

Multi-Soliton-Like Solutions of a Coupled Kadomtsev-Petviashvili System

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Arising in the context of random matrix theory, the coupled Kadomtsev-Petviashvili (KP) systems have been a subject of active studies. In this paper, a coupled KP system with three potentials is investigated with symbolic computation, and the Darboux transformations of its reduced equations are obtained. Moreover, the multi-soliton-like solutions of the coupled KP system are derived. Those solutions could be of some value for the studies in the context of random matrix theory.

Key words: Coupled Kadomtsev-Petviashvili System; Darboux Transformation; Soliton-Like Solution; Symbolic Computation.