

Abstract Submitted  
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**Diffusion in a Rough Energy Landscape** ULRICH ZURCHER,  
Physics Dept, Cleveland State University — We re-examine Zwanzig's model of  
diffusion in a rough energy landscape [PNAS (USA) 85, 2029 (1988)]. We interpret  
the one- dimensional coordinate as a mesoscopic degree of freedom of the system.  
It is shown that the fluctuating potential corresponds to a broken symmetry. The  
corresponding order parameter is associated with long- range elastic stress in the  
system. We derive a Landau-type expression for the free energy of the system from  
which the activation energy for barrier crossings can be obtained.

Ulrich Zurcher  
Physics Dept, Cleveland State University

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