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Debye Model of Step Wandering HOWARD RICHARDS, Dept. of Physics, Texas A&M-Commerce, AMBER BENSON, Texas A&M-Commerce, Mississippi State University, T.L. EINSTEIN, Dept. of Physics, University of Maryland, College Park — The stiffness of steps on vicinal crystal surfaces is often determined by fitting experimental step wandering functions to a theoretical form, which is based on a harmonic approximation to the potential experienced by the step. This approximation is analogous to the Einstein model of solids, and it can likewise be improved by a "Debye model" in which the spatial dependence is implicit through the relative positions of neighboring steps. The form of the resulting wandering function will be presented and compared with numerical simulations of the terrace-step-kink model for a range of step interactions.

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