Conference on Continuum and kinetic methods in the theory
of shocks, fronts, dislocations and interfaces
Abstracts, June 20-24, Heraklion, Crete

Fronts in lattices

Abstract: Simple models of defect motion in lattices identify dislocations [1] and cracks [8, 9] with discrete traveling waves [4, 10]. In overdamped limits, such lattice models often become discrete bistable equations [3, 5], similar to the ones encountered in biology (to describe nerve propagation [7], for instance). In this talk, we will review recent results on front propagation in spatially discrete models, discussing existence of stationary and travelling wave fronts [2, 5, 6] together with strategies to predict their speeds and the thresholds for propagation failure [3].

References

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