Denys Dutykh

List of Publications by Year
in descending order

135 papers	1,996 citations	236925 25 h-index	330143 37 g-index
144 all docs	144 docs citations	144 times ranked	1004 citing authors

#	ARTICLE	IF	CITATIONS
1	Regional tsunami hazard from splay faults in the Gulf of Oman. Ocean Engineering, 2022, 243, 110169.	4.3	4
2	Fast shallow water-wave solver for plane inclined beaches. SoftwareX, 2022, 17, 100983.	2.6	2
3	Flight Trajectories Optimization of Fixed-Wing UAV by Bank-Turn Mechanism. Drones, 2022, 6, 69.	4.9	10
4	On a Class of Lacunary Almost Newman Polynomials Modulo <i>P</i> and Density Theorems. Uniform Distribution Theory, 2022, 17, 29-54.	0.2	0
5	Comparison of ground deformation due to movement of a fault for different types of crack surface. GEM - International Journal on Geomathematics, 2021, 12, 1.	1.6	3
6	Numerical Modeling of Jet at the Bottom of Tank at Moderate Reynolds Number Using Compact Hermitian Finite Differences Method. Fluids, 2021, 6, 63.	1.7	1
7	Derivation of a Viscous Serreâ€"Greenâ€"Naghdi Equation: An Impasse?. Fluids, 2021, 6, 135.	1.7	2
8	On Galilean Invariant and Energy Preserving BBM-Type Equations. Symmetry, 2021, 13, 878.	2.2	1
9	Numerical Stability Investigations of the Method of Fundamental Solutions Applied to Wave-Current Interactions Using Generating-Absorbing Boundary Conditions. Symmetry, 2021, 13, 1153.	2.2	11
10	Alphabets, rewriting trails and periodic representations in algebraic bases. Research in Number Theory, 2021, 7, 1.	0.4	1
11	Ecological Risk Indicators for Leached Heavy Metals from Coal Ash Generated at a Malaysian Power Plant. Sustainability, 2021, 13, 10222.	3.2	2
12	Analytical and Numerical Investigations Applied to Study the Reflections and Transmissions of a Rectangular Breakwater Placed at the Bottom of a Wave Tank. Geosciences (Switzerland), 2021, 11, 430.	2.2	3
13	Experimental and numerical study of the propagation of focused wave groups in the nearshore zone. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126144.	2.1	15
14	Tsunami hazard assessment in the Makran subduction zone. Natural Hazards, 2020, 100, 861-875.	3.4	19
15	Dispersive Effects During Long Wave Run-up on a Plane Beach. Advances in Science, Technology and Innovation, 2020, , 143-146.	0.4	0
16	Adaptive Numerical Modeling of Tsunami Wave Generation and Propagation with FreeFem++. Geosciences (Switzerland), 2020, 10, 351.	2.2	1
17	Learning extreme wave run-up conditions. Applied Ocean Research, 2020, 105, 102400.	4.1	3
18	Horizontal displacement effect in tsunami wave generation in the western Makran region. Journal of Ocean Engineering and Marine Energy, 2020, 6, 427-439.	1.7	2

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19	Resonance Enhancement by Suitably Chosen Frequency Detuning. Mathematics, 2020, 8, 450.	2.2	1
20	A Review of Tsunami Hazards in the Makran Subduction Zone. Geosciences (Switzerland), 2020, 10, 372.	2.2	13
21	Formation of the Dynamic Energy Cascades in Quartic and Quintic Generalized KdV Equations. Symmetry, 2020, 12, 1254.	2.2	1
22	Dispersive Shallow Water Waves. Lecture Notes in Geosystems Mathematics and Computing, 2020, , .	0.4	9
23	An Analytical Study on Wave-Current-Mud Interaction. Water (Switzerland), 2020, 12, 2899.	2.7	2
24	Extreme Inundation Statistics on a Composite Beach. Water (Switzerland), 2020, 12, 1573.	2.7	2
25	An efficient numerical model for the simulation of coupled heat, air, and moisture transfer in porous media. Engineering Reports, 2020, 2, e12099.	1.7	2
26	Model Derivation on a Globally Flat Space. Lecture Notes in Geosystems Mathematics and Computing, 2020, , 1-43.	0.4	0
27	Model Derivation on a Globally Spherical Geometry. Lecture Notes in Geosystems Mathematics and Computing, 2020, , 135-190.	0.4	0
28	Numerical Simulation on a Globally Flat Space. Lecture Notes in Geosystems Mathematics and Computing, 2020, , 45-134.	0.4	0
29	Numerical Simulation on a Globally Spherical Geometry. Lecture Notes in Geosystems Mathematics and Computing, 2020, , 191-237.	0.4	0
30	An efficient method to estimate sorption isotherm curve coefficients. Inverse Problems in Science and Engineering, 2019, 27, 735-772.	1.2	4
31	Critical assessment of efficient numerical methods for a long-term simulation of heat and moisture transfer in porous materials. International Journal of Thermal Sciences, 2019, 145, 105982.	4.9	4
32	Hamiltonian regularisation of shallow water equations with uneven bottom. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 42LT01.	2.1	2
33	On the velocity of turbidity currents over moderate slopes. Fluid Dynamics Research, 2019, 51, 035501.	1.3	7
34	A new model for simulating heat, air and moisture transport in porous building materials. International Journal of Heat and Mass Transfer, 2019, 134, 1041-1060.	4.8	15
35	On the multi-symplectic structure of Boussinesq-type systems. II: Geometric discretization. Physica D: Nonlinear Phenomena, 2019, 397, 1-16.	2.8	1
36	On some model equations for pulsatile flow in viscoelastic vessels. Wave Motion, 2019, 90, 139-151.	2.0	10

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37	Numerical Simulation of Conservation Laws with Moving Grid Nodes: Application to Tsunami Wave Modelling. Geosciences (Switzerland), 2019, 9, 197.	2.2	8
38	Coupling Conditions for Water Waves at Forks. Symmetry, 2019, 11, 434.	2.2	3
39	An innovative method to determine optimum insulation thickness based on non-uniform adaptive moving grid. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2019, 41, 1.	1.6	9
40	Nonlinear deformation and run-up of single tsunami waves of positive polarity: numerical simulations and analytical predictions. Natural Hazards and Earth System Sciences, 2019, 19, 2905-2913.	3.6	2
41	Numerical Simulation of Fellerâ€™s Diffusion Equation. Mathematics, 2019, 7, 1067.	2.2	1
42	On the multi-symplectic structure of Boussinesq-type systems. I: Derivation and mathematical properties. Physica D: Nonlinear Phenomena, 2019, 388, 10-21.	2.8	3
43	A comparative study of bi-directional Whitham systems. Applied Numerical Mathematics, 2019, 141, 248-262.	2.1	16
44	Solving nonlinear diffusive problems in buildings by means of a Spectral reduced-order model. Journal of Building Performance Simulation, 2019, 12, 17-36.	2.0	9
45	Dispersive and Nondispersive Nonlinear Long Wave Transformations: Numerical and Experimental Results. Mathematics of Planet Earth, 2019, , 41-60.	0.1	0
46	On time relaxed schemes and formulations for dispersive wave equations. AIMS Mathematics, 2019, 4, 254-278.	1.6	1
47	Peregrineâ€™s System Revisited. , 2018, , 3-43.		5
48	Solitary wave solutions and their interactions for fully nonlinear water waves with surface tension in the generalized Serre equations. Theoretical and Computational Fluid Dynamics, 2018, 32, 371-397.	2.2	8
49	Accurate fast computation of steady two-dimensional surface gravity waves in arbitrary depth. Journal of Fluid Mechanics, 2018, 844, 491-518.	3.4	21
50	On the modelling of shallow turbidity flows. Advances in Water Resources, 2018, 113, 310-327.	3.8	11
51	On the Solution of Coupled Heat and Moisture Transport in Porous Material. Transport in Porous Media, 2018, 121, 665-702.	2.6	12
52	Wave dynamics on networks: Method and application to the sine-Gordon equation. Applied Numerical Mathematics, 2018, 131, 54-71.	2.1	10
53	Asymptotic nonlinear and dispersive pulsatile flow in elastic vessels with cylindrical symmetry. Computers and Mathematics With Applications, 2018, 75, 4022-4047.	2.7	2
54	Analysis and improvement of the VTT mold growth model: Application to bamboo fiberboard. Building and Environment, 2018, 138, 262-274.	6.9	14

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55	Stable explicit schemes for simulation of nonlinear moisture transfer in porous materials. Journal of Building Performance Simulation, 2018, 11, 129-144.	2.0	35
56	Non-dispersive conservative regularisation of nonlinear shallow water (and isentropic Euler) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 702 Tc	3.3	12
57	Some special solutions to the Hyperbolic NLS equation. Communications in Nonlinear Science and Numerical Simulation, 2018, 57, 202-220.	3.3	4
58	An improved explicit scheme for whole-building hygrothermal simulation. Building Simulation, 2018, 11, 465-481.	5.6	16
59	On the Reducibility and the Lenticular Sets of Zeroes of Almost Newman Lacunary Polynomials. Arnold Mathematical Journal, 2018, 4, 315-344.	0.4	3
60	Advanced Reduced-Order Models for Moisture Diffusion in Porous Media. Transport in Porous Media, 2018, 124, 965-994.	2.6	5
61	An adaptive simulation of nonlinear heat and moisture transfer as a boundary value problem. International Journal of Thermal Sciences, 2018, 133, 120-139.	4.9	10
62	Evaluation of tsunami wave energy generated by earthquakes in the Makran subduction zone. Ocean Engineering, 2018, 165, 131-139.	4.3	11
63	Dispersive Shallow Water Wave Modelling. Part II: Numerical Simulation on a Globally Flat Space. Communications in Computational Physics, 2018, 23, .	1.7	2
64	Dispersive Shallow Water Wave Modelling. Part III: Model Derivation on a Globally Spherical Geometry. Communications in Computational Physics, 2018, 23, .	1.7	2
65	Dispersive Shallow Water Wave Modelling. Part IV: Numerical Simulation on a Globally Spherical Geometry. Communications in Computational Physics, 2018, 23, .	1.7	3
66	Numerical Modelling of Surface Water Wave Interaction with a Moving Wall. Communications in Computational Physics, 2018, 23, .	1.7	5
67	Weakly singular shock profiles for a non-dispersive regularization of shallow-water equations. Communications in Mathematical Sciences, 2018, 16, 1361-1378.	1.0	9
68	The Whitham equation with surface tension. Nonlinear Dynamics, 2017, 88, 1125-1138.	5.2	19
69	New asymptotic heat transfer model in thin liquid films. Applied Mathematical Modelling, 2017, 48, 844-859.	4.2	16
70	On supraconvergence phenomenon for second order centered finite differences on non-uniform grids. Journal of Computational and Applied Mathematics, 2017, 326, 1-14.	2.0	10
71	On weakly singular and fully nonlinear travelling shallow capillaryâ€“gravity waves in the critical regime. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 1719-1726.	2.1	6
72	Accurate numerical simulation of moisture front in porous material. Building and Environment, 2017, 118, 211-224.	6.9	19

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73	Conservative modified Serreâ€“Greenâ€“Naghdi equations with improved dispersion characteristics. Communications in Nonlinear Science and Numerical Simulation, 2017, 45, 245-257.	3.3	40
74	On the optimal experiment design for heat and moisture parameter estimation. Experimental Thermal and Fluid Science, 2017, 81, 109-122.	2.7	16
75	On the nonlinear dynamics of the traveling-wave solutions of the Serre system. Wave Motion, 2017, 70, 166-182.	2.0	11
76	Derivation of dissipative Boussinesq equations using the Dirichlet-to-Neumann operator approach. Mathematics and Computers in Simulation, 2016, 127, 80-93.	4.4	8
77	Travelling wave solutions for some two-component shallow water models. Journal of Differential Equations, 2016, 261, 1099-1114.	2.2	15
78	Efficient computation of capillaryâ€“gravity generalised solitary waves. Wave Motion, 2016, 65, 1-16.	2.0	5
79	Multi-symplectic structure of fully nonlinear weakly dispersive internal gravity waves. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 31LT01.	2.1	2
80	Algebraic method for constructing singular steady solitary waves: a case study. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160194.	2.1	5
81	Modified shallow water equations for significantly varying seabeds. Applied Mathematical Modelling, 2016, 40, 9767-9787.	4.2	13
82	A new run-up algorithm based on local high-order analytic expansions. Journal of Computational and Applied Mathematics, 2016, 298, 82-96.	2.0	8
83	Macroscopic dynamics of incoherent soliton ensembles: Soliton gas kinetics and direct numerical modelling. Europhysics Letters, 2016, 113, 30003.	2.0	38
84	On the multi-symplectic structure of the Serreâ€“Greenâ€“Naghdi equations. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 03LT01.	2.1	10
85	Modeling Water Waves Beyond Perturbations. Lecture Notes in Physics, 2016, , 197-210.	0.7	1
86	Numerical methods for diffusion phenomena in building physics: a practical introduction. , 2016, , .		11
87	A plethora of generalised solitary gravityâ€“capillary water waves. Journal of Fluid Mechanics, 2015, 784, 664-680.	3.4	15
88	Numerical Simulation of Wave Impact on a Rigid Wall Using a Twoâ€“phase Compressible SPH Method. Procedia IUTAM, 2015, 18, 123-137.	1.2	16
89	Generation of 2D water waves by moving bottom disturbances. IMA Journal of Applied Mathematics, 2015, 80, 1235-1253.	1.6	15
90	The Whitham Equation as a model for surface water waves. Physica D: Nonlinear Phenomena, 2015, 309, 99-107.	2.8	66

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91	Run-up amplification of transient long waves. Quarterly of Applied Mathematics, 2015, 73, 177-199.	0.7	5
92	Direct dynamical energy cascade in the modified KdV equation. Physica D: Nonlinear Phenomena, 2015, 297, 76-87.	2.8	7
93	Numerical study of the generalised Kleinâ€“Gordon equations. Physica D: Nonlinear Phenomena, 2015, 304-305, 23-33.	2.8	3
94	Nonlinear waves in networks: Model reduction for the sine-Gordon equation. Physical Review E, 2014, 90, 022912.	2.1	28
95	Observation of the inverse energy cascade in the modified Korteweg-de Vries equation. Europhysics Letters, 2014, 107, 14001.	2.0	5
96	The Conformal-mapping Method for Surface Gravity Waves in the Presence of Variable Bathymetry and Mean Current. Procedia IUTAM, 2014, 11, 110-118.	1.2	20
97	On the Galerkin/Finite-Element Method for the Serre Equations. Journal of Scientific Computing, 2014, 61, 166-195.	2.3	46
98	Efficient computation of steady solitary gravity waves. Wave Motion, 2014, 51, 86-99.	2.0	50
99	Numerical simulation of a solitonic gas in KdV and KdVâ€“BBM equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 3102-3110.	2.1	58
100	On the Modelling of Tsunami Generation and Tsunami Inundation. Procedia IUTAM, 2014, 10, 338-355.	1.2	26
101	Visco-potential flows in electrohydrodynamics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 1721-1726.	2.1	3
102	A Non-Hydrostatic Non-Dispersive Shallow Water Model. , 2014, , 189-196.		0
103	Finite volume methods for unidirectional dispersive wave models. International Journal for Numerical Methods in Fluids, 2013, 71, 717-736.	1.6	33
104	Geometric numerical schemes for the KdV equation. Computational Mathematics and Mathematical Physics, 2013, 53, 221-236.	0.8	28
105	On the Galilean Invariance of Some Nonlinear Dispersive Wave Equations. Studies in Applied Mathematics, 2013, 131, 359-388.	2.4	21
106	On the use of the finite fault solution for tsunami generation problems. Theoretical and Computational Fluid Dynamics, 2013, 27, 177-199.	2.2	22
107	Fast accurate computation of the fully nonlinear solitary surface gravity waves. Computers and Fluids, 2013, 84, 35-38.	2.5	31
108	Extreme wave runup on a vertical cliff. Geophysical Research Letters, 2013, 40, 3138-3143.	4.0	37

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109	Finite volume and pseudo-spectral schemes for the fully nonlinear 1D Serre equations. European Journal of Applied Mathematics, 2013, 24, 761-787.	2.9	57
110	Boussinesq modeling of surface waves due to underwater landslides. Nonlinear Processes in Geophysics, 2013, 20, 267-285.	1.3	25
111	Special solutions to a compact equation for deep-water gravity waves. Journal of Fluid Mechanics, 2012, 712, 646-660.	3.4	18
112	On the contribution of the horizontal sea-bed displacements into the tsunami generation process. Ocean Modelling, 2012, 56, 43-56.	2.4	22
113	Practical use of variational principles for modeling water waves. Physica D: Nonlinear Phenomena, 2012, 241, 25-36.	2.8	35
114	Shallow water equations for large bathymetry variations. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 332001.	2.1	9
115	Mathematical Modeling of Powderâ€Snow Avalanche Flows. Studies in Applied Mathematics, 2011, 127, 38-66.	2.4	11
116	The VOLNA code for the numerical modeling of tsunami waves: Generation, propagation and inundation. European Journal of Mechanics, B/Fluids, 2011, 30, 598-615.	2.5	60
117	Finite volume schemes for dispersive wave propagation and runup. Journal of Computational Physics, 2011, 230, 3035-3061.	3.8	71
118	Local Run-Up Amplification by Resonant Wave Interactions. Physical Review Letters, 2011, 107, 124502.	7.8	31
119	Long Wave Run-Up on Random Beaches. Physical Review Letters, 2011, 107, 184504.	7.8	16
120	Dispersive wave runup on non-uniform shores. Springer Proceedings in Mathematics, 2011, , 389-397.	0.5	6
121	Influence of sedimentary layering on tsunami generation. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1268-1275.	6.6	15
122	A two-fluid model for violent aerated flows. Computers and Fluids, 2010, 39, 283-293.	2.5	26
123	Velocity and Energy Relaxation in Two-Phase Flows. Studies in Applied Mathematics, 2010, 125, 179.	2.4	3
124	On the relevance of the dam break problem in the context of nonlinear shallow water equations. Discrete and Continuous Dynamical Systems - Series B, 2010, 13, 799-818.	0.9	8
125	Energy of tsunami waves generated by bottom motion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 725-744.	2.1	43
126	Tsunami generation by dynamic displacement of sea bed due to dip-slip faulting. Mathematics and Computers in Simulation, 2009, 80, 837-848.	4.4	29

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127	Group and phase velocities in the free-surface visco-potential flow: New kind of boundary layer induced instability. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 3212-3216.	2.1	7
128	Visco-potential free-surface flows and long wave modelling. European Journal of Mechanics, B/Fluids, 2009, 28, 430-443.	2.5	34
129	Water waves generated by a moving bottom. , 2007, , 65-95.		40
130	Viscous potential free-surface flows in a fluid layer of finite depth. Comptes Rendus Mathematique, 2007, 345, 113-118.	0.3	49
131	Dissipative Boussinesq equations. Comptes Rendus - Mecanique, 2007, 335, 559-583.	2.1	45
132	Comparison between three-dimensional linear and nonlinear tsunami generation models. Theoretical and Computational Fluid Dynamics, 2007, 21, 245-269.	2.2	73
133	DYNAMICS OF TSUNAMI WAVES. , 2007, , 201-224.		10
134	Linear theory of wave generation by a moving bottom. Comptes Rendus Mathematique, 2006, 343, 499-504.	0.3	52
135	MING: An interpretative support method for visual exploration of multidimensional data. Information Visualization, 0, , 147387162210795.	1.9	0