opposite in chaotic dynamics. I will talk about the challenges and recent results for dynamical systems such as the doubling map, Axiom A diffeomorphisms, logistic and Hnon maps. Joint work (in progress) with C.Cuny, J.Dedecker and F.Merlevde.