

(2+1)- dimensional analytical solutions of the combining cubic-quintic nonlinear Schrödinger equation

Ji Lin

Department of physics, Zhejiang Normal University, China

Abstract:

We investigate analytical solutions of the (2+1)-dimensional combining cubic-quintic nonlinear Schrödinger (CQNLS) equation by the classical Lie group symmetry method. We not only obtain the Lie-point symmetries and some (1+1)-dimensional partial differential systems, but also derive bright solitons, dark solitons, kink or anti-kink solutions and the localized instanton solution.