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A Series of Soliton-like and Double-like Periodic Solutions of a (2+1)-Dimensional Asymmetric Nizhnik-Novikov-Vesselov Equation

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Abstract: We generalize the algebraic method presented by Fan [J. Phys. A: Math. Gen. 36 (2003) 7009)] to uniformly construct a series of soliton-like solutions and double-like periodic solutions for nonlinear partial differential equations (NPDE). As an application of the method, we choose a (2+1)-dimensional asymmetric Nizhnik-Novikov-Vesselov equation and successfully construct new and more general solutions including a series of nontraveling wave and coefficient functions' soliton-like solutions, double-like periodic and trigonometric-like function solutions.

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Key words: symbolic computation, soliton-like solution, Weierstrass and Jacobi elliptic functions, periodic solution

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