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On a Generalized Extended F-Expansion Method

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Abstract: Making use of a new generalized ansatz, we present a new generalized extended F-expansion method for constructing the exact solutions of nonlinear partial differential equations in a unified way. Applying the generalized method with the aid of Maple, we consider the (2+1)-dimentional breaking soliton equation. As a result, we successfully obtain some new and more general solutions including Jacobi elliptic function solutions, soliton-like solutions, trigonometric function solutions, and so on. As an illustrative sample, the properties of some soliton solutions for the breaking soliton equation are shown by some figures. Our method can also be applied to other partial differential equations.

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Key words: (2+1)-dimentional breaking soliton equation, generalized extended F-expansion method, Jacobi elliptic function solution, generalized ansatz, soliton-like solution

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