Asymptotic Development by Gamma Convergence

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In this talk we present some recent results on the asympotic development by Γ convergence of order two of the Cahn–Hilliard functional with mass constraint. We also give some applications to slow motion for the Cahn-Hilliard equation and the nonlocal Allen–Cahn equation.

The talk is based on joint work with G. Dal Maso, I. Fonseca, and R.Murray.

References:

[1] G. Dal Maso, I. Fonseca, and G. Leoni: Second order asymptotic development for the anisotropic Cahn-Hilliard functional. *Calculus of Variations and Partial Differential Equations*, to appear.

[2] G.Leoni and R. Murray: Second-order Γ-limit for the Cahn–Hilliard functional, *Archive for Rational Mechanics and Analysis*, to appear.

[3] R. Murray and M. Rinaldi: Slow Motion for the nonlocal Allen–Cahn equation in n-dimensions. In preparation.