

STATIC AND DINAMIC ISSUES FOR THE ALLEN CAHN EQUATION

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We review some results on construction of solutions to the Allen Cahn equation with its nodal set close to a given, largely dilated minimal surface. In particular we present a counterexample to De Giorgi's conjecture in dimensions 9 or higher. We establish applications of these techniques to the problem of travelling fronts for the associated parabolic flow in connection to self translating solutions of mean curvature flow.

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