

## PUBLICATIONS, R.H.J.GRIMSHAW

### Refereed Journal Articles

- [1] Grimshaw, R.H.J., (1964). A note on the geometrical optics of diffraction by an interface. *Proc. Camb. Phil. Soc.*, **60**, 1013-1022.
- [2] Grimshaw, Roger, (1966). High-frequency scattering by finite convex regions. *Comm. Pure Appl. Math.*, **19**, 167-198.
- [3] Grimshaw, Roger (1967). The refraction of sound pulses. *Proc. Camb. Phil. Soc.*, **63**, 1247-1272.
- [4] Grimshaw, R. (1968). Propagation of surface waves at high frequencies. *J. Inst. Math. Applics.*, **4**, 174-193.
- [5] Grimshaw, R. (1968). A note on the steady two-dimensional flow of a stratified fluid over an obstacle. *J. Fluid Mech.*, **33**, 293-301.
- [6] Grimshaw, R. (1969). On steady recirculating flows. *J. Fluid Mech.*, **39**, 695-703.
- [7] Grimshaw, R. (1969). Slow time-dependent motion of a hemisphere in a stratified fluid. *Mathematika*, **16**, 231-248.
- [8] Grimshaw, R. (1970). A progressing wave formalism for surface waves. *SIAM J. Appl. Math.*, **19**, 144-154.
- [9] Grimshaw, R. (1970). The solitary wave in water of variable depth. *J. Fluid Mech.*, **42**, 639-656.
- [10] Grimshaw, R. (1971). The solitary wave in water of variable depth. Part 2. *J. Fluid Mech.*, **46**, 611-622.
- [11] Grimshaw, R. (1972). Weakly non-linear, slowly varying waves and their instabilities. *Proc. Camb. Phil. Soc.*, **72**, 95-104.
- [12] Grimshaw, R. (1972). Nonlinear internal gravity waves in a slowly varying medium. *J. Fluid Mech.*, **54**, 193-207.
- [13] Grimshaw, R. (1974). Internal gravity waves in a slowly varying dissipative medium. *Geophys. Fluid Dyn.*, **6**, 131-148.
- [14] Grimshaw, R. (1974). Edge waves: A long wave theory for oceans of finite depth. *J. Fluid Mech.*, **62**, 131-148.
- [15] Grimshaw, R.H.J. (1975). A note on the  $\beta$ -plane approximation. *Tellus*, **27**, 351-357.
- [16] Grimshaw, R. (1975). Nonlinear internal gravity waves and their interaction with the mean wind. *J. Atmos. Sci.*, **32**, 1779-1793.
- [17] Grimshaw, R. (1975). Internal gravity waves: Critical layer absorption in a rotating fluid. *J. Fluid Mech.*, **70**, 287-304.

- [18] Grimshaw, R. (1975). Nonlinear internal gravity waves in a rotating fluid. *J. Fluid Mech.*, **71**, 497-512.
- [19] Grimshaw, R.H.J. (1976). Nonlinear aspects of an internal gravity wave, coexisting with an unstable mode associated with a Helmholtz velocity profile. *J. Fluid Mech.*, **76**, 65-83.
- [20] Grimshaw, R. (1976). The modulation and stability of an internal gravity wave. *Mem. Soc. Roy. des Sciences de Liege, 6 Series*, **10**, 299-314.
- [21] Grimshaw, R. (1976). The reflection of internal gravity waves from a shear layer. *Q.J. Mech. Appl. Math.*, **29**, 511-525.
- [22] Grimshaw, R. (1977). Nonlinear aspects of long shelf waves. *Geophys. Astro. Fluid Dyn.*, **8**, 3-16.
- [23] Grimshaw, R. (1977). The effects of a variable Coriolis parameter, coastline curvature and variable bottom topography on continental shelf waves. *J. Phys. Ocean.*, **7**, 547-554.
- [24] Grimshaw, R. (1977). The stability of continental shelf waves, I. Side-band instability and long wave resonance. *J. Aust. Math. Soc. Ser. B*, **20**, 13-30.
- [25] Grimshaw, R.H.J. (1977). The modulation of an internal gravity-wave packet, and the resonance with the mean motion. *Stud. Appl. Math.*, **56**, 241-266.
- [26] Collings, I.L. and Grimshaw, R. (1977). Supercritical flow of an ideal fluid over a spillway. *J. Aust. Math. Ser. Soc. B*, **20**, 211-225.
- [27] Grimshaw, R.H.J. (1978). Long, nonlinear internal waves in channels of arbitrary cross-section. *J. Fluid Mech.*, **86**, 415-431.
- [28] Grimshaw, R.H.J. (1979). On resonant over-reflexion of internal gravity waves from a Helmholtz velocity profile. *J. Fluid Mech.*, **90**, 161-178.
- [29] Grimshaw, R. and Allen, J.S. (1979). Linearly coupled, slowly varying oscillators. *Stud. Appl. Math.*, **61**, 55-71.
- [30] Grimshaw, R. (1979). Mean flows induced by internal gravity wave packets propagating in a shear flow. *Phil. Trans. Roy. Soc.*, **292A**, 391-417.
- [31] Baines, P.G. and Grimshaw, R.H.J. (1979). Stratified flow over finite obstacles with weak stratification. *Geophys. Astr. Fluid Dyn.*, **13**, 317-334.
- [32] Fitzgerald, G.F. and Grimshaw, R.H.J. (1979). A note on the uniqueness of small amplitude water waves travelling in a region of varying depth. *Proc. Camb. Phil. Soc.*, **86**, 511-519.
- [33] Grimshaw, R. (1979). Slowly varying solitary waves. I Korteweg-de Vries equation. *Proc. Roy. Soc.*, **368A**, 359-375.
- [34] Grimshaw, R. (1979). Slowly varying solitary waves. II Nonlinear Schrodinger equation. *Proc. Roy. Soc.*, **368A**, 377-388.

- [35] Grimshaw, R. (1980). A general theory of critical level absorption and valve effects for linear wave propagation. *Geophys. Astr. Fluid Dyn.*, **14**, 303-326.
- [36] Collings, I.L. and Grimshaw, R. (1980). The effect of current shear on topographic Rossby waves. *J. Phys. Ocean.*, **10**, 363-371.
- [37] Collings, I.L. and Grimshaw, R. (1980). The effect of topography on the stability of a barotropic coastal current. *Dyn. Atmos. Ocean.*, **5**, 83-106.
- [38] Grimshaw, R. (1980). An exact finite amplitude wave on a Helmholtz velocity profile in a Boussinesq fluid. *J. Atmos. Sci.*, **37**, 2793-2794.
- [39] Grimshaw, R. (1981). The modulation of a weakly nonlinear wave packet in an inhomogeneous medium. *SIAM J. Appl. Math.*, **40**, 10-34.
- [40] Grimshaw, R. (1981). Mean flows generated by a progressing water wave packet. *J. Aust. Math. Soc. Ser. B*, **22**, 318-347.
- [41] Grimshaw, R. (1981). Evolution equations for long nonlinear internal waves in stratified shear flows. *Stud. Appl. Math.*, **65**, 159-188.
- [42] Grimshaw, R. (1981). Modulation of an internal gravity wave packet in a stratified shear flow. *Wave Motion*, **3**, 81-103.
- [43] Grimshaw, R.H.J. (1981). Resonant over-reflexion of internal gravity waves from a thin shear layer. *J. Fluid Mech.*, **109**, 349-365.
- [44] Grimshaw, R. (1981). A second order theory for solitary waves in deep fluids. *Phys. Fluids*, **24**, 1611-1618.
- [45] Grimshaw, R. (1981). Slowly varying solitary waves in deep fluids. *Proc. Roy. Soc.*, **376A**, 319-332.
- [46] Grimshaw, R. (1981). Solitary waves in a compressible fluid. *Pageoph.*, **119**, 780-797.
- [47] Grimshaw, R. (1982). The effect of dissipative processes on mean flows induced by internal gravity wave packets. *J. Fluid Mech.*, **115**, 347-377.
- [48] Benney, D.J. and Grimshaw, R. (1982). Large amplitude solitary waves in unbounded stratified fluids. *Stud. Appl. Math.*, **66**, 181-187.
- [49] Grimshaw, R. and Allen, J.S., (1982). The effect of dissipation on linearly coupled, slowly varying oscillators. *Stud. Appl. Math.*, **67**, 169-198.
- [50] Grimshaw, R. (1983). The effect of a mean current on Kelvin waves. *J. Phys. Ocean.*, **13**, 43-53.
- [51] Gear, J. and Grimshaw, R. (1983). A second-order theory for solitary waves in shallow fluids. *Phys. Fluids*, **26**, 14-29.
- [52] Pullin, D.I. and Grimshaw, R. (1983). Nonlinear interfacial progressive waves near a boundary in a Boussinesq fluid. *Phys. Fluids*, **26**, 897-905.

- [53] Pullin, D.I. and Grimshaw, R.H.J. (1983). Interfacial progressive gravity waves in a two-layer shear flow. *Phys. Fluids*, **26**, 1731-1739.
- [54] Beer, T. and Grimshaw, R.(1983). Equatorward propagating continental shelf waves. *J. Phys. Ocean.*, **13**, 1739-1743.
- [55] Grimshaw, R. (1984). Wave action and wave-mean flow interaction, with application to stratified shear flows. *Ann. Rev. Fluid Mechanics*, **16**, 11-43.
- [56] Kamachi, M. and Grimshaw, R. (1984). Over-reflection of internal- inertial waves from the mixed layer. *J. Fluid Mech.*, **141**, 179-196.
- [57] Gear, J. and Grimshaw, R. (1984). Weak and strong interactions between internal solitary waves. *Stud. Appl. Math.*, **70**, 235-258.
- [58] Collings, I.L. and Grimshaw, R. (1984). Stable and unstable barotropic shelf waves in a coastal current. *Geophys. Astr. Fluid Dyn.*, **29**, 179-220.
- [59] Hooper, A.P. and Grimshaw, R. (1985). Nonlinear instability at the interface between two viscous fluids. *Phys. Fluids*, **28**, 37-45.
- [60] Grimshaw, R. (1985). Evolution equations for weakly nonlinear, long internal waves in a rotating fluid. *Stud. Appl. Math.*, **73**, 1-33.
- [61] Grimshaw, R.H.J. and Pullin, D. (1985). Stability of finite-amplitude interfacial waves. I Modulational instability for small-amplitude waves. *J. Fluid Mech.*, **160**, 297-315.
- [62] Pullin, D. and Grimshaw, R.H.J. (1985). Stability of finite-amplitude interfacial waves. II Numerical results. *J. Fluid Mech.*, **160**, 317-336.
- [63] Grimshaw, R.H.J., Baines, P.G. and Bell, R.C. (1985). The reflection and diffraction of internal waves from the junction of a slit and a half-space, with applications to submarine canyons. *Dyn. Atmos. Oceans*, **9**, 85-120.
- [64] Pullin, D. and Grimshaw, R.H.J. (1986). Stability of finite-amplitude interfacial waves. III The effect of basic current shear. *J. Fluid Mech.*, **172**, 277-306.
- [65] Dorr, A. and Grimshaw, R. (1986) Barotropic continental shelf waves on a beta-plane. *J. Phys. Ocean.*, **16**, 1345-1358.
- [66] Grimshaw, R.H.J. and Pullin, D. (1986). Extreme interfacial waves. *Phys. Fluids*, **29**, 2802-2807.
- [67] Grimshaw, R. (1986). Linearly coupled, slowly varying oscillators: the interaction of a positive-energy mode with a negative-energy mode. *Stud. Appl. Math.*, **74**, 205-226.
- [68] Grimshaw, R.H.J. and Smyth, N. F. (1986). Resonant flow of a stratified fluid over topography. *J. Fluid Mech.*, **169**, 429-464.
- [69] Grimshaw, R. (1987). Triad resonance for weakly coupled, slowly varying oscillators. *Stud. Appl. Math.*, **77**, 1-35.

- [70] Grimshaw, R. (1987). Resonant forcing of barotropic coastally-trapped waves. *J. Phys. Ocean.*, **17**, 53-65.
- [71] Grimshaw, R., Broutman, D. and Sahl, L.E. (1987). A nondivergent barotropic model for wind-driven circulation in a closed region. *J. Phys. Ocean.*, **17**, 1114-1127.
- [72] Grimshaw, R. (1988). The modulation of short gravity waves by long waves or currents. *J. Aust. Math. Soc. Ser. B*, **29**, 410-429.
- [73] Grimshaw, R. and Allen, J.S. (1988). Low-frequency baroclinic waves off coastal boundaries. *J. Phys. Ocean.*, **18**, 1906-1918.
- [74] Grimshaw, R. (1988). Resonant wave interactions in a stratified shear flow. *J. Fluid Mech.*, **190**, 357-374.
- [75] Hooper, A.P. and Grimshaw, R. (1988). Travelling wave solutions of the Kuramoto-Sivashinsky equation. *Wave Motion*, **10**, 405-420.
- [76] Pullin, D.I. and Grimshaw, R.H.J. (1988). Finite amplitude solitary waves at the interface between two homogeneous fluids. *Phys. Fluids*, **31**, 3550-3559.
- [77] Broutman, D. and Grimshaw, R. (1988). The energetics of the interaction between short finite-amplitude internal waves and inertial waves. *J. Fluid Mech.*, **196**, 93-106.
- [78] Grimshaw, R. (1988). The large-scale, low-frequency response on the continental shelf due to localized atmospheric forcing systems. *J. Phys. Ocean.*, **18**, 1906-1918.
- [79] Grimshaw, R. and Melville W.K. (1989). On the derivation of the modified Kadomtsev-Petviashvili equation. *Stud. Appl. Math.*, **80**, 183-202.
- [80] Zhou, X. and Grimshaw, R. (1989). The effect of variable currents on internal solitary waves. *Dyn. Atmos. Oceans.*, **14**, 17-39.
- [81] Grimshaw, R. (1989). An analysis of the impact of T.M.Cherry's work on asymptotic expansions. *J. Aust. Math. Soc. Ser. B*, **30**, 378-388.
- [82] Power, S.B., Middleton, J.H., and Grimshaw, R.H.J. (1989). Frictionally modified continental shelf waves and the sub-inertial response to wind and deep-ocean forcing. *J. Phys. Ocean.*, **19**, 1486-1506.
- [83] Power, S.B., Middleton, J.H., and Grimshaw, R.H.J. (1990). Large-scale, low-frequency, barotropic circulation on continental margins. *J. Phys. Ocean.*, **20**, 769-785.
- [84] Pullin, D.I., Jacobs, P.A., Grimshaw, R.H.J. and Saffman, P.G. (1990). Instability and filamentation of finite-amplitude waves on vortex layers of finite thickness. *J. Fluid Mech.*, **209**, 359-384.
- [85] Denier, J.P. and Grimshaw, R.H.J. (1990). Slowly varying bifurcation theory in dissipative systems. *J. Aust. Math. Soc. Ser. B*, **31**, 301-318.

- [86] Denier, J.P. and Grimshaw, R. (1990). Nonlinear interaction of positive and negative energy modes in Hamiltonian systems. *J.Aust. Math. Soc. Ser. B*, **31**, 397-424.
- [87] Broutman, D. and Grimshaw, R. (1990). Spectral multigrid and collocation methods for barotropic nondivergent flow over irregular coastal topography. *Geophys. Astro. Fluid. Dyn.*, **52**, 1-23.
- [88] Mitsudera, H. and Grimshaw, R. (1990). Resonant forcing of coastally trapped waves in a continuously stratified ocean. *Pageoph.*, **133**, 635-664.
- [89] Grimshaw, R. and Yi, Zengxin (1990). Finite-amplitude long waves propagating on coastal currents. *J. Phys. Ocean.*, **20**, 3-18.
- [90] Lee, S.J. and Grimshaw, R.H.J. (1990). Upstream-advancing waves generated by three-dimensional disturbances. *Phys. Fluids*, **2A**, 194-201.
- [91] Grimshaw, R. and Tang, S. (1990). The rotation-modified Kadomtsev-Petviashvili equation: an analytical and numerical study. *Stud. Appl. Math.*, **83**, 223-248.
- [92] Grimshaw, R. (1990). Resonant flow of a rotating fluid past an obstacle: the general case. *Stud. Appl. Math.*, **83**, 249-269.
- [93] Dorr, A. and Grimshaw, R. (1990). Continental shelf wave scattering by a rigid barrier normal to the coast. *J. Phys. Ocean.*, **20**, 1849-1866.
- [94] Power, S.B. and Grimshaw, R.H.J. (1990). Free waves in stratified lakes. *Geophys. Astro. Fluid Dyn.*, **55**, 47-69.
- [95] Mitsudera, H. and Grimshaw, R. (1991). Effects of radiative damping on resonantly generated internal gravity waves. *Stud. Appl. Math.*, **84**, 183-206.
- [96] Willmott, A.J. and Grimshaw, R.H.J. (1991). The evolution of a coastal current over a wedge-shaped escarpment. *Geophys. Astro. Fluid Dyn.*, **57**, 19-48.
- [97] Grimshaw, R. and Yi, Zengxin (1991). Resonant generation of finite-amplitude waves by the flow of a uniformly stratified fluid over topography. *J.Fluid Mech.*, **229**, 603-628.
- [98] Mitsudera, H. and Grimshaw, R. (1991). Generation of mesoscale variability by resonant interaction between a baroclinic current and localized topography. *J. Phys. Ocean.*, **21**, 737-765.
- [99] Grimshaw, R. and Hooper, A. (1991). The non-existence of a certain class of travelling wave solutions of the Kuramoto-Sivashinsky equation. *Physica D*, **50**, 231-238.
- [100] Grimshaw, R. and Yi, Zengxin, (1991). Evolution of a potential vorticity front over a topographic slope. *J. Phys. Ocean.*, **21**, 1240-1255.
- [101] Broutman D., and Grimshaw, R. (1991). A numerical model for barotropic, nondivergent flow in a strait connecting two ocean basins. *Geophys. Astro. Fluid Dyn.*, **61**, 27-74.

- [102] Grimshaw, R.H.J. and Chapman, D.C. (1992). Continental shelf reponse to forcing by deep-sea internal waves. *Dyn. Atmos. Oceans*, **16**, 355-378.
- [103] Grimshaw, Roger H.J., Helfrich Karl.R. and Whitehead, J.A. (1992). Conduit solitary waves in a visco-elastic medium. *Geophys. Astro. Fluid Dyn.*, **65**, 127-147.
- [104] Grimshaw, R. (1992). The use of Borel-summation in the establishment of non-existence of certain travelling wave solutions of the Kuramoto- Sivashinsky equation. *Wave Motion*, **15**, 393-395.
- [105] Akylas, T.R. and Grimshaw, R.H.J. (1992). Solitary internal waves with oscillatory tails. *J.Fluid Mech.*, **242**, 279-298.
- [106] Willmott, A.J. and Grimshaw, R.H.J. (1992). Reply to comments on "The evolution of a coastal current over a wedge-shaped escarpment". *Geophys. Astro. Fluid Dyn.*, **65**, 251-253.
- [107] Grimshaw, R. and Yi, Z. (1993). Resonant generation of finite- amplitude waves by flow past topography on a beta-plane. *Stud. Appl. Math.*, **88**, 89-112.
- [108] Grimshaw, Roger, Pei Sun, Qin Sudi and Tang Shimin (1993). The generation of edge waves by radiation stress. *Cont. Shelf. Res.*, **13**, 777-802.
- [109] Grimshaw, R. and Mitsudera, H. (1993). Slowly-varying solitary wave solutions of the perturbed Korteweg-de Vries equation revisited. *Stud. Appl. Math.*, **90**, 75-86.
- [110] Grimshaw, R. and Malomed, B.A. (1993). A note on the interaction between solitary waves in a singularly perturbed Korteweg-de Vries equation. *J. Phys. A: Maths. and Gen.*, **26**, 4087-4091.
- [111] Grimshaw, R., Malomed, B.A., and Tian, X. (1993). Dynamics of a KdV soliton due to periodic forcing. *Phys. Lett. A*, **179**, 291-298.
- [112] Mitsudera, H., and Grimshaw, R. (1993). Effects of friction on a localized structure in a baroclinic current. *J. Phys. Ocean.*, **23**, 2265-2292.
- [113] Benilov, E.S., Grimshaw, R. and Kuznetsova, E.P. (1993). The generation of radiating waves in a singularly perturbed Korteweg-de Vries equation. *Physica D*, **169**, 270-278.
- [114] Grimshaw, R. and Yi, Z. (1993). Resonant generation of finite-amplitude waves by the uniform flow of a uniformly rotating fluid past an obstacle. *Mathematika*, **40**, 30-50.
- [115] Becker, J.M. and Grimshaw, R.H.J. (1993). Explosive resonant triads in a continuously stratified shear flow. *J. Fluid Mech.*, **257**, 219-228.
- [116] Myint, S. and Grimshaw, R. (1993). Perturbation of two-soliton solutions by friction. *Differential Equations and Dynamical Systems* , **1**, 145-160.
- [117] Grimshaw, R., and Malomed, B. (1994). A new type of gap soliton in a coupled Korteweg-de Vries wave system. *Phys.Rev.Lett.*, **72**, 949-953.

- [118] Grimshaw, R. and Gan, J. (1994). Analysis of a differential equation occurring in the theory of flame fronts. *J. Aust. Math. Soc. Ser. B*, **36**, 1-16.
- [119] Grimshaw, R. and Tian, X. (1994). Periodic and chaotic behaviour in a reduction of the perturbed Korteweg de Vries equation. *Proc. Royal Soc. A*, **445**, 1-21.
- [120] Grimshaw, R., Broutman, D., He, Xinyu and Sun, Pei (1994). Analytical and numerical study of a barotropic eddy on a topographic slope. *J. Phys. Ocean.*, **24**, 1587-1607.
- [121] Grimshaw, R. (1994). Resonant wave interactions near a critical level in a stratified shear flow. *J. Fluid Mech.*, **269**, 1-22.
- [122] Grimshaw, R. and Zhu, Y. (1994). Oblique interactions between internal solitary waves. *Stud. Appl. Math.*, **92**, 249-270.
- [123] Viera F. and Grimshaw, R. (1994). Topographic forcing of coastal mesoscale phenomena: filamentation, vortex formation and eddy detachment. *J. Phys. Ocean.*, **24**, 1433-1448.
- [124] Clarke, S.R. and Grimshaw, R.H.J. (1994). Resonantly generated internal waves in a contraction. *J. Fluid Mech.*, **274**, 139-161.
- [125] Grimshaw, R., Pelinovsky, E. and Tian, X. (1994). Interaction of a solitary wave with an external force. *Physica D*, **77**, 405-433.
- [126] Grimshaw, R., Malomed, B. and Benilov, E. (1994). Solitary waves with damped oscillatory tails: an analysis of the fifth-order Korteweg de-Vries equation. *Physica D*, **77**, 473-485.
- [127] Mitsudera, H. and Grimshaw, R. (1994). Capture and resonant forcing of solitary waves by the interaction of a baroclinic current with topography. *J. Phys. Ocean.*, **24**, 2217-2244.
- [128] Grimshaw, R., and Zhu, Y. (1994). Resonant flow of a rotating fluid past an obstacle: the radially unbounded case. *Can. Appl. Math. Quart.*, **2**, 189-206.
- [129] Grimshaw, R., Tang, Y., and Broutman, D. (1994). The effect of vortex stretching on the evolution of barotropic eddies over a topographic slope. *Geophys. Astro. Fluid Dyn.*, **76**, 43-71.
- [130] Reeder, M.J., Christie, D.R., Smith, R.K. and Grimshaw, R.H.J. (1995). Interacting Morning Glories over Northern Australia. *Bull. Amer. Met. Soc.*, **76**, 1165-1171.
- [131] Gilman, O.A., Grimshaw, R. and Stepanyants, Yu. A. (1995). Approximate analytical and numerical solutions of the stationary Ostrovsky equation. *Stud. Appl. Math.*, **95**, 115-126.
- [132] Grimshaw, R.H.J. and Helfrich K.R. (1995). Solitary waves on two-dimensional slab conduits of buoyant fluid in a more viscous fluid. *Geophys. Astro. Fluid Dyn.*, **79**, 223-238.

- [133] Grimshaw, R. and Joshi, N. (1995). Weakly non-local solitary waves in a singularly perturbed Korteweg-de Vries equation. *SIAM J. Appl. Math.*, **55**, 124-135.
- [134] Grimshaw, R. (1995). Weakly non-local solitary waves in a singularly perturbed nonlinear Schrodinger equation. *Stud. Appl. Math.*, **94**, 257-270.
- [135] Tang, Y. and Grimshaw, R. (1995). A modal analysis of the coastally trapped waves generated by tropical cyclones. *J. Phys. Ocean.*, **25**, 1577-1598.
- [136] Tian, X. and Grimshaw, R.H.J. (1995). Low-dimensional chaos in a perturbed Korteweg-de Vries equation. *Int. J. Bifurcation and Chaos* , **5**, 1221-1233.
- [137] Grimshaw, R. and Malomed, B.A. (1995). Nonexistence of gap solitons in nonlinearly coupled systems. *Phys. Lett. A*, **198**, 205-208.
- [138] Grimshaw, R. and Pelinovsky E. (1995). Interaction of solitary surface and internal waves with moving perturbations. *Doklady Akademii Nauk* , **344**, No. 3, 394 - 396, (in Russian).
- [139] Pelinovsky, D. E. and Grimshaw, R.H.J. (1995). A spectral transform for the intermediate nonlinear Schrodinger equation. *J. Math. Phys.*, **36**, 4203-4219.
- [140] Myint, S. and Grimshaw, R. (1995). The modulation of nonlinear periodic wave-trains by dissipative terms in the Korteweg-de Vries equation. *Wave Motion*, **22**, 215-238.
- [141] Grimshaw, R., Malomed, B.A. and Tian, X. (1995). Gap-soliton hunt in a coupled Korteweg-de Vries system. *Phys. Lett. A*, **201**, 285-292.
- [142] Willmott, A.J. and Grimshaw, R.H.J. (1995). A simple model for unsteady buoyancy-driven abyssal circulation. *Geophys. Astro. Fluid Dyn.*, **81**, 131-158.
- [143] Tang, Y. and Grimshaw, R. (1996). Radiation boundary conditions in barotropic coastal ocean numerical models. *J. Comp. Phys.*, **123**, 96-110.
- [144] Grimshaw, R.H.J. and Tian, X. (1996). k-soliton structures, period-doubling and chaos in the periodically forced Korteweg-de Vries equation. *Differential Equations and Dynamical Systems*, **4**, 225-251.
- [145] Gilman, O.A., Grimshaw, R. and Stepanyants, Yu. A. (1996). Dynamics of internal solitary waves in a rotating fluid. *Dyn. Atmos. Oceans* , **23**, 403-411.
- [146] Rottman, J.W., Broutman, D. and Grimshaw, R.H.J. (1996). Numerical simulations of uniformly-stratified fluid flow over topography. *J. Fluid Mech.*, **306** , 1-30.
- [147] Grimshaw, R., He, J-M and Malomed, B.A. (1996). Decay of a fundamental soliton in a periodically modulated nonlinear waveguide. *Phys. Scripta*, **53**, 385-393.
- [148] Tang, Y., Grimshaw, R., Sanderson B., and Holland, G. (1996). A numerical study of storm surges and tides on the North Queensland Coast. *J. Phys. Ocean.*, **26**, 2700-2711.

- [149] Hooper, A.P. and Grimshaw, R. (1996). Two-dimensional disturbance growth of linearly stable viscous shear flows. *Phys. Fluids*, **8**, 1424-1432.
- [150] Pelinovsky, D. E. and Grimshaw, R.H.J. (1996). Nonlocal models for envelope waves in a stratified fluid. *Stud. Appl. Math.*, **97**, 369-391.
- [151] Grimshaw, R., Pelinovsky, E. and Sakov, P. (1996). Interaction of a solitary wave with an external force moving with variable speed. *Stud. Appl. Math.*, **97**, 235-276.
- [152] Tang, Y. and Grimshaw, R., (1996). The effect of wind wave-enhancement of bottom stress on the circulation induced by tropical cyclones on continental shelves. *J. Geophys. Res.*, **101**, no. C10, 22705-22714.
- [153] Pelinovsky, D. E. and Grimshaw, R.H.J. (1996). An asymptotic approach to solitary wave instability and critical collapse in long-wave KdV-type evolution equations. *Physica D*, **98**, 139-155.
- [154] Fokas, A.S., Grimshaw, R.H.J. and Pelinovsky, D. E. (1996). On the asymptotic integrability of a higher-order evolution equation describing internal waves in a deep fluid. *J. Math. Phys.*, **37**, 3415-3421.
- [155] Barnes, B. and Grimshaw, R. (1997). Analytical and numerical studies of the Bonhoeffer Van der Pol system. *J. Aust. Maths. Soc. Ser. B*, **38**, 427-453.
- [156] Talipova, T.G., Pelinovskii, E.N. and Grimshaw, R. (1997). Transformation of a soliton at a point of zero nonlinearity *JETP Letters*, **65**, 120 - 125.
- [157] Tang, Y., Holloway, P. and Grimshaw, R., (1997). A numerical study of the storm surge generated by Tropical Cyclone Jane, *J. Phys. Ocean.*, **27**, 963-976.
- [158] Barnes, B. and Grimshaw, R. (1997). Numerical studies of the periodically forced Bonhoeffer van der Pol system. *Int. J. Bifurcation and Chaos*, **7**, 2653-2689.
- [159] Grimshaw, R., Pelinovsky, E. and Bezen, A. (1997). Hysteresis phenomena in the interaction of a damped solitary wave with an external force. *Wave Motion*, **26**, 253-274.
- [160] Gottwald, G., Grimshaw, R. and Malomed, B. (1997). Parametric envelope solitons in coupled Korteweg-de Vries equations. *Phys. Lett. A*, **227**, 47-54.
- [161] Reznik, G.M., Grimshaw, R.H.J. and Sriskandarajah, K. (1997). On basic mechanisms governing the evolution of two-layer localized quasigeostrophic vortices on a  $\beta$ -plane. *Geophys. Astro. Fluid Dyn.*, **86**, 1-42.
- [162] Pelinovsky, D.E. and Grimshaw, R.H.J. (1997). Structural transformation of eigenvalues for a perturbed algebraic soliton potential. *Phys. Lett. A*, **229**, 165-172.
- [163] Pelinovsky, D.E. and Grimshaw, R.H.J. (1997). Instability analysis of internal solitary waves in a nearly uniformly stratified fluid. *Phys. Fluids*, **9**, 3343-3352.
- [164] Derzho, Oleg G. and Grimshaw, R. (1997). Solitary waves with a vortex core in a shallow layer of stratified fluid. *Phys. Fluids*, **9**, 3378-3385.

- [165] Grimshaw, R., Pelinovsky, E. and Talipova, T. (1997). The modified Korteweg-de Vries equation in the theory of the large-amplitude internal waves. *Nonlinear Processes in Geophysics*, **4**, 237-250.
- [166] Grimshaw, R., He J-M. and Malomed, B. (1998). Nonlinear analysis of an instability produced by linear mode coupling. *Physica D*, **113**, 26-42.
- [167] Grimshaw, R., Ostrovsky, L.A., Shrira, V.I. and Stepanyants, Yu.A. (1998). Nonlinear surface and internal gravity waves in a rotating ocean. *Surveys in Geophysics*, **19**, 289-338.
- [168] Akylas T.R., Dias F. and Grimshaw, R.H.J. (1998). The effect of the induced mean flow on solitary waves in deep water. *J. Fluid Mech.*, **355**, 317-328.
- [169] Grimshaw, R.H.J., He, J-M. and Ostrovsky, L.A. (1998). Terminal damping of a solitary wave due to radiation in rotational systems. *Stud. Appl. Math.*, **101**, 197-210.
- [170] Grimshaw, R., Pelinovsky, E. and Talipova, T. (1998). Solitary wave transformation due to a change in polarity. *Stud. Appl. Math.*, **101**, 357-388.
- [171] Grimshaw, R. and Pudjaprasetya, S.R. (1998). Hamiltonian formulation for the description of interfacial solitary waves. *Nonlinear Processes in Geophysics*, **5**, 3-12.
- [172] Gottwald, G., Grimshaw, R. and Malomed, B. (1998). Stable two-dimensional parametric solitons in fluid models. *Phys. Lett. A*, **248**, 208-218.
- [173] Grimshaw, R., Willmott, A.J. and Killworth, P.D. (1998). Energetics of linear geostrophic adjustment in stratified rotating fluids. *J. Marine Res.*, **56**, 1203-1224.
- [174] Grimshaw, R. and Pavlov, M. (1999). Exact periodic steady solutions for nonlinear wave equations: a new approach. *Phys. Lett. A*, **251**, 25-30.
- [175] Grimshaw, R. and Pudjaprasetya, S.R. (1999). Hamiltonian formulation for solitary waves propagating on a variable background. *J. Eng. Maths.*, **36**, 89-98.
- [176] Gottwald, G. and Grimshaw, R. (1999). The formation of coherent structures in the context of blocking. *J. Atmos. Sci.*, **56**, 3640-3662.
- [177] Gottwald, G. and Grimshaw, R. (1999). The effect of topography on the dynamics of interacting solitary waves in the context of atmospheric blocking. *J. Atmos. Sci.*, **56**, 3663-3678.
- [178] Grimshaw, R., He J-M. and Malomed, B. (1999). Dissipative effects in nonlinear wave systems with an unstable linear spectrum. *Physica D*, **132**, 63-86.
- [179] Aigner, A., Broutman, D. and Grimshaw, R. (1999). Numerical simulations of internal solitary waves with vortex cores. *Fluid Dynamics Research*, **25**, 315-333.
- [180] Grimshaw, R. (1999). Adjustment processes and radiating solitary waves in a regularised Ostrovsky equation. *European J. Mechanics B/Fluids*, **18**, 535-543.
- [181] Clarke S.R. and Grimshaw, R. (1999). The effect of weak shear on finite-amplitude internal solitary waves. *J. Fluid Mech.*, **395**, 125-159.

- [182] Reznik, G.M. and Grimshaw, R. (1999). On the lifetime of an intense localized barotropic vortex on the  $\beta$ -plane. *Nuova Cimento C*, **22**, 899-908.
- [183] Clarke, S.R., Clutterbuck, J., Grimshaw, R.H.J. and Malomed, B. (1999) Passage of a wave pulse through a zero-dispersion point in a nonlinear-Schrödinger equation. *Phys. Lett. A*, **262**, 434-444.
- [184] Grimshaw, R., Pelinovsky, E. and Talipova, T. (1999). Solitary wave transformation in a medium with sign-variable quadratic nonlinearity and cubic nonlinearity. *Physica D*, **132**, 40-62.
- [185] Tan, B. and Grimshaw, R. (1999). Solitary waves in a two-layer quasigeostrophic model with wind stress forcing. *Geophys. Astro. Fluid Dyn.*, **91**, 169-197.
- [186] Talipova, T., Pelinovsky, E., Lamb K., Grimshaw R., and Holloway, P. (1999). Cubic nonlinearity effects at the intense internal wave propagation. *Transactions of the Russian Academy of Sciences, Earth Section*, **364**, no. **6**, 824-827 (in Russian); *Doklady Earth Sciences*, **365**, no. **2**, 241-244 (in English).
- [187] Reznik, G.M., Grimshaw, R.H.J. and Benilov, E.S. (2000). On the long-term evolution of an intense localised divergent vortex on the  $\beta$  -plane. *J. Fluid Mech.*, **422**, 249-280.
- [188] Akhmediev, N., Ankiewicz, A. and Grimshaw, R. (2000). Hamiltonian versus energy diagrams in soliton theory. *Phys. Rev. E*, **59**, 5794-5801.
- [189] Clarke, S.R. and Grimshaw, R.H.J. (2000). Weakly-nonlinear internal wave fronts trapped in contractions. *J. Fluid Mech.*, **415**, 323-345.
- [190] Clarke, S., Grimshaw, R., Miller, P., Pelinovsky, E., and Talipova, T (2000). On the generation of solitons and breathers in the modified Korteweg-de Vries equation. *Chaos*, **10**, 383-392.
- [191] Clarke, S., Grimshaw, R., and Malomed, B. (2000). Soliton formation from a pulse passing the zero-dispersion point in a nonlinear Schrodinger equation. *Phys. Rev. E*, **61**, 5794-5801.
- [192] Hooper, A.P. and Grimshaw, R. (2001). Transient linear growth and nonlinear effects. *Stud. Appl. Math.*, **106**, 47-68.
- [193] El, G.A., Grimshaw, R.H.J. and Pavlov, M.V. (2001). Integrable shallow water equations and undular bores. *Stud. Appl. Math.*, **107**, 157-186.
- [194] Reznik, G.M. and Grimshaw, R.H.J. (2001). Ageostrophic dynamics of an intense localised vortex on the  $\beta$  -plane. *J. Fluid Mech.*, **443**, 351-376.
- [195] Grimshaw, R. and Christodoulides, P. (2001). Short-wave instability in a three-layered stratified shear flow. *Q.J. Mech. Appl. Math.*, **54**. 375-388.
- [196] Aigner, A., and Grimshaw, R. (2001). Numerical simulations of the flow of a continuously-stratified fluid, incorporating inertial effects. *Fluid Dynamics Research*, **28**, 323 - 347.

- [197] Grimshaw, R.H.J., Kuznetsov, E.A., and Shapiro, E.G. (2001) The two-parameter soliton family for the interaction of a fundamental and its second harmonic. *Physica D*, **152-153**, 325-339.
- [198] Grimshaw, R., Pelinovsky, D., Pelinovsky, E. and Talipova, T. (2001). Wave group dynamics in weakly nonlinear long-wave models. *Physica D*, **159**, 35-57.
- [199] Grimshaw, R. and Skyrnnikov, Y. (2002). Long-wave instability in a three-layer stratified shear flow. *Stud. Appl. Math.*, **108**, 77-88.
- [200] Derzho, O. and Grimshaw, R. (2002). Solitary waves with recirculation zones in axisymmetric flows. *J. Fluid Mech.*, **464**, 217-250.
- [201] Grimshaw, R., Malomed, B. and Gottwald, G. (2002). Singular and regular gap solitons between three dispersion curves. *Phys. Rev. E*, **65**, 066606 (14pp).
- [202] Clarke, S., Malomed, B.A. and Grimshaw, R. (2002). "Dispersion management" for solitons in a Korteweg-de Vries system. *Chaos*, **12**, 8-15.
- [203] Grimshaw, R., Pelinovsky, E. and Poloukhina, O. (2002). Higher-order Korteweg-de Vries models for internal solitary waves in a stratified shear flow with a free surface. *Nonlinear Processes in Geophysics*, **9**, 221-235.
- [204] Grimshaw, R.H.J., Chan, K.H. and Chow, K.W. (2002) Transcritical flow of a stratified fluid: the forced extended Korteweg-de Vries model. *Phys. Fluids*, **14**, 755-774.
- [205] Tang, Y. and Grimshaw, R. (2002). The effect of a barrier on tidally-forced flow in a density-stratified estuary. *Continental Shelf Research*, **22**, 2035-2044.
- [206] Reznik, G.M. and Grimshaw, R. (2002). Nonlinear geostrophic adjustment in the presence of a boundary. *J. Fluid Mech.*, **471**, 257-283.
- [207] El, G.A. and Grimshaw, R. (2002). Generation of undular bores in the shelves of slowly-varying solitary waves. *Chaos*, **12**, 1015-1026.
- [208] Grimshaw, R. and Iooss, G. (2003). Solitary waves of a coupled Korteweg-de Vries system. *Mathematics and Computers in Simulation*, **62**, 31 - 40.
- [209] Grimshaw, R. and Pelinovsky, E. (2003). Interaction of a solitary wave with an external force in the extended Korteweg-de Vries equation. *Bifurcation and Chaos*, **12**, 2409-2420.
- [210] Grimshaw, R., Pelinovsky, E. and Talipova, T. (2003). Damping of large-amplitude solitary waves. *Wave Motion*, **37**, 351-364.
- [211] Grimshaw, R., Pelinovsky, D., Pelinovsky, E. and Slunyaev, A. (2002). The generation of large-amplitude solitons from an initial disturbance in the extended Korteweg-de Vries equation. *Chaos*, **12**, 1070-1076.
- [212] Tang, Y. and Grimshaw, R. (2003). The effect of barriers on the tidal range of estuaries. *Estuarine, Coastal and Shelf Science*, **58**, 57-66.

- [213] Griffiths, S., Grimshaw, R.H.J., and Khusnutdinova, K.R. (2003). The influence of modulational instability on energy exchange in coupled Klein-Gordon equations. *Theoretical and Mathematical Physics*, **137**, 1448-1458.
- [214] Grimshaw, R.H.J. and Khusnutdinova, K.R. (2004) The effect of bubbles on internal waves. *J. Phys. Ocean.*, **34**, 477-489
- [215] Broutman, D., Grimshaw, R.H.J. and Eckermann, S.D. (2004). Internal waves in a Lagrangian reference frame. *J. Atmos. Sci.*, **61**, 1308-1313.
- [216] Lu, Z., Tian, E.M. and Grimshaw, R. (2004). Interaction of two lump solitons described by the Kadomtsev-Petviashvili I equation. *Wave Motion*, **40**, 95-120.
- [217] Grimshaw, R.H.J. and Pudjaprasetya, S.R. (2004). Generation of secondary solitary waves in the variable-coefficient Korteweg-de Vries equation. *Stud. Appl. Maths*, **112**, 271-279.
- [218] Grimshaw, R.H.J. and Khusnutdinova, K.R. (2004). Internal waves in a three-layer bubbly waveguide. *Deep Sea Research II*, **51**, 2905-2917.
- [219] Grimshaw, R., Pelinovsky, E., Talipova, T. and Kurkin, A. (2004). Simulation of the transformation of internal solitary waves on oceanic shelves. *J. Phys. Ocean.*, **34**, 2774-2779.
- [220] Caillol, P. and Grimshaw, R. (2004). Steady multipolar vortices with nonlinear critical layers. *Geophys. Astro. Fluid Dyn.*, **98**, 473-506.
- [221] Broutman, D., Grimshaw, R.H.J. and Eckermann, S.D. (2005). Reply to comments by C. Hines. *J. Atmos. Sci.*, **62**, 2542-2556.
- [222] Grimshaw, R., Pelinovsky, E., Talipova T., Ruderman, M. and Erdelyi, R. (2005). Short-lived large-amplitude pulses in the nonlinear long-wave model described by the modified Korteweg-de Vries equation. *Stud. Appl. Math.*, **114**, 189-210.
- [223] Sutyryn, G.G. and Grimshaw, R. (2005). Frictional effects on the deep-flow feedback on the  $\beta$ -drift of a baroclinic vortex over sloping topography. *Deep Sea Res.*, **52**, 2156-2167.
- [224] Maleewong, M., Asavanant, J. and Grimshaw, R. (2005). Free surface flow under gravity and surface tension due to an applied pressure distribution. I Bond number greater than one-third. *Theor. Comp. Fluid Dyn.*, **19**, 237-252.
- [225] Maleewong, M., Asavanant, J. and Grimshaw, R. (2005). Free surface flow under gravity and surface tension due to an applied pressure distribution. II Bond number less than one-third. *European J. Mechanics B/Fluids*, **24**, 502-521.
- [226] Fochesato, C., Dias, F. and Grimshaw, R. (2005). Generalized solitary waves and fronts. *Physica D*, **210**, 96-117.
- [227] El, G.A., Grimshaw, R.H.J. and Kamchatnov, A.M. (2005). Wave breaking and the generation of undular bores in an integrable shallow-water system. *Stud. Appl. Math.*, **114**, 395-411.

- [228] El, G.A. , Grimshaw, R.H.J. and Kamchatnov, A.M. (2005). Analytic model for a frictional shallow-water undular bore. *Chaos*, **15**, 037102 (13 pages).
- [229] Derzho, O.G. and Grimshaw, R. (2005). Rossby waves on a shear flow with recirculation cores. *Stud. Appl. Math.* **115**, 387-403.
- [230] Grimshaw, R., Pelinovsky, E. and Talipova, T. (2005). Soliton dynamics in a strong periodic field: the Korteweg-de Vries framework. *Phys. Lett. A*, **344**, 203-210.
- [231] Chow, K.W., Grimshaw, R.H.J. and Ding, E. (2005). Interactions of breathers and solitons in the extended Korteweg - de Vries equation. *Wave Motion*, **43**, 158-166.
- [232] Grimshaw, R., Pelinovsky, E., Stepaniants, Y. and Talipova, T. (2006). Modeling internal solitary waves on the Australian North West Shelf. *Marine and Freshwater Research*, **57**, 265-272.
- [233] Griffiths, S.D., Grimshaw, R.H.J. and Khusnutdinova, K.R. (2006). Modulational instability of two pairs of counter-propagating waves and energy exchange in two-component media. *Physica D*, **214**, 1-24.
- [234] El, G.A., Grimshaw, R. H.J. and Smyth, N.F. (2006). Unsteady undular bores in fully nonlinear shallow-water theory. *Phys. Fluids*, **18**, 027104 (17 pages).
- [235] Griffiths, Stephen D. and Grimshaw, R.H.J. (2007) Internal tide generation at the continental shelf modelled using a modal decomposition: two-dimensional results. *J. Phys. Ocean.*, **37**, 428-451.
- [236] Grimshaw, R., Chow, K.W., Poon, C.K. and Nakkeeran, K. (2007). Solitary wave solution for a non-integrable, variable coefficient nonlinear Schrodinger equation, *Physica Scripta*, **75**, 620-623.
- [237] Grimshaw, R. (2007). Internal solitary waves in a variable medium. *Gesellschaft fur Angewandte Mathematik*, **30**, 96-109.
- [238] Caillol, P. and Grimshaw, R. (2007). Rossy solitary waves in the presence of a critical layer. *Stud. Appl. Math.*, **118**, 311-364.
- [239] El, G.A., Grimshaw, R. H. J. and Kamchatnov, A. M. (2007). Evolution of solitary waves and undular bores in shallow-water flows over a gradual slope with bottom friction. *J. Fluid Mech.*, **585**, 213-244.
- [240] Akylas, T. R., Grimshaw, R. H. J., Clarke, S. R. and Tabaei, A. (2007) Reflecting tidal wave beams and local generation of solitary waves in the ocean thermocline. *J. Fluid Mech.*, **593**, 297-313.
- [241] Grimshaw, R. H. J., Zhang D.-H. and Chow , K. W. (2007). Generation of solitary waves by transcritical flow over a step. *J. Fluid Mech.*, **587**, 235-254.
- [242] Chow, K.W., Yip, L.P. and Grimshaw, R.H.J. (2007). Novel solitary pulses for a variable-coefficient derivative nonlinear Schrödinger equation. *J. Phys. Soc. Japan*, **76**, 074004 (6 pages).

- [243] Derzho, O. and Grimshaw, R. (2007). Asymmetric internal solitary waves with a trapped core in deep fluids. *Phys. Fluids*, **19**, 095102 (8 pages).
- [244] Grimshaw, R., Pelinovsky, E. and Talipova, T. (2007). Modeling internal solitary waves in the coastal ocean. *Surveys in Geophysics*, **28**, 273-298.
- [245] Grimshaw, R.H.J., Khusnutdinova, K.R. and L.A. Ostrovsky, L.A. (2008). The effect of a depth-dependent bubble distribution on internal wave normal modes: quasistatic approximation *European J. Mechanics B/Fluids*, **27**, 24-41
- [246] Grimshaw, R., Pelinovsky, E. and Talipova, T. (2008). Fission of a weakly nonlinear interfacial solitary wave at a step. *Geophys. Astro. Fluid Dyn.*, **102**, 179-194.
- [247] Helfrich, K. R. and Grimshaw, R.H.J. (2008). Nonlinear disintegration of the internal tide. *J. Phys. Ocean.*, **38**, 686-701.
- [248] Caillol, P. and Grimshaw, R. (2008). Rossby elevation waves in the presence of a critical layer. *Stud. Appl. Math.*, **120**, 35-64.
- [249] Maleewong, M. and Grimshaw, R.H.J. (2008). Nonlinear free surface flows past a semi-infinite flat plate in water of finite depth. *Phys. Fluids*, **20**, 062102 (13 pages).
- [250] Grimshaw, R. and Christodoulides, P. (2008). Gap-solitons in a three-layered stratified flow. *Wave Motion*, **45**, 758769.
- [251] Grimshaw, R. and Helfrich, K.R. (2008). Long-time solutions of the Ostrovsky equation. *Stud. Appl. Math.*, **121**, 71-88.
- [252] El, G.A., Grimshaw, R.H.J. and Smyth, N.F. (2008). Asymptotic description of solitary wave trains in fully nonlinear shallow-water theory. *Physica D*, **237**, 2423-2435.
- [253] Grimshaw, R., Maleewong, M. and Asavanant, J. (2008). Stability of gravity-capillary waves generated by a moving pressure disturbance in water of finite depth. *Phys. Fluids*, **21**, 082101 (10 pages).
- [254] Maderich, V., Talipova, T., Grimshaw, R., Pelinovsky, E., Choi, B.H., Brovchenko, I., Terletska, K. and Kim, D. C. (2008). The transformation of an interfacial solitary wave of elevation at a bottom step, *Nonlinear Proc. Geoph.*, **16**, 33-42.
- [255] Grimshaw, R. H. J., Zhang D.-H. and Chow, K. W. (2009). Transcritical flow over a hole. *Stud. Appl. Math.*, **122**, 235-248.
- [256] Derzho, O. and Grimshaw, R. H. J. (2009). On vorticity waves propagating between critical layers. *J. Fluid Mech.*, **629**, 161-171.
- [257] El, G. A., Grimshaw, R. H. J. and Smyth, N. F. (2009). Transcritical shallow-water flow past topography: finite-amplitude theory. *J. Fluid Mech.*, **640**, 187-214.
- [258] Nitsche, M., Weidman, P.D, Grimshaw,R., Ghrist, M. and Fornberg, B. (2009). Evolution of solitary waves in a two-pycnocline system. *J. Fluid Mech.*, **642**, 235-277.

- [259] Grimshaw, R., Pelinovsky, D. and Pelinovsky, E. (2010). Homogenization of the variable-speed wave equation. *Wave Motion*, **47**, 496-507.
- [260] Sutyurin, G. G. and Grimshaw, R. (2010). Generation of coastally trapped waves and secondary cyclones by an eddy approaching shelf topography. *Ocean Modelling*, **32**, 25-35.
- [261] Grimshaw, R., Slunyaev, A. and Pelinovsky, E. (2010) Generation of solitons and breathers in the extended Korteweg-de Vries equation with positive cubic nonlinearity. *Chaos*, **20**, 013102 (11 pages).
- [262] Grimshaw, R. and Christodoulides, P. (2010). Steady gap solitons in a coupled Korteweg-de Vries system: a dynamical systems approach. *Physica D*, **239**, 635-639.
- [263] Grimshaw, R., Pelinovsky, E. and Talipova, T. (2010) Non-reflecting internal wave beam propagation in the deep ocean. *J. Phys. Ocean.*, **40**, 802-813.
- [264] Maderich, V., Talipova, T., Grimshaw, R., Terletska, E., Brovchenko, I., Pelinovsky, E., and Choi, B.H (2010) Interaction of a large amplitude interfacial solitary wave of depression with a bottom step, *Phys. Fluids*, **22**, 076602 (12 pages)
- [265] Grimshaw, R. Pelinovsky, E. Talipova, T. and Sergeeva, A. (2010) Rogue internal waves in the ocean: long wave model. *Eur. Physical J., Special Topics*, **185**, 195208.
- [266] Ee, B. K., Grimshaw, R. H. J., Zhang, D-H. and Chow, K. W. (2010) Steady transcritical flow over a hole: parametric map of solutions of the forced Korteweg-de Vries equation. *Phys. Fluids*, **22**, 056602 (9 pages).
- [267] Grimshaw, R.H.J., Khusnutdinova, K.R., Ostrovsky, L.A. and Topolnikov, A.S. (2010) Structure formation in the oceanic subsurface bubble layer by an internal wave field, *Phys. Fluids*, **22**, 106603 (15 pages).
- [268] Grimshaw, R., Pelinovsky, E., Talipova, T. and Kurkina, A. (2010) Internal solitary waves: propagation, deformation and disintegration, *Nonlinear Processes in Geophysics*, **17**, 633-649.
- [269] Grimshaw, R. (2010) Transcritical flow past an obstacle. *ANZIAM J.*, **52**, 1-25.
- [270] Cang, J., Cheng, J. and Grimshaw, R. (2011) A short comment on the effect of a shear layer on nonlinear water waves, *Science in China: Physics, Mechanics and Astronomy*, **54**, 67-73.
- [271] Magalhaes, J. M., Araujo, I.B., da Silva, J. C. B., Grimshaw, R., Davis, K., and Pineda, J. (2011) Atmospheric gravity waves in the Red Sea: a new hotspot, *Nonlinear Processes in Geophysics*, **18**, 71-79.
- [272] Grimshaw, R.H.J. and Annenkov, S. Y. (2011) Water wave packets over variable depth, *Stud.Appl. Maths.*, **126**, 409-427.
- [273] Ee, B. K., Grimshaw, R. H. J., Chow, K. W. and Zhang, D-H. (2011) Steady transcritical flow over an obstacle: parametric map of solutions of the forced extended Korteweg-de Vries equation. *Phys. Fluids*, **21**, 046602 (11 pages).

- [274] Grimshaw, R., Helfrich, K. R. and Scotti, A. (2011) *Preface* Large amplitude internal waves in the coastal ocean. *Nonlinear Processes in Geophysics*, **18**, 653-655.
- [275] Christodoulides, P., Grimshaw, R. and Demetriades, C. (2011) Three-fluid system short-wave instability and gap-solitons. *IAENG International Journal of Applied Mathematics*, **41** 235-240.
- [276] Grimshaw, R. and Helfrich, K.R. (2012) The effect of rotation on internal solitary waves, *IMA J. Appl. Math.*, (accepted).
- [277] Caillol, P and Grimshaw, R. H. J. (2012) Internal solitary waves with a weakly stratified critical layer. *Phys. Fluids*, (accepted).
- [278] Grimshaw, R., Helfrich, K. and Johnson, E. (2012) The reduced Ostrovsky equation: integrability and breaking, *Stud. Appl. Math.*, (submitted).
- [279] El, G.A., Grimshaw R.H.J. and Tiong, W.K. (2012) Undular bore on a slope, *J. Fluid Mech.*, (submitted).
- [280] Kamchatnov, A .M., Kuo, Y.-H., Lin, T.-C., Horng, T.-L., Gou, S.-C., Clift, R., Grimshaw, R. H. J. and El, G.A. (2012). Undular bore theory for the Gardner equation. *Phys. Rev. E*, (submitted).
- [281] Grimshaw, R. and Osaisai, E. (2012) A simple model of the effect of bottom sediment transport on wave set-up, *Coastal Engineering*, (submitted).

## Books

- Nonlinear Ordinary Differential Equations, (1990). R.Grimshaw *Blackwell Scientific Publications, Oxford*, 328 pp.
- Breaking Waves, (1992). IUTAM Symposium Sydney/Australia 1991, ed. M.L.Banner and R.H.J.Grimshaw, *Springer-Verlag, Berlin*, 387 pp.
- Environmental Stratified Flows (2001). ed. R. Grimshaw, *Kluwer, Boston* 284pp.
- Nonlinear waves in fluids: Recent advances and modern applications (2005). ed. R. Grimshaw, *CISM Courses and Lectures No. 483, Springer, Wien New York*, 196pp.
- Focus issue: Solitons in nonintegrable systems (2005). ed. R.Grimshaw, L. A. Ostrovsky and D. E. Pelinovsky, *Chaos*, **15**, Issue 3.
- Solitary Waves in Fluids (2007). ed. R. Grimshaw *Advances in Fluid Mechanics, Vol 47, WIT press, UK*, 208pp.

## Chapters in Books

- Grimshaw, R. (1983). Solitary waves in slowly varying environments. Long nonlinear waves, “*Nonlinear Waves*”, ed. L. Debnath, *CUP*, 44-68.
- Grimshaw, R. (1984). Solitary waves in slowly varying environments. Wave packets, “*Advances in Nonlinear Waves*”, Vol. I, ed. L. Debnath, *Pitman Research Notes in Mathematics, Pitman*, **95**, 38-58.

- Grimshaw, R. (1986). Theory of solitary waves in shallow fluids. *Encyclopedia of Fluid Mechanics, Vol II, "Single Fluid Flows", Section I, Ch. 2*, ed. N.P.Cheremisinoff, Gulf Publishing, 3-25.
- Grimshaw, R. (1992). Wave interactions in stratified fluids. "Nonlinear Dynamics and Chaos", *Proceedings of ANU Summer School*, ed. R.L.Dewar and B.I.Henry, ANU, Jan., 1991, 153-173.
- Grimshaw, R. (1992). Nonlinear waves in fluids - the KdV paradigm. "Nonlinear Dynamics and Chaos", *Proceedings of ANU Summer School*, ed. R.L.Dewar and B.I.Henry, ANU, Jan., 1991, 175-198.
- Grimshaw, R.(1992). Resonant forcing of nonlinear dispersive waves. *Conference Proceedings "Nonlinear Dispersive Wave Systems"*, ed. L. Debnath, World Scientific Publishing Company, Singapore, 1-11.
- Grimshaw, R. (1995). Solitary wave interactions with external forces. "Nonlinear Dynamics and Pattern Formation in the Natural Environment", ed. A. Doelman and A. van Harten, *Pitman Research Notes in Mathematics*, **335**, 106-118.
- Grimshaw, R. (1997). Internal solitary waves. "Advances in Coastal and Ocean Engineering", ed. P.L.-F. Liu, World Scientific Publishing Company, Singapore, **3**, 1-30.
- Pelinovsky, D. E. and Grimshaw, R.H.J. (1997). Asymptotic methods in soliton stability theory. "Nonlinear instability analysis", ed. L.Debnath and S. Choudhury, *Advances in Fluid Mechanics, Vol. 12, Computational Mechanics Publications, Southampton*, **Chapter 8**, 245-312.
- Grimshaw, R. (1998). Internal solitary waves in shallow seas and lakes. In "Physical Processes in Lakes and Oceans", *Coastal and Estuarine Studies, AGU*, ed. J. Imberger, 227-239.
- Tang, Y. and Grimshaw, R. (1999). Recent developments in the theory and modelling of storm surges. In "Modelling Coastal Sea Processes", World Scientific Publishing Co., ed. J. Noye, 135-158.
- Grimshaw, R. (2000). Models for long-wave instability due to a resonance between two waves. *Trends in Applications of Mathematics to Mechanics*, ed. G. Iooss, O. Gues and A. Nouri, *Monographs and Surveys in Pure and Applied Mathematics, 106, Chapman & Hall/CRC*, 183-192.
- Grimshaw, R. (2001). Models for instability in inviscid fluid flows due to resonance between two waves. *Nonlinear Stability Analysis, Vol II*, ed. L. Debnath, *Advances in Fluid Mechanics*, **28**, WIT Press, Southampton, *Chapter 1*, 1-14.
- Grimshaw, R. (2001). Internal solitary waves. *Environmental Stratified Flows*, ed. R. Grimshaw, Kluwer, Boston, *Chapter 1*, 1-29.
- Rottman, J.W. and Grimshaw, R. (2001). Atmospheric internal solitary waves. *Environmental Stratified Flows*, ed. R. Grimshaw, Kluwer, Boston, *Chapter 3*, 61-88.
- Grimshaw, R. (2004). Group velocity. *Encyclopedia of Nonlinear Science*, ed. A.C. Scott, Taylor and Francis, New York, 385-388.

- Grimshaw, R. (2004). Water waves. *Encyclopedia of Nonlinear Science*, ed. A.C. Scott, Taylor and Francis, New York, 981-986.
- Grimshaw, R. (2004). Korteweg-de Vries equation. *Encyclopedia of Nonlinear Science*, ed. A.C. Scott, Taylor and Francis, New York, 504-511.
- Grimshaw, R. (2005). Korteweg-de Vries equation. *Nonlinear waves in fluids: Recent advances and modern applications*, CISM Courses and Lectures No. 483, Springer, Wien New York, ed. R. Grimshaw, Chapter 1, 1-28.
- Grimshaw, R. (2007). Solitary waves propagating over variable topography. *Tsunami and Nonlinear Waves*, Springer, ed. A. Kundu, 49-62.
- Grimshaw, R. (2007). Introduction. *Solitary Waves in Fluids*, Advances in Fluid Mechanics, Vol 45, WIT press, UK, ed. R. Grimshaw, 1-19.
- Grimshaw, R. (2007). Envelope Solitary Waves. *Solitary Waves in Fluids*, Advances in Fluid Mechanics, Vol 45 WIT press, UK, ed. R. Grimshaw, 159-179.
- Caillol, P. and Grimshaw, R. (2008). Rossby solitary waves in the presence of a critical layer. *IUTAM Symposium on Hamiltonian Dynamics, Vortex Structures, Turbulence Proceedings of the IUTAM Symposium held in Moscow, 25-30 August, 2006 Series: IUTAM Bookseries*, Vol. 6, ed. A.V. Borisov, V. V. Kozlov, I. S. Mamaev, and M.A. Sokolovskiy, 341-352.
- Grimshaw, R. (2010). Exponential Asymptotics and Generalized Solitary Waves. *Asymptotic methods in fluid mechanics: Survey and recent advances* CISM Courses and Lectures No. 518, Springer, Wien New York, ed. H. Steinruck, Chapter 1, 71-120.
- Grimshaw, R. (2012). Coupled Korteweg-de Vries equations. *Proceedings of Week of Science, Madrid*, (to appear).

## Conference Proceedings and Reviews

- Grimshaw, R.H.J. (1977). Nonlinear aspects of shelf waves and mean currents. “*Waves in Water of Variable Depth*”, ed. D.G. Provis and R. Radok, *Lecture Notes in Physics*, Springer-Verlag and Aust. Acad. of Sciences, **64**, 206-211.
- Grimshaw, R. (1983). Solitary waves in density stratified fluids. “*Nonlinear Deformation Waves*”, *IUTAM Symposium, Tallinn, 1982*, ed. U. Nigul and J. Engelbrecht, Springer, 431-447.
- Grimshaw, R. (1983). A Lagrangian view of wave-mean flow interaction. “*Wave Phenomena: Modern Theory and Applications*”, ed. C.Rogers and T.Bryant Moodie, *North-Holland Mathematics Studies*, **97**, 83-98.
- Grimshaw, R. (1985). The forcing of internal solitary waves by an isolated topographic feature. *Proceedings of the International Conference on Nonlinear Mechanics, Shanghai, 1985*, ed. Chien Wei-zang, Science Press, Beijing, 695.
- Grimshaw, R. (1987). Wave interactions and fluid flows, by A.D.D.Craik, Cambridge University Press, 1985, 322p, for *J. Fluid Mech.*, **174**, 565-567.

- Grimshaw, R. (1988). Wave interactions in stratified shear flows. *“Frontiers of Fluid Mechanics”, Proceedings of the Beijing International Conference on Fluid Mechanics, Beijing, 1987, ed. Shen Yuan, Pergamon Press and Peking University Press, 529-537.*
- Pullin, D.I. and Grimshaw, R.H.J. (1988). Large amplitude interfacial solitary waves. *Nonlinear Water Waves, IUTAM Symposium, Tokyo, 1987, ed. K.Horikawa and H.Maruo, Springer, 221-228.*
- Grimshaw, R. (1990). Resonant flow over topography. *“Nonlinear Evolution Equations and Dynamical Systems”, Proceedings of Fifth Workshop on Nonlinear Evolution Equations and Dynamical Systems, Kolymbari, Crete, 1989, ed. S.Carillo and O.Ragnisco, Research Reports in Physics, Springer, 209-211.*
- Grimshaw, R. and Yi, Z. (1992). Processes leading to filamentation of a potential vorticity interface over a topographic slope. *“Breaking Waves”, Proceedings of IUTAM Symposium Sydney/Australia, 1991, ed. M.L. Banner and R.H.J. Grimshaw, Springer-Verlag, 357-366.*
- Grimshaw, R. and Yi, Z. (1992). Finite-amplitude flow over topography. *Proceedings of International Symposium on Nonlinear Problems in Engineering and Science, Beijing, October 1991; ed. S. Xiao and X-C Hu, 72-81.*
- Grimshaw, R. (1992). Solitons, Nonlinear Evolution Equations and Inverse Scattering, by M.J.Ablowitz and P.A.Clarkson, Cambridge University Press, 1991, 516pp., for *J.Fluid Mech.*, **244**, 721-722.
- Grimshaw, R. (1994). Exponential asymptotics in the reduced Kuramoto-Sivashinsky equation. *“Non-Linear Diffusion Phenomena”, Proceedings of Meeting at Bangalore, India, 1992, ed. P.L.Sachdev and R.E.Grundy, Narosa Publishing, 51-67.*
- Grimshaw, R. (1994). Generation of solitary waves by external forcing. *WHOI-94-12, “Geometrical Methods in Fluid Dynamics”, 1993 Summer Study Program in Geophysical Fluid Dynamics, Woods Hole, 283-291.*
- Grimshaw, R. (1994). Solitary waves with oscillatory tails and exponential asymptotics. *WHOI-94-12, “Geometrical Methods in Fluid Dynamics”, 1993 Summer Study Program in Geophysical Fluid Dynamics, Woods Hole, 292-298.*
- Grimshaw, R. (1995). Solitary waves with oscillatory tails. *Advanced Series in Nonlinear Dynamics, Volume 7, “Structure and Dynamics of Nonlinear Waves in Fluids”, Proceedings of IUTAM/ISIMM Symposium, Hannover, 1994, ed. A.Mielke and K.Kirchgassner, World Scientific Publishing Company, Singapore, 248-258.*
- Malomed B.A., Grimshaw, R. and Tian, X. (1995). Gap solitons in a coupled Korteweg-de Vries system. *Advanced Series in Nonlinear Dynamics, Volume 7, “Structure and Dynamics of Nonlinear Waves in Fluids” Proceedings of IUTAM/ISIMM Symposium, Hannover, 1994, ed A.Mielke and K.Kirchgassner, World Scientific Publishing Company, Singapore, 324-334.*
- Grimshaw, R. (1995). Dynamics and Modelling of Ocean Waves, by G.J.Komen, L.Cavaleri, M.Donelan, K.Hasselmann, S.Hasselmann and P.A.E.M.Janssen, Cambridge University Press, 1994, 532pp., for *Surveys in Geophysics.*

- Sanderson, B., Tang, Y., Holland, G., Grimshaw, R. and Woodcock, F. (1996). A Tropical Cyclone Maximum Envelope Of Waters (MEOW) Technique, Proceedings of the Ocean & Atmosphere Pacific International Conference, October 1995, Adelaide, Australia. Edited by Than H. Aung, National Tidal Facility, The Flinders University of South Australia, 318-322.
- Tang, Y and Grimshaw R. (1996). The effect of wind wave enhancement of bottom stress on storm surges, Proceedings of the Ocean & Atmosphere Pacific International Conference, October 1995, Adelaide, Australia. Edited by Than H. Aung, National Tidal Facility, The Flinders University of South Australia, 352-357.
- Grimshaw, R. (1996). Internal solitary waves with oscillatory tails. ””*Advances in Multifluid Flows*”, *Proceedings of AMS-IMS-SIAM Joint Summer Research Conference on Multi-fluid Flows and Interfacial Instabilities, Seattle, 1995*, ed. Y. Renardy, A.V. Coward, D. Papageorgiou and S.M. Sun, 260-270.
- Malomed, B.A., He, J-M and Grimshaw, R.(1996). Destruction of a fundamental soliton in a periodically modulated waveguide. *Proceedings of the First Workshop on “Nonlinear Physics, Theory and Experiment”, Nature, Structure and Properties of Nonlinear Phenomena, Gallipoli, 1995*, ed. E.Alfinito, M. Boiti, L. Martina and F. Pempinelli, *World Scientific Publishing Company, Singapore*, 539-546.
- Grimshaw, R. and Cook, P. (1996). Solitary waves with oscillatory tails. *Proceedings of Second International Conference on Hydrodynamics, Hong Kong, 1996*, ”*Hydrodynamics: Theory and Applications*”, Vol. 1, ed. A.T. Chwang, J.H.W. Lee and D.Y.C. Leung, A.A. Balkema, Rotterdam , 327-336.
- Grimshaw, R. (1997). The influence of an external force on a solitary wave. *Differential equations: Theory, Numerics and Applications*, ed. E van Groesen and E. Soewono , *Kluwer*, 89-102.
- Grimshaw, R. (1998). Internal solitary waves in the atmosphere and ocean. *Proceedings of the Third International Conference on Nonlinear Mechanics, Shanghai, 1998*, *Shanghai University Press*, ed. Wei-zang Chien, 35-41.
- Antanovski, L.K. and Grimshaw, R. H. J. (1999). Hysteresis behaviour of a pointed drop in Taylor’s four-roller mill. *Free Boundary Problems: Theory and Applications, 1999*, ed. I. Athanasopoulos, J.F. Rodrigues and G. Makrakis, *Chapman & Hall/CRC Res. Notes Math.*, 409, Boca Raton, FL. 177-191
- Grimshaw, R. and Tang, Y. (1999). Storm surges on the southern coast of Australia. *The Wind-Driven Air-Sea Interface*, ed. M.L. Banner, *ADFA Document Production Centre, Canberra*, 121-122.
- Derzho, O.G. and Grimshaw, R.H.J. (2000). Solitary waves with vortex cores in stratified and rotating fluids. *Proceedings of the Fourth International Conference on Hydrodynamics, Yokohama, 2000*, ”*Hydrodynamics IV: Theory and Applications*”, ed. Y.Goda, M. Ikehata and K. Suzuki, *Yokama National University* , 459-463.
- Grimshaw, R. and Gottwald, G. (2001). Models for instability in geophysical flows. *Proceedings of the IUTAM Symposium on Advances in the Mathematical Modelling of Atmosphere and Ocean Dynamics, Limerick, 2000*, ed. P.F. Hodnett, *Kluwer, Dordrecht*, 153-160.257

- El, G. and Grimshaw, R. (2001). An integrable model for undular bores on shallow water. *Proceedings of the IUTAM Symposium on Free Surface Flows, Birmingham, 2000*, ed. A.C. King and Y.D. Shikhmurzaev, Kluwer, Dordrecht, 99-106.
- Grimshaw, R. (2002). Nonlinear effects in wave scattering and generation. *Proceedings of the IUTAM Symposium on Diffraction and Scattering in Fluid Mechanics and Elasticity, Manchester, 2000*, ed. I.D. Abrahams, P.A. Martin and M.J. Simon, Kluwer, Dordrecht, 23-34.
- Grimshaw, R. (2002). Internal solitary waves. *Proceedings of the International Conference dedicated to the 100th anniversary of A.A. Andronov; "Progress in Nonlinear Science, Volume II, Frontiers of Nonlinear Physics"*, ed. A.G. Litvak, Inst. Applied Physics, Nizhny Novgorod, 139-153.
- Poloukhina, O. , Poloukhin, N., Talipova, T., Pelinovsky, E., Grimshaw, R., Lamb K. and Muyakshin, S. (2002). Modelling of large-amplitude internal waves in the ocean. *Proceedings of the International Conference dedicated to the 100th anniversary of A.A. Andronov; "Progress in Nonlinear Science, Volume II, Frontiers of Nonlinear Physics"*, ed. A.G. Litvak, Inst. Applied Physics, Nizhny Novgorod, 252-257.
- Grimshaw, R., Gottwald, G.A. and Malomed, B.A. (2002). Cuspons and peakons vis-a-vis regular solitons and collapse in a three-wave system. *The Legacy of the Inverse Scattering Transform in Applied Mathematics*, ed. J. Bona, R. Choudhury and D.J. Kaup, American Mathematical Society Series: Contemporary Mathematics, Providence, **301**,
- Grimshaw, R. (2004). Internal solitary waves. *Advances in Fluid mechanics V*, ed. A.C. Mendes, M. Rahman and C.A. Brebbia, WIT press, Southampton, 209-218.
- Maleewong, M., Asavant, J. and Grimshaw, R. (2004). Numerical calculation of steady gravity-capillary waves forced by a surface pressure distribution. *Advances in Fluid mechanics V*, ed. A.C. Mendes, M. Rahman and C.A. Brebbia, WIT press, Southampton, 219-226.
- Sukoriansky, S., Dikovskaya, N., Grimshaw, R. and Galperin, B. (2012) Rossby waves and zonons in zonostrophic turbulence. *Proceedings "Waves and Instabilities in Space and Astrophysical Plasmas"*, *AIP Conf. Proc.*, **1439**, 111-122..