1D Cahn-Hilliard equation for modulated phase systems

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Modulated phase patterns can be modelized by a modified Cahn-Hilliard equation which includes a non local term which prevents the formation of macroscopic domains. Using stationnary solutions of the original Cahn-Hilliard equation as analytical ansatzs, we compute the thermodynamically stable period of a 1D modulated phase pattern. We find that the period scales like the power (1/3) of the strength of the long range interaction