BINARY NONLINEARIZATION FOR GENERALIZED NLS-mKdV HIERARCHY

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Abstract

The Bargmann symmetry constraint is carried out for the Lax pairs and the adjoint pairs of the generalized coupling NLS-mKdV hierarchy. It is shown that under the control of the spatial part, the time parts of the nonlinearized Lax pairs and adjoint Lax pairs are interpreted as a hierarchy of commutative, finite dimensional Liouville integrable Hamiltonian system whose Hamiltonian functions include many integral of motion for the spatial. Especially, getting the binary nonlinearization for the generalized coupling NLS-mKdV hierarchy.