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Decay of covariances, uniqueness of ergodic component and scaling limit for a class of gradient systems with non-convex potential

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We consider a gradient interface model on the lattice with interaction potential which is a non-convex perturbation of a convex potential. Using a technique which decouples the neighboring vertices sites into even and odd vertices, we show for a class of non-convex potentials : the uniqueness of ergodic component for gradient Gibbs measures, the decay of covariances, the scaling limit and the strict convexity of the surface tension.

This is joint work with Codina Cotar.