Diffusion and transport in an inelastic Lorentz gas

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Abstract

I will report on recent work with P. Parris and A. Silvius (Missouri) on what can be called an inelastic Lorentz gas. We study the motion of a particle in a periodic array of oscillators that act as obstacles and with which the particle exchanges energy and momentum. We show the particle motion is diffusive and through a master equation modelisation link the diffusion constant to the system parameters.