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Stability of Cahn-Hilliard fronts. (English) Zbl 0939.35022
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The Cahn-Hilliard equation on the real axis

$$\partial_t u = \partial_x^2 (-\partial_x^2 u - u/2 + u^3/3)$$

is considered. Stability of the kink solution is proved. The proof is based on an inductive renormalization group method. In addition, the detailed asymptotic of the solution is obtained as time tends to infinity.

Reviewer: [Michael I. Gil' \(Beer-Sheva\)](#)

MSC:

35B35 Stability in context of PDEs
35K25 Higher-order parabolic equations

Cited in **19** Documents

Keywords:

[nonlinear parabolic equations](#); [Cahn-Hilliard equation](#); [kink solution](#); [inductive renormalization group method](#)

Full Text: [DOI](#)

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