

1086-60-2697

Timothy Chumley* (tim@math.wustl.edu). *Diffusivity in multiple scattering systems.*

We study a class of random dynamical systems derived from particle-surface systems involving classical scattering and certain random walks derived from them. Of particular interest is the connection between surface microstructure and diffusion characteristics of the derived random walks. The main results, a central limit theorem and weak invariance principle, express the diffusivity of a limit diffusion process in terms of the spectrum of a Markov scattering operator. (Received September 25, 2012)