

Bäcklund Transformations for the Initial Problems of Nizhni ch and Ni zhni ch-Novikov-Veselov Equations

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Abstract: The homogeneous balance method is a method for solving general partial differential equations (PDEs). In this paper we solve a kind of initial problems of the PDEs by using the special Bäcklund transformations of the initial problem. The basic Fourier transformation method and some variable-separation skill are used as auxiliaries. Two initial problems of Nizhni ch and the Nizhni ch-Novikov-Veselov equations are solved by using this approach.

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Key words: Bäcklund transformation, initial problem, Nizhni ch equation, Nizhni ch-Novikov-Veselov equation, homogeneous balance method

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