

# Exact Solutions and Solitons with Fission and Fusion Properties for the Generalized Broer-Kaup System

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Starting from a Painlevé-Bäcklund transformation and a linear variable separation approach, we obtain a quite general variable separation excitation to the generalized (2+1)-dimensional Broer-Kaup (GBK) system. Then based on the derived solution, we reveal soliton fission and fusion phenomena in the (2+1)-dimensional soliton system. – PACS numbers: 05.45.Yv, 03.65.Ge

*Key words:* GBK System; Exact Solution; Soliton Fission; Soliton Fusion.