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Variable Separation Solutions of Generalized Broer-Kaup System via a Projective Method

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Abstract: Using an extended projective method, a new type of variable separation solution with two arbitrary functions of the (2+1)-dimensional generalized Broer-Kaup system (GBK) is derived. Based on the derived variable separation solution, some special localized coherent soliton excitations with or without elastic behaviors such as dromions, peakons, and foldons etc. are revealed by selecting appropriate functions in this paper.

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Key words: extended projective method, (2+1)-dimensional GBK system, exact solution, localized excitation

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