5g •.2 us on 第 数 25 E

Contents

Part I Nonlinear Equations	
Multisoliton-like Solutions of Wave Propagation in Periodic Nonlinear Structures By A.B. Aceves and S. Wabnitz	3
Complex Deformation of Integrable Hamiltonians over Generalized Jacobi Varieties By S.J. Alber	6
Collective Coordinates by a Variational Approach: Problems for Sine Gordon and Φ^4 Models By J.G. Caputo and N. Flytzanis	21
Spatiotemporal Chaos in the Nonlinear Three Wave Interaction By C.C. Chow, A. Bers, and A.K. Ram (With 1 Figure)	25
On the Instability of the Static Soliton-like "Bubbles" By A. de Bouard	29
Symplectic and Hamiltonian Structures of Nonlinear Evolution Equation By I.Ya. Dorfman	ns 32
A Fuchs Extension to the Painlevé Test By R. Conte, A.P. Fordy, and A. Pickering	35
Modulation Equations for Nearly Integrable PDEs with Periodic Boundary Conditions By M.G. Forest	45
Spectrum of Domain Wall Excitations in YIG By A.V. Mikhailov and I.A. Shimokhin (With 4 Figures)	47
Interaction of Defects in Nonlinear Dissipative Fields By L.M. Pismen, J. Rubinstein, A.A. Nepomnyashchy, and J.D. Rodriguez	53
On the Analytic Degenerate Dispersion Laws By E.I. Schulman and D.D. Tskhakaya	60

Part II	Inverse Scattering Transforms	80 M
	tons. Systems of Hydrodynamic Type yavlenskij	67
	ual Multidimensional Solitons L. Martina, O.K. Pashaev, and F. Pempinelli	77
with Line-Typ	proach for the Nonstationary Schrödinger Equation be Potential* F. Pempinelli, A.K. Pogrebkov, and M.C. Polivanov	Q T
	ruction of Quantum Integrable Systems	87
9-20 kg 60 ht	ressing and Nonlocality	91
Initial Bounda By A.S. Foka	ary-Value Problems for Soliton Equations	96
and the Isomo	tive Two-Dimensional Quantum Gravity onodromy Method s, A.R. Its, and A.V. Kitaev	102
The Action of of the Whitha By P.G. Grine		108
A Generalized By Y. Kodam	d Sato's Equation of the KP Theory and Weyl Algebra a	113
Quasirelativist By B.A. Kupe	tic Analogs of Lax Equations ershmidt	114
	ov-Shabat System of the Form $1/z^2$) $J\psi + (zQ + P + R/z)\psi$	118
Homoclinic C for the Doubl	Orbits and Bäcklund Transformations y Periodic Davey-Stewartson Equation D.W. McLaughlin (With 2 Figures)	
Volterra Opera Universality of By A.Yu. Orla		126
Without Using	All Commutation Relations Among Scattering Data g the R-Matrix Approach g and A.S. Fokas	132
	olitons of the KdV Hierarchy	136

The Periodic Fixed Points of Bäcklund Transformations By J. Weiss (With 3 Figures)	
IST for KPI By Xin Zhou	148
Part III Plasmas	
A Physical Model for Nonlinear, Supersonic Equatorial Bubbles By W.J. Burke and T.L. Aggson (With 3 Figures)	153
Nonlinear Dynamics of Electron Cyclotron Heated Plasmas By G.E. Guest	166
Nonlinear Evolution of Alfvén Waves in Space Plasmas By T. Hada	169
Alfvén Solitons and the DNLS Equation By R.L. Hamilton, C.F. Kennel, and E. Mjølhus	175
On the Analytical Theory for Self-Focusing of Radiation By V.M. Malkin	179
Ionospheric Langmuir Turbulence Driven by an Electromagnetic Pump Below the Upper-Hybrid Frequency By D.L. Newman and M.V. Goldman (With 3 Figures)	180
Mode Conversions in Ionospheric Modification Experiments By N.N. Rao and D.J. Kaup (With 2 Figures)	185
On the Superstrong Wave Collapse By V.F. Shvets (With 2 Figures)	191
A Moving Boundary Problem in Plasma Physics By N. Sternberg and V.A. Godyak	195
Proton-Whistler Interactions in the Radiation Belts By E. Villalón and W.J. Burke (With 1 Figure)	199
Part IV Nonlinear Optics	
Optical Turbulence in Semiconductor Lasers By E. Abraham, H. Adachihara, O. Hess, R.A. Indik, P. Jacobsen, J.V. Moloney, and P. Ru (With 2 Figures)	213
Chaotic Dynamics Due to Competition Among Degenerate Modes in a Ring-Cavity Laser By A. Aceves, D.D. Holm, and G. Kovacic (With 2 Figures)	218
Quantum Self Phase Modulation in Optical Fibres By K.J. Blow, R. Loudon, and S.J.D. Phoenix (With 1 Figure)	228

Quantum Groups: Q-Boson Theories of Integrable Models and Applications in Non-Linear Optics By R.K. Bullough and N.M. Bogoliubov (With 1 Figure)	232
Perturbation Method and Optical Solitons By Y. Kodama	241
Birefringent Optical Fibers: Modulational Instability in a Near-Integrable System By D.J. Muraki, O.C. Wright, and D.W. McLaughlin	242
Rigorous Results in Quantum Theory of Stimulated Raman Scattering By V.I. Rupasov	247
Bäcklund Transformations as Physical Equations By H. Steudel (With 1 Figure)	252
Level Splitting and Band Formation of Dark Soliton Eigenvalues By G.A. Swartzlander Jr. (With 2 Figures)	256
Soliton Propagation in a Random Medium By P.K.A. Wai, C.R. Menyuk, and H.H. Chen (With 1 Figure)	261
Part V Hydrodynamics and Turbulence	
Length Scales and the Navier-Stokes Equations	
By M. Bartuccelli, C.D. Doering, J.D. Gibbon, and S.J.A. Malham	267
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence By G.E. Falkovich and M.D. Spector	
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence	271
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence By G.E. Falkovich and M.D. Spector Weak and Strong Turbulence in the CGL Equation	271 275
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence By G.E. Falkovich and M.D. Spector Weak and Strong Turbulence in the CGL Equation By J.D. Gibbon, M.V. Bartuccelli, and C.R. Doering Numerical Test of a Weak Turbulence Approximation for an Electromagnetically Driven Langmuir Turbulence	271275279
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence By G.E. Falkovich and M.D. Spector Weak and Strong Turbulence in the CGL Equation By J.D. Gibbon, M.V. Bartuccelli, and C.R. Doering Numerical Test of a Weak Turbulence Approximation for an Electromagnetically Driven Langmuir Turbulence By A. Hanssen and E. Mjølhus Drift Wave Vortices in Inhomogeneous Plasmas By W. Horton, X. Su, and P.J. Morrison (With 3 Figures) Solitons on a Vortex Filament with Axial Flow	271 275 279 281
Local and Nonlocal Transfer of Motion Integrals in Wave Turbulence By G.E. Falkovich and M.D. Spector	271 275 279 281

Length Scale of Vortices and Mode Competition in Quasi 2D Shear Flows	NEESCOTES 1940
By D.Yu. Manin	305
Dynamics of Vortex-Current Filaments in MHD Plasma By V.I. Petviashvili (With 1 Figure)	306
Success of Arnol'd's Method in a Hierarchy of Ocean Models By P. Ripa	310
Wavelets and Two Dimensional Turbulence By J. Weiss (With 3 Figures)	315
Part VI Inverse Scattering Problems	
Spectral Theory of Linear λ -Matrices and the Solution of Certain Nonlinear Algebraic and Functional Equations By B.A. Dubrovin, A.S. Fokas, and P.M. Santini	329
Nonlinear Acoustic Tomography By P. Monk (With 2 Figures)	334
Spectral Transform for Nonlinear Evolution Equations with N Space Dimensions	
7 	
By P.C. Sabatier	339

76

郑