Critical points of the Cahn-Hilliard Energy in a critical regime

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Abstract

The Cahn-Hilliard energy landscape on the torus is explored in the critical regime of large system size and mean value close to -1. Existence and properties of a "droplet-shaped" local energy minimizer and approximately-mountain-pass-type critical point are established. The proofs employ the Γ-limit (identified in a previous work), quantitative isoperimetric inequalities, and variational arguments. This is joint work with Alfred Wagner and Maria Westdickenberg

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