A Computational Approach to the New Type Solutions of Whitham-Broer-Kaup Equation in Shallow Water

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Abstract: Based on computerized symbolic computation, a new method and its algorithm are proposed for searching for exact travelling wave solutions of the nonlinear partial differential equations. Making use of our approach, we investigate the Whitham-Broer-Kaup equation in shallow water and obtain new families of exact solutions, which include soliton-like solutions and periodic solutions. As its special cases, the solutions of classical long wave equations and modified Boussinesq equations can also be found.

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