

Abstract Submitted  
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**Diffusion in a system of vibrating obstacles: Exact numerical results** SMAINE BEKHECHI, University of Ottawa, GARY W. SLATER, University of Ottawa — We present a generalized version of our lattice model of diffusion that allows us to treat the case of particles diffusing in arrays of obstacles that can vibrate around a mean position. The diffusion problem is modeled as a random walk in the conformational space of the combined obstacles-particle system. We show that it is possible to obtain exact diffusion coefficients as a function of the frequency of vibration of the obstacles on a two dimensional square lattice. We examine the smooth transition between the quenched system (zero-frequency) and the annealed system (infinite frequency).

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