

Erratum

General Zakharov-Shabat Equations, Multi-Time Hamiltonian Formalism, and Constants of Motion

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In my article *General Zakharov-Shabat equations, multi-time Hamiltonian formalism, and constants of motion* [1] I missed a term in formula (19) for the Lagrangian:

$$-S \left(\sum_{a_k=b_k} \text{res}_{a_k} [(g A_k g_k^{-1})_-, (g_k B_k g_k^{-1})_-] g_{k0} g_k^{-1} \right).$$

The operator S is the following: all expressions are polynomials in elements of matrices g_{kr} , $r > 0$ and their derivatives, the operator S divides each term by its degree. (For more detail see [2, 18.1.5], where a similar term in a problem with one pole was suggested.)

A corresponding term appears in the formula for the Hamiltonian (26). All other formulas remain unchanged.

References

1. Dickey, L.A.: General Zakharov-Shabat equations, multi-time Hamiltonian formalism, and constants of motion. Commun. Math. Phys. **132**, 485–497 (1990)
2. Dickey, L.A.: Soliton equations and Hamiltonian systems. Singapore: World Scientific 1991

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