



Detection and construction of an elliptic solution to the complex cubic-quintic Ginzburg-Landau equation

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In evolution equations for a complex amplitude, the phase obeys a much more intricate equation than the amplitude. Nevertheless, general methods should be applicable to both variables. On the example of the traveling wave reduction of the complex cubic-quintic Ginzburg-Landau equation (CGL5), we explain how to overcome the difficulties arising in two such methods: (i) the criterium that the sum of residues of an elliptic solution should be zero, (ii) the construction of a first order differential equation admitting the given equation as a differential consequence (subequation method).

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