

Analytic Treatment for (2+1)-Dimensional Kortweg-de Vries-Like and Kadomtsev-Petviashvili-Like Equations

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In this work we present a reliable treatment for two (2+1)-dimensional Kortweg-de Vries-like and Kadomtsev-Petviashvili-like equations. The Hirota bilinear method will be used to show that these two equations are not completely integrable equations. Unlike the completely integrable Kortweg-de Vries and Kadomtsev-Petviashvili equations, where multiple soliton solutions exist, only one-soliton and two-soliton solutions can be derived for each of the Kortweg-de Vries-like and Kadomtsev-Petviashvili-like equations.

Key words: Hirota Bilinear Method; Kortweg-de Vries Equation; Kadomtsev-Petviashvili-Like Equation.