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A Series of Variable Separation Solutions and New Soliton Structures of (2+1)-Dimensional Korteweg-de Vries Equation

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Abstract: Variable separation approach is introduced to solve the (2+1)-dimensional KdV equation. A series of variable separation solutions is derived with arbitrary functions in system. We present a new soliton excitation model (24). Based on this excitation, new soliton structures such as the multi-lump soliton and periodic soliton are revealed by selecting the arbitrary function appropriately.

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