Step Evolution for Crystals of Finite Size: The ADL case

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We study crystals relaxing to a flat surface when the number steps is finite. The model is 1-dimensional and rate limiting process is attachment-detachement (ADL). Starting with step ODE's, we propose a fourth order PDE whose natural discretization is the step equations. We prove existence, uniqueness, and stability of a self similar solution in the discrete case. Then we give some qualitative features of the self similar solution.