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Solitons and the inverse scattering transform. (English) Zbl 0472.35002

SIAM Studies in Applied Mathematics, 4. Philadelphia: SIAM - Society for Industrial and Applied Mathematics. X, 425 p. \$ 54.50 (1981).

For a scan of this review see the [web version](#).

MSC:

- 35-02** Research exposition (monographs, survey articles) pertaining to partial differential equations
- 35A22** Transform methods (e.g., integral transforms) applied to PDEs
- 35P25** Scattering theory for PDEs
- 35Q99** Partial differential equations of mathematical physics and other areas of application
- 35G10** Initial value problems for linear higher-order PDEs
- 35K25** Higher-order parabolic equations
- 35J10** Schrödinger operator, Schrödinger equation
- 76B25** Solitary waves for incompressible inviscid fluids

Cited in **5** Reviews
Cited in **1151** Documents

Keywords:

inverse scattering transform; solitons; Korteweg-de Vries equation; nonlinear evolution equation; difference equations; periodic boundary conditions; Bäcklund transformations; Hirota's method; Painleve property; fixed singularities; Sine-Gordon equations; Fourier transform method; nonlinear wave theory