

## Perturbative Painlevé Analysis of General KdV System and Its Exact Soliton Solutions

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Abstract: Using the standard Painlevé analysis and the perturbative method, the Painlevé test for the logarithmic branch is investigated. Nine arbitrary functions are obtained and the Bäcklund transformation of the logarithmic branch is given. Using the new type Bäcklund transformation, many exact solutions are obtained.

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Key words: Painlevé analysis, perturbative method, Jacobi elliptic solution

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