

Blow-up solution for the Complex Ginzburg-Landau equation in some critical case

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We construct a solution for the Complex Ginzburg-Landau (CGL) equation in some critical case, which blows up in finite time T only at one blow-up point. We also give a sharp description of its profile. The proof relies on the reduction of the problem to a finite dimensional one, and the use of index theory to conclude. The interpretation of the parameters of the finite dimension problem in terms of the blow-up point and time allows to prove the stability of the constructed solution.

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