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Interactions Among Peakons, Dromions, and Compactons for a (2+1)-Dimensional Soliton System

ZHENG Chun-Long

Department of Physics, Zhejiang Lishui Normal College, Lishui 323000, China
Shanghai Institute of Applied Mathematics and Mechanics, Shanghai University, Shanghai 200072, China
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Abstract: Starting from the known variable separation excitations of a (2+1)-dimensional generalized Ablowitz-Kaup-Newell-Segur system, rich coherent structures can be derived. The interactions among different types of solitary waves like peakons, dromions, and compactons are investigated and some novel features or interesting behaviors are revealed. The results show that the interactions for peakon-dromion, compacton-dromion, and peakon-compacton may be completely nonelastic or completely elastic.

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