Evolution Properties of the $y$-Periodic Solitons for the (2+1)-Dimensional Boiti-Leon-Pempinelli System

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With the help of the symbolic computation system Maple and an expanded projective Riccati equation approach, we obtain some new rational explicit solutions with three arbitrary functions for the (2+1)-dimensional Boiti-Leon-Pempinelli system, including Weierstrass function solutions, solitary wave solutions and trigonometric function solutions. From these, several $y$-periodic soliton localized excitations are constructed and some evolution properties of these novel $y$-periodic localized structures are discussed.

Key words: Boiti-Leon-Pempinelli System; Expanded Projective Riccati Equation Approach; Variable Separation Solution; $y$-Periodic Soliton Localized Structure.