Hamiltonian Formalism of mKdV Equation with Non-vanishing Boundary Values

HE Jing-Song[1] and CHEN Shi-Rong[2]

[1] Department of Mathematics, University of Science and Technology of China, Hefei 230026, China
[2] Department of Mathematics, Huazhong Normal University, Wuhan 430079, China
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Abstract: Hamiltonian formalism of the mKdV equation with non-vanishing boundary value is re-examined by a revised form of the standard procedure. It is known that the previous papers did not give the final results and involved some questionable points [T.C. Au Yeung and P.C.W. Fung, J. Phys. A 21 (1988) 3575]. In this note, simple results are obtained in terms of an affine parameter and a Galileo transformation is introduced to ensure the results compatible with those derived from the inverse scattering transform.

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