

Cahn-Hilliard equation in $H^1(R^N)$

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A dissipative mechanism of the Cahn-Hilliard equation in $H^1(R^N)$ is discussed. This involves a weak form of dissipativeness, in which case each individual solution is shown to be suitably attracted by the set of equilibria, and strong dissipativeness, for which we indicate that it cannot be in general expected in $H^1(R^N)$. Two types of perturbations of the Cahn-Hilliard equation are also considered: nonlinear perturbation and a small linear perturbation. In both these cases the dissipative mechanism is strong enough to ensure the existence of a compact global attractor.

This is a joint work with Anibal Rodriguez-Bernal.

References

- [1] *J. W. Cholewa, A. Rodriguez-Bernal*: On the Cahn-Hilliard equation in $H^1(R^N)$. *J. Differ. Equations* 253 (2012), 3678–3726.