Publications by Helge Holden

(i) Theses


   Dr. Philos. Dissertation, University of Oslo 1985

(ii) Books

[1] **Solvable Models in Quantum Mechanics**
   *Texts and Monographs in Physics*
   (with S. Albeverio, F. Gesztesy, R. Høegh-Krohn)
   Translation into the Russian, Mir, Moscow 1991
   (Translated by Yu. A. Kuperin, K. A. Makarov, V. A. Geiler)
   Second edition with an Appendix by P. Exner
   Chelsea Publishing, American Mathematical Society, Providence, 2005

   (with J. Ubøe, B. Øksendal, T. Zhang)

   Second edition, 2001

[4] **Front Tracking for Hyperbolic Conservation Laws**
   Applied Mathematical Sciences, volume 152
   Second corrected printing, 2007
   Softcover and eBook, 2011
   (with N. H. Risebro)

[5] **Soliton Equations and Their Algebro-Geometric Solutions Volume I: (1 + 1)-Dimensional Continuous Models**
   (with F. Gesztesy)

1Updated June 26, 2014
(iii) Publications in international, refereed journals

[1] The spectrum of defect periodic point interactions
*Letters in Mathematical Physics* 7 (1983) 221-228
(with R. Høegh-Krohn, F. Martinelli)

[2] The short range expansion
(with R. Høegh-Krohn, S. Johannesen)

[3] On absence of diffusion near the bottom of the spectrum
for a random Schrödinger operator on $L^2(\mathbb{R}^n)$
*Communications in Mathematical Physics* 93 (1984) 197-217
(with F. Martinelli)

[4] The short-range expansion in solid state physics
(with R. Høegh-Krohn, S. Johannesen)

[5] The short-range expansion for multiple well scattering theory
*Journal of Mathematical Physics* 26 (1985) 145-151
(with R. Høegh-Krohn, M. Mebkhout)

[6] The Fermi surface for point interactions
*Journal of Mathematical Physics* 27 (1986) 385-405
(with R. Høegh-Krohn, S. Johannesen, T. Wentzel-Larsen)

[7] On coupling constant thresholds in two dimensions

[8] A unified approach to eigenvalues and resonances of Schrödinger operators
using Fredholm determinants
*Journal of Mathematical Analysis and Applications* 123 (1987) 181-198
Addendum 132 (1988) 309
(with F. Gesztesy)

[9] Point interactions in two dimensions. Basic properties, approximations and applications to solid state physics
*Journal für die reine und angewandte Mathematik* 380 (1987) 87-107
[10] Stochastic multiplicative measures, generalized Markov semigroups and group valued stochastic processes and fields
(with S. Albeverio, R. Høegh-Krohn)

(with F. Gesztesy, W. Kirsch)

[12] On the Riemann problem for a prototype of mixed type conservation law
Communications on Pure and Applied Mathematics 20 (1987) 229-264

[13] A new class of analytically solvable models in quantum mechanics on the line
(with F. Gesztesy)

[14] A numerical method for first order nonlinear scalar hyperbolic conservation laws in one dimension
(with L. Holden, R. Høegh-Krohn)

[15] A law of large numbers and a central limit theorem for the Schrödinger operator with zero range potentials
(with R. Figari, A. Teta)

[16] Representation and construction of multiplicative noise
(with S. Albeverio, R. Høegh-Krohn, T. Kolsrud)

[17] Trapping and cascading of eigenvalues in the large coupling limit
Communications in Mathematical Physics 118 (1988) 597-634
(with F. Gesztesy, D. Gurarie, M. Klaus, L. Sadun, B. Simon, P. Vogl)

[18] Construction of quantized Higgs-like fields in two dimensions
(with S. Albeverio, R. Høegh-Krohn, T. Kolsrud)

SPE Reservoir Engineering 7 (1992) 107–116
(with F. Bratvedt, K. Bratvedt, C. Buchholz, L. Holden, N. H. Risebro)

[20] Explicit construction of solutions of the modified Kadomtsev–Petviashvili equation
(with F. Gesztesy, E. Saab, B. Simon)

[21] On the stochastic Buckley–Leverett equation
(with N. H. Risebro)

[22] On the Toda and Kac–van Moerbeke systems
(with F. Gesztesy, B. Simon, Z. Zhao)

[23] A method of fractional steps for scalar conservation laws without the CFL condition
(with N. H. Risebro)

(with T. Lindstrøm, B. Øksendal, J. Ubøe, T.-S. Zhang)

[25] Discrete Wick calculus and stochastics functional equations
(with T. Lindstrøm, B. Øksendal, J. Ubøe)

[26] Frontline and Frontsim; Two full scale, two-phase, black oil reservoir
simulators based on front tracking
Surveys on Mathematics in Industry 3 (1993) 185–215

[27] Comment on a recent note on the Schrödinger equation with a \(\delta'\)-interaction
(with S. Albeverio, F. Gesztesy)

[28] The Burgers equation with a noisy force
(with T. Lindstrøm, B. Øksendal, J. Ubøe, T.-S. Zhang)

[29] Trace formulae and inverse scattering for Schrödinger operators
(with F. Gesztesy, B. Simon, Z. Zhao)

[30] Trace formulas and conservation laws for nonlinear evolution equations
Reviews in Mathematical Physics 6 (1994) 51–95, Errata, ibid. 673
(with F. Gesztesy)

[31] A mathematical model of traffic flow on a network of unidirectional roads
SIAM Journal on Mathematical Analysis, 26 (1995) 999–1017
(with N. H. Risebro)

[32] The pressure equation for fluid flow in a stochastic medium
(with T. Lindstrøm, B. Øksendal, J. Ubøe, T.-S. Zhang)

[33] Maximum principles for a class of conservation laws
(with N. H. Risebro, A. Tveito)

[34] Absolute summability of the trace relation for certain Schrödinger operators
Communications in Mathematical Physics 168 (1995) 137–168
(with F. Gesztesy, B. Simon)

[35] Higher order trace relations for Schrödinger operators
[36] Conservation laws with a random source
(with N. H. Risebro)

[37] Algebro-geometric quasi-periodic finite-gap solutions of the Toda and Kac–van Moerbeke hierarchy
(with W. Bulla, F. Gesztesy, G. Teschl)

[38] Finite difference approximation of the pressure equation for fluid flow in a stochastic medium
*Communications in Partial Differential Equations 21* (1996) 1367–1388
(with Y. Hu)

[39] A trace formula for multidimensional Schrödinger operators
(with F. Gesztesy, B. Simon, Z. Zhao)

[40] Riemann problems with a kink
(with N. H. Risebro)

[41] An unconditionally stable method for the Euler equations
*Journal of Computational Physics 150* (1999) 76–96
(with K.-A. Lie, N. H. Risebro)

[42] Unconditionally stable splitting methods for the shallow water equations
(with R. Holdahl, K.-A. Lie)

[43] Dubrovin equations and integrable systems on hyperelliptic curves
(with F. Gesztesy)

(with K. H. Karlsen, N. H. Risebro)

[45] The classical Boussinesq hierarchy revisited
(with F. Gesztesy)

[46] Darboux-type transformations and hyperelliptic curves
*Journal für die reine und angewandte Mathematik, 527* (2000) 151–183
(with F. Gesztesy)

[47] Borg-type theorems for matrix-valued Schrödinger operators
(with S. Clark, F. Gesztesy, B. Levitan)
[48] The Riemann problem for an elastic string with a linear Hooke's law
Quarterly of Applied Mathematics, 60 (2002) 695–705
(with H. Hanche-Olsen, N. H. Risebro)

[49] Operator splitting methods for degenerate convection-diffusion equations II:
Numerical examples with emphasis on reservoir simulation and sedimentation
(with K. H. Karlsen, K.-A. Lie)

[50] Algebro-geometric solutions of Camassa–Holm hierarchy
(with F. Gesztesy)

[51] Real-valued algebro-geometric solutions of the Camassa–Holm hierarchy
(with F. Gesztesy)

[52] The hyperelliptic ζ-function and the integrable massive Thirring equation
(with J. C. Eilbeck and V. Z. Enolskii)

[53] On uniqueness and existence of entropy solutions of weakly coupled systems of nonlinear degenerate parabolic systems
(with K. H. Karlsen and N. H. Risebro)

[54] Spectral analysis of Darboux transformations for the focusing NLS hierarchy
(with R. C. Cascaval, F. Gesztesy, and Y. Latushkin)

[55] Stability of solutions of quasilinear parabolic equations
(with G. M. Coclite)

[56] Algebro-geometric solutions of a discrete system related to the trigonometric moment problem
Communications in Mathematical Physics 258 (2005) 149–177
(with J. Geronimo, F. Gesztesy)

[57] Convergence of a finite difference scheme for the Camassa–Holm equation
(with X. Raynaud)

[58] Contract adjustment under uncertainty
(with L. and S. Holden)

[59] Wellposedness for a parabolic-elliptic system
Discrete and Continuous Dynamical Systems 13 (2005) 659–682
(with G. M. Coclite and K. H. Karlsen)

[60] Global weak solutions to a generalized hyperelastic-rod wave equation
(with G. M. Coclite and K. H. Karlsen)

[61] A convergent numerical scheme for the Camassa–Holm equation based on multipeakons
(with X. Raynaud)

[62] Convergent difference schemes for the Hunter–Saxton equation
(with K. H. Karlsen and N. H. Risebro)

[63] The Schrödinger–Maxwell system with Dirac mass
(with G. M. Coclite)

[64] Global conservative solutions of the Camassa–Holm equation—a Lagrangian point of view
(with X. Raynaud)

[65] The algebro-geometric Toda hierarchy initial value problem for complex-valued initial data
(with F. Gesztesy and G. Teschl)

[66] Global conservative multipeakon solutions of the Camassa–Holm equation
(with X. Raynaud)

[67] Global conservative solutions of the generalized hyperelastic-rod wave equation
(with X. Raynaud)

[68] Local conservation laws and the Hamiltonian formalism for the Toda hierarchy revisited
(with F. Gesztesy)

[69] Periodic conservative solutions of the Camassa–Holm equation
(with X. Raynaud)

[70] Well-posedness of higher-order Camassa–Holm equations
(with G. M. Coclite and K. H. Karlsen)

[71] Optimal rebalancing of portfolios with transaction costs
*Stochastics*, 2012, DOI: 10.1080/17442508.2011.651219
(with L. Holden)

[72] Algebro-geometric finite-band solutions of the Ablowitz–Ladik hierarchy
(with F. Gesztesy, J. Michor, G. Teschl)

[73] The algebro-geometric initial value problem for the Ablowitz–Ladik hierarchy
(with F. Gesztesy, J. Michor, G. Teschl)

[74] A convergent finite difference method for a nonlinear variational wave equation
(with K. H. Karlsen and N. H. Risebro)

[75] The solution of the Cauchy problem with large data for a model of a mixture of gases
(with N. H. Risebro and H. Sande)

[76] Local conservation laws and the Hamiltonian formalism for the Ablowitz–Ladik hierarchy
(with F. Gesztesy, J. Michor, G. Teschl)

[77] Dissipative solutions for the Camassa–Holm equation
(with X. Raynaud)

[78] Ground states of the Schrödinger–Maxwell system with Dirac mass: Existence and asymptotics
(with G. M. Coclite)

[79] Global dissipative multipeakon solutions for the Camassa–Holm equation
(with X. Raynaud)

[80] Front tracking for a model of immiscible gas flow with large data
(with N. H. Risebro and H. Sande)

[81] Symmetric waves are traveling waves
(with M. Ehrnström and X. Raynaud)

[82] Zero diffusion-dispersion-smoothing limits for a scalar conservation law
with discontinuous flux function
International Journal of Differential Equations, 2009 (2009),
(with K. H. Karlsen and D. Mitrovic)

[83] Lipschitz metric for the Hunter–Saxton equation
(with A. Bressan and X. Raynaud)

[84] The Kolmogorov–Riesz compactness theorem
(with H. Hanche-Olsen)

[85] Operator splitting for the KdV equation
(with K. H. Karlsen, N. H. Risebro, and T. Tao)
Global semigroup of conservative solutions of the nonlinear variational wave equation
(with X. Raynaud)

Strong compactness of approximated solutions to degenerate elliptic-hyperbolic equations with discontinuous flux function
(with K. H. Karlsen, D. Mitrovic, and E. Yu. Panov)

Lipschitz metric for the periodic Camassa–Holm equation
(with K. Grunert and X. Raynaud)

$L^\infty$ solutions for a model of polytropic gas flow with diffusive entropy
(with H. Frid and K. H. Karlsen)

The damped string problem revisited
(with F. Gesztesy)

Lipschitz metric for the Camassa–Holm equation on the line
(with K. Grunert and X. Raynaud)

Abstract wave equations and associated Dirac-type operators
(with F. Gesztesy, J. M. Goldstein, and G. Teschl)

Operator splitting for two-dimensional incompressible fluid equations
(with K. H. Karlsen and T. Karper)

Operator splitting for partial differential equations with Burgers nonlinearity
(with C. Lubich and N. H. Risebro)

Global conservative solutions of the Camassa–Holm equation for initial data with nonvanishing asymptotics
(with K. Grunert and X. Raynaud)

Global solutions for the two-component Camassa–Holm system
(with K. Grunert and X. Raynaud)

Operator splitting for well-posed active scalar equations
(with K. H. Karlsen and T. Karper)

Convergence of a fully discrete finite difference scheme for the Korteweg–de Vries equation
*Preprint*, submitted.
(with U. Koley and N. H. Risebro)

[99] On the inverse problem for scalar conservation laws  
(with F. S. Priuli and N. H. Risebro)

[100] Global dissipative solutions of the two-component Camassa–Holm system for initial data with nonvanishing asymptotics  
(with K. Grunert and X. Raynaud)

[101] A continuous interpolation between conservative and dissipative solutions for the two-component Camassa–Holm system  
(with K. Grunert and X. Raynaud)

[102] On factorizations of analytic operator-valued functions and eigenvalue multiplicity questions  
*arXiv*:1405.4910v1, submitted.  
(with F. Gesztesy and R. Nichols)

[103] On the Braess paradox with nonlinear dynamics and control theory  
Preprint, submitted.  
(with R. Colombo)

**iv) Publications in proceedings of conferences**

[1] On absence of diffusion for low energy for a random Schrödinger operator on $L^2(\mathbb{R}^n)$  
(with F. Martinelli)

[2] Some exactly solvable models in quantum mechanics and the low energy expansion  
In *Proceedings of the Second International Conference on Operator Algebras, Ideals, and Their Applications in Theoretical Physics, Leipzig 1983*  
Edited by H. Baumgärtel, G. Laßner, A. Pietsch, A. Uhligmann  
Teubner, Leipzig 1984, pp. 12-28  
(with S. Albeverio, F. Gesztesy, R. Høegh-Krohn)

[3] Lifshitz singularity of the integrated density of states and absence of diffusion near the bottom of the spectrum for a random Hamiltonian  
In *Chaotic Behavior in Quantum Systems: Theory and Applications*  
Edited by G. Casati  
(with F. Martinelli)

In *Stochastic Methods and Computer Techniques in Quantum Dynamics*  
*Acta Physica Austriaca, Supplementum XXVI*  
Edited by H. Mitter, L. Pittner
Springer-Verlag, Wien-New York 1984, pp. 211-231
(with S. Albeverio, R. Høegh-Krohn)

In *Stochastic Space-Time Models and Limit Theorems*
Edited by L. Arnold, P. Kotelenez
Reidel, Dordrecht-Boston-Lancaster 1984, pp. 11-40
(with S. Albeverio, R. Høegh-Krohn)

[6] Stochastic Lie group-valued measures and their relations to stochastic curve integrals, gauge fields and Markov cosurfaces
In *Stochastic Processes — Mathematics and Physics, Proceedings Bielefeld 1984*
Edited by S. Albeverio, P. Blanchard, L. Streit
Lecture Notes in Mathematics, Volume 1158
(with S. Albeverio, R. Høegh-Krohn)

[7] Random fields with values in Lie groups and Higgs fields
In *Stochastic Processes in Classical and Quantum Systems. Proceedings, Ascona, Switzerland 1985*
Edited by S. Albeverio, G. Casati, D. Merlini
Lecture Notes in Physics, Volume 262
(with S. Albeverio, R. Høegh-Krohn)

[8] The Schrödinger operator for a particle in a solid with deterministic and stochastic point interactions
In *Schrödinger Operators, Aarhus 1985*
Edited by E. Balslev
Lecture Notes in Mathematics, Volume 1218
(with S. Albeverio, F. Gesztesy, R. Høegh-Krohn, W. Kirsch)

[9] On some recent results for conservation laws in one dimension
In *Recent Developments in Mathematical Physics*
Edited by H. Mitter, L. Pittner
Springer Proceedings in Physics

[10] On the Riemann problem for a prototype of mixed type conservation law. II
In *Current Progress in Hyperbolic Systems: Riemann Problems and Computations*
Contemporary Mathematics, Volume 100
Edited by W. B. Lindquist
American Mathematical Society, Providence 1989, pp. 331-367
(with L. Holden)

[11] A remark on the formation of crystals at zero temperature
In *Stochastic Methods in Mathematical Physics, Proceedings of the XXIV Karpacz Winter School on Theoretical Physics, Karpacz, Poland*
[12] Some recent results for an explicit conservation law in one dimension
In *Nonlinear Hyperbolic Equations - Theory, Numerical Methods and Applications*
Edited by J. Ballmann, R. Jeltsch
Vieweg, Braunschweig
(with L. Holden)

[13] A covariant Feynman-Kac formula for unitary bundles over Euclidean space
In *Stochastic Partial Differential Equations and Applications II. Proceedings, Trento 1988*
Edited by G. Da Prato, L. Tubaro
Lecture Notes in Mathematics, Volume 1390
(with S. Albeverio, R. Høegh-Krohn, T. Kolsrud)

[14] Point interaction Hamiltonians for crystals with random defects
In *Applications of Self-Adjoint Extensions in Quantum Physics, Proceedings, Dubna, USSR, 1987*
Edited by P. Exner, P. Šeba
Lecture Notes in Physics, Volume 324
(with S. Albeverio, R. Figari, F. Gesztesy, R. Høegh-Krohn, W. Kirsch)

[15] On point interactions in magnetic field systems
In *Schrödinger Operators, Standard and Non-Standard*
Edited by P. Exner, P. Šeba
(with F. Gesztesy, P. Šeba)

[16] Some qualitative properties of $2 \times 2$ systems of conservation laws of mixed type
In *Nonlinear Evolution Equations*
Edited by B.L. Keyfitz, M. Shearer
The IMA Volumes in Mathematics and Its Applications, Volume 27
(with L. Holden, N. H. Risebro)

[17] A stochastic approach to conservation laws
In *Third International Conference on Hyperbolic Problems. Theory, Numerical Methods and Applications, Uppsala, 1990*
Edited by B. Engquist, B. Gustafsson
(with N. H. Risebro)

[18] A new representation of soliton solutions of the Kadomtsev–Petviashvili equation
[19] First order nonlinear scalar hyperbolic conservations laws in one dimension
Edited by S. Albeverio, J. E. Fenstad, H. Holden, T. Lindstrøm
(with F. Gesztesy)

[20] Front tracking for petroleum reservoirs
Edited by S. Albeverio, J. E. Fenstad, H. Holden, T. Lindstrøm
(with L. Holden)

[21] Front tracking for groundwater simulations
In *Computational Methods in Water Resources IX. Vol. 1: Numerical Methods in Water Resources*
Edited by T. F. Russell, R. E. Ewing, C. A. Brebbia, W. G. Gray, G. F. Pinder

[22] The Wick product
In *Frontiers in Pure and Applied Probability, Volume I*
Edited by H. Niemi, G. Högnas, A. N. Shiryaev, A. Melnikov
VSP and TVP Science Publishers, Utrecht/Moscow, 1993, pp. 29–67
(with H. Gjessing, T. Lindstrøm, B. Øksendal, J. Ubøe, T.-S. Zhang)

[23] A review of stochastic methods applied to reservoir evaluation
In *Stochastic Processes, Physics and Geometry II*
Edited by S. Albeverio, U. Cattaneo, D. Merlini
(with L. Holden)

[24] Low temperature expansions around classical crystalline ground states
In *Stochastic Processes, Physics and Geometry II*
Edited by S. Albeverio, U. Cattaneo, D. Merlini
World Scientific, Singapore, 1995, pp. 29–38
(with S. Albeverio, R. Gielerak, T. Kolsrud, M. Mebkhout)

[25] Three-dimensional reservoir simulation based on front tracking
In *North Sea Oil and Gas Reservoirs III,*
[26] A mathematical model of traffic flow on a network of roads
In *Nonlinear Hyperbolic Equations — Theory, Numerical Methods and Applications Proceeding of the Fourth International Conference on Hyperbolic Problems, Taormina, 1992*
Edited by A. Donato, F. Oliveri
(with N. H. Risebro)

[27] Recent results for conservation laws — theory, numerics and applications
In *Industrial Mathematics Week, Trondheim August 1992. Proceedings*
Department of Mathematical Sciences, NTH, 1993, pp. 131–144
(with T. Gimse, N. H. Risebro)

[28] Discrete Wick products
In: *Stochastic Analysis and Related Topics*
Edited by T. Lindstrøm, B. Øksendal, A. S. Üstünel
Stochastic Monographs, Volume 8
Gordon & Breach Science Publ., Amsterdam, 1993, pp. 123–148
(with T. Lindstrøm, B. Øksendal, J. Ubøe)

[29] A comparison experiment for Wick multiplication and ordinary multiplication
In: *Stochastic Analysis and Related Topics*
Edited by T. Lindstrøm, B. Øksendal, A. S. Üstünel
Stochastic Monographs, Volume 8
Gordon & Breach Science Publ., Amsterdam, 1993, pp. 149–160
(with T. Lindstrøm, B. Øksendal, J. Ubøe, T. Zhang)

In *Seminar on Stochastic Analysis, Random Fields and Applications*,
Edited by E. Bolthausen, M. Dozzi, and F. Russo
(with J. Gjerde, B. Øksendal, J. Ubøe, T. Zhang)

[31] On new trace formulae for Schrödinger operators
(with F. Gesztesy)

[32] The stochastic Wick-type Burgers equation
In *Stochastic Partial Differential Equations (Edinburgh, 1994)*,
London Mathematical Society Lecture Notes Series, Vol. 216
Edited by A. Etheridge
(with T. Lindstrøm, B. Øksendal, J. Ubøe, T.-S. Zhang)

[33] Reservoir simulation by front tracking
In *Hyperbolic problems: Theory, Numerics, Applications*
Edited by J. Glimm, J. W. Grove, M. J. Graham, B. J. Plohr
[34] On trace formulas for Schrödinger-type operators
In *Multiparticle Quantum Scattering with Applications to Nuclear, Atomic and Molecular Physics*
Edited by D. G. Truhlar, B. Simon
IMA Volumes in Mathematics and its Applications
Springer, New York, pp. 121–145
(with F. Gesztesy)

(with N. H. Risebro, T. With Martinsen)

[36] A white noise approach to stochastic differential equations
driven by Wiener and Poisson processes
In *Nonlinear Theory of Generalized Functions*
Editors M. Grosser, G. Hörmann, M. Kunzinger, M. Oberguggenberger
(with B. Øksendal)

[37] The Cole–Hopf and Miura transformations revisited
In *Mathematical Physics and Stochastic Analysis. Essays in Honour of Ludwig Streit*
Editors S. Albeverio, Ph. Blanchard, L. Ferreira, T. Hida, Y. Kondratiev, and R. Vilela Mendes
(with F. Gesztesy)

[38] Operator splitting methods for degenerate convection–diffusion equations I: Convergence and Entropy Estimates
In *Stochastic Processes, Physics and Geometry: New Interplays. II. A Volume in Honor of Sergio Albeverio*
Editors F. Gesztesy, H. Holden, J. Jost, S. Paycha, M. Röckner, S. Scarlatti
CMS Conference Proceedings, Volume 29
Canadian Mathematical Society, Providence (USA), 2000, pp. 293–316
(with K. H. Karlsen, K.-A. Lie)

In *Godunov Methods. Theory and Applications*
Editor E. F. Toro
(with K. H. Karlsen, K.-A. Lie, N. H. Risebro)

[40] A white noise approach to stochastic Neumann boundary value problems
(with B. Øksendal)

[41] A combined sine-Gordon and modified Korteweg–de Vries hierarchy and its algebro-geometric solutions
In *Differential Equations and Mathematical Physics*
[42] The classical massive Thirring system revisited
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Editors F. Gesztesy, H. Holden, J. Jost, S. Paycha, M. Röckner, S. Scarlatti
CMS Conference Proceedings, Volume 28
Canadian Mathematical Society, Providence (USA), 2000, pp. 163-200
(with V. Z. Enolskii, F. Gesztesy)

Editor A. Laptev

[44] Algebro-geometric solutions of the KdV and Camassa–Holm equation
*Oberwolfach Reports* 1 (2004), pp. 275–279
Editors A. Constantin, J. Escher
European Publishing House, Zürich
(with F. Gesztesy)

[45] Global weak solutions for a shallow water equation
In *Hyperbolic Problems: Theory, Numerics, Applications*
Editors S. Benzoni-Gavage, D. Serre
(with G. M. Coclite and K. H. Karlsen)

[46] A numerical scheme based on multipeakons for conservative solutions of the Camassa–Holm equation
In *Hyperbolic Problems: Theory, Numerics, Applications*
Editors S. Benzoni-Gavage, D. Serre
(with X. Raynaud)

[47] The Ablowitz–Ladik hierarchy revisited
Editors J. Janas, P. Kurasov, A. Laptev, S. Naboko, G. Stolz
(with F. Gesztesy, J. Michor, G. Teschl)

[48] Convergence of front tracking and the Glimm scheme for a model of the flow of immiscible gases
In *Hyperbolic Problems: Theory, Numerics and Applications. Part 2*
Editors E. Tadmor, J.-G. Liu, A. Tzavaras
(with H. Sande and N. H. Risebro)

[49] Periodic conservative solutions for the two-component Camassa–Holm system
In Spectral Analysis, Differential Equations and Mathematical Physics  
A Festschrift for Fritz Gesztesy on the Occasion of his 60th Birthday  
Editors H. Holden, B. Simon, and G. Teschl  
(with K. Grunert and X. Raynaud)

[50] Lipschitz metric for the two-component Camassa–Holm system  
In Hyperbolic Problems: Theory, Numerics, Applications  
Editors F. Ancona, A. Bressan, P. Marcati, A. Marson  
(with K. Grunert and X. Raynaud)

(v) Books edited

[1] Schrödinger Operators  
Proceedings of the Nordic Summer School in Mathematics. Sønderborg. Denmark 1988  
Lecture Notes in Physics, Volume 345  
(jointly edited with A. Jensen)

(jointly edited with S. Albeverio, J. E. Fenstad, T. Lindstrøm)

(jointly edited with S. Albeverio, J. E. Fenstad, T. Lindstrøm)

World Scientific, Singapore, 1996, 1088 pp  
(with P. C. Hemmer, S. K. Ratkje)

CMS Conference Proceedings, Volume 28  
(jointly edited with F. Gesztesy, J. Jost, S. Paycha, M. Röckner, S. Scarlatti)

CMS Conference Proceedings, Volume 29  
(jointly edited with F. Gesztesy, J. Jost, S. Paycha, M. Röckner, S. Scarlatti)

Nonlinear Partial Differential Equations and Hyperbolic Wave Phenomena
(jointly edited with K. H. Karlsen)

Nonlinear Partial Differential Equations. The Abel Symposium 2010
(jointly edited with K. H. Karlsen)

Høydepunkter i Skrifter og Forhandlinger. Et utvalg artikler fra perioden 1761–2011
(jointly edited with K. Overskaug)

Spectral Analysis, Differential Equations and Mathematical Physics.
A Festschrift in Honor of Fritz Gesztesy's 60th Birthday
Proceedings of Symposia in Pure Mathematics,
(jointly edited with B. Simon and G. Teschl)

The Abel Prize 2008–2012
(with R. Piene)

Hyperbolic Conservation Laws and Related Analysis with Applications.
Edinburgh, September 2011.
Springer Proceedings in Mathematics & Statistics, Volume 49,
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