Solution of the generalized nonlinear Schrödinger equation in the semiclassical limit and Painlevé equations

Tamara Grava

SISSA, via Bonomea 265,
34136, Trieste, Italy
Email: grava@sissa.it

Abstract:

We study the solution of the Schrödinger equation in the semiclassical limit and consider the behaviour of the solution near the formation of singulariies of the equations describing the semiclassical limit. Such behaviour is described in terms of Painlevé transcendents.