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Large time asymptotics for the cylindrical Korteweg-de Vries equation. I. (English)

Zbl 1451.35163

Nonlinearity 33, No. 10, 5215-5245 (2020).

MSC:

35Q53 KdV equations (Korteweg-de Vries equations)

35B40 Asymptotic behavior of solutions to PDEs

37K15 Inverse spectral and scattering methods for infinite-dimensional Hamiltonian and Lagrangian systems

35K35 Initial-boundary value problems for higher-order parabolic equations

35P25 Scattering theory for PDEs

35Q15 Riemann-Hilbert problems in context of PDEs

Cited in 1 Document

Keywords:

cylindrical Korteweg-de Vries equation; Cauchy problem; large time asymptotics

Full Text: DOI

References:

- [1] Abramowitz M and Stegun I A 1972 Handbook of Mathematical Functions: With Formulas, Graphs, and Mathematical Tables (New York: Dover) · Zbl 0543.33001
- [2] Buslaev V S and Sukhanov V V 1986 Asymptotic behavior of solutions of the Korteweg-de Vries equation for the large times J. Sov. Math.34 1905-20 · Zbl 0597.35102 · doi:10.1007/bf01095099
- [3] Calogero F and Degasperis A 1978 Inverse spectral problem for the one-dimensional Schrödinger equation with an additional linear potential Lett. Nuovo Cimento23 · doi:10.1007/bf02763080
- [4] Calogero F and Degasperis A 1978 Solution by the spectral-transform method of a nonlinear evolution equation, including as a special case the cylindrical KdV equation Lett. Nuovo Cimento23 · doi:10.1007/bf02763081
- [5] Calogero F and Degasperis A 1982 Spectral Transform and Solitons: Tools to Solve and Investigate Nonlinear Evolution Equations (Amsterdam: North-Holland)
- [6] Deift P and Zhou X 1993 A steepest descent method for oscillatory Riemann-Hilbert problems. Asymptotics for the MKdV equation Ann. Math.137 295-368 · Zbl 0771.35042 · doi:10.2307/2946540
- [7] Deift P A, Its A R and Zhou X 1993 Long-time asymptotics for integrable nonlinear wave equations Important Developments in Soliton Theory ed A S Fokas and V E Zakharov (Berlin: Springer) pp 181-204 · Zbl 0926.35132 · doi:10.1007/978-3-642-58045-1_10
- [8] Its A R and Sukhanov V Riemann-Hilbert approach to the inverse problem for Stark equation on the line Inverse Problems32 · Zbl 1381.34109 · doi:10.1088/0266-5611/32/5/005003
- [9] Katchalov A P and Kurylev Y V 1990 Inverse scattering problem for a one-dimensional Stark-effect Hamiltonian Inverse Problems6 L1-5 · Zbl 0708.47009 · doi:10.1088/0266-5611/6/1/001
- [10] Novokshenov V Y 1980 Asymptotics of the solution of the Cauchy problem for nonlinear Schrödinger equation as $t \rightarrow \infty$ Dokl. Akad. Nauk SSSR251 799-801
- [11] Zakharov V E and Manakov S V 1976 Asymptotic behavior of non-linear wave systems integrated by the inverse scattering method JETP44 106
- [12] Santini P M 1980 Asymptotic behaviour (int) of solutions of the cylindrical KdV equation.-II Nuovo Cimento A 57 · doi:10.1007/bf02776546

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