Stephan T Grilli

List of Publications by Year
in descending order

101 papers	6,664 citations	87888 38 h-index	62596 80 g-index
105 all docs	105 docs citations	105 times ranked	2956 citing authors

#	Article	IF	Citations
1	A fully nonlinear Boussinesq model for surface waves. Part 1. Highly nonlinear unsteady waves. Journal of Fluid Mechanics, 1995, 294, 71-92.	3.4	815
2	A high-order adaptive time-stepping TVD solver for Boussinesq modeling of breaking waves and coastal inundation. Ocean Modelling, 2012, 43-44, 36-51.	2.4	432
3	Landslide tsunami case studies using a Boussinesq model and a fully nonlinear tsunami generation model. Natural Hazards and Earth System Sciences, 2003, 3, 391-402.	3.6	256
4	A fully non-linear model for three-dimensional overturning waves over an arbitrary bottom. International Journal for Numerical Methods in Fluids, 2001, 35, 829-867.	1.6	230
5	Breaking Criterion and Characteristics for Solitary Waves on Slopes. Journal of Waterway, Port, Coastal and Ocean Engineering, 1997, 123, 102-112.	1.2	223
6	Did a submarine landslide contribute to the 2011 Tohoku tsunami?. Marine Geology, 2014, 357, 344-361.	2.1	223
7	The Papua New Guinea tsunami of 17 July 1998: anatomy of a catastrophic event. Natural Hazards and Earth System Sciences, 2008, 8, 243-266.	3.6	222
8	Tsunami Generation by Submarine Mass Failure. I: Modeling, Experimental Validation, and Sensitivity Analyses. Journal of Waterway, Port, Coastal and Ocean Engineering, 2005, 131, 283-297.	1.2	217
9	Source Constraints and Model Simulation of the December 26, 2004, Indian Ocean Tsunami. Journal of Waterway, Port, Coastal and Ocean Engineering, 2007, 133, 414-428.	1.2	180
10	An efficient boundary element method for nonlinear water waves. Engineering Analysis With Boundary Elements, 1989, 6, 97-107.	3.7	179
11	Modeling of waves generated by a moving submerged body. Applications to underwater landslides. Engineering Analysis With Boundary Elements, 1999, 23, 645-656.	3.7	177
12	Experimental Study of Tsunami Generation by Three-Dimensional Rigid Underwater Landslides. Journal of Waterway, Port, Coastal and Ocean Engineering, 2007, 133, 442-454.	1.2	172
13	Modelling of the tsunami from the December 22, 2018 lateral collapse of Anak Krakatau volcano in the Sunda Straits, Indonesia. Scientific Reports, 2019, 9, 11946.	3.3	170
14	Tsunami Generation by Submarine Mass Failure. II: Predictive Equations and Case Studies. Journal of Waterway, Port, Coastal and Ocean Engineering, 2005, 131, 298-310.	1.2	168
15	Development of a 3D numerical wave tank for modeling tsunami generation by underwater landslides. Engineering Analysis With Boundary Elements, 2002, 26, 301-313.	3.7	159
16	Numerical simulation of waves generated by landslides using a multiple-fluid Navierâ€"Stokes model. Coastal Engineering, 2010, 57, 779-794.	4.0	156
17	Numerical modeling of tsunami waves generated by the flank collapse of the Cumbre Vieja Volcano (La) Tj ETQq1 1 0.784314 rgBT /Ove 117, .	3.3	145
18	Modeling the 26 December 2004 Indian Ocean tsunami: Case study of impact in Thailand. Journal of Geophysical Research, 2007, 112, .	3.3	139

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19	Dispersive tsunami waves in the ocean: Model equations and sensitivity to dispersion and Coriolis effects. Ocean Modelling, 2013, 62, 39-55.	2.4	137
20	Shoaling of Solitary Waves on Plane Beaches. Journal of Waterway, Port, Coastal and Ocean Engineering, 1994, 120, 609-628.	1.2	134
21	Numerical Simulation of the 2011 Tohoku Tsunami Based on a New Transient FEM Co-seismic Source: Comparison to Far- and Near-Field Observations. Pure and Applied Geophysics, 2013, 170, 1333-1359.	1.9	128
22	Numerical modeling of extreme rogue waves generated by directional energy focusing. Wave Motion, 2007, 44, 395-416.	2.0	125
23	Corner problems and global accuracy in the boundary element solution of nonlinear wave flows. Engineering Analysis With Boundary Elements, 1990, 7, 178-195.	3.7	116
24	Numerical Generation and Absorption of Fully Nonlinear Periodic Waves. Journal of Engineering Mechanics - ASCE, 1997, 123, 1060-1069.	2.9	104
25	Numerical modeling of wave breaking induced by fixed or moving boundaries. Computational Mechanics, 1996, 17, 374-391.	4.0	88
26	A probabilistic approach for determining submarine landslide tsunami hazard along the upper east coast of the United States. Marine Geology, 2009, 264, 74-97.	2.1	84
27	Numerical study of three-dimensional overturning waves in shallow water. Journal of Fluid Mechanics, 2006, 547, 361.	3.4	82
28	Inter-model analysis of tsunami-induced coastal currents. Ocean Modelling, 2017, 114, 14-32.	2.4	79
29	Characteristics of Solitary Wave Breaking Induced by Breakwaters. Journal of Waterway, Port, Coastal and Ocean Engineering, 1994, 120, 74-92.	1.2	74
30	Modeling coastal tsunami hazard from submarine mass failures: effect of slide rheology, experimental validation, and case studies off the US East Coast. Natural Hazards, 2017, 86, 353-391.	3.4	73
31	Modeling of SMF tsunami hazard along the upper US East Coast: detailed impact around Ocean City, MD. Natural Hazards, 2015, 76, 705-746.	3.4	55
32	Mechanical models of the 1975 Kalapana, Hawaii earthquake and tsunami. Marine Geology, 2005, 215, 59-92.	2.1	51
33	A fully nonlinear implicit model for wave interactions with submerged structures in forced or free motion. Engineering Analysis With Boundary Elements, 2012, 36, 1151-1163.	3.7	50
34	Dual-reciprocity BEM based on global interpolation functions. Engineering Analysis With Boundary Elements, 1994, 13, 303-311.	3.7	47
35	Depth inversion in shallow water based on nonlinear properties of shoaling periodic waves. Coastal Engineering, 1998, 35, 185-209.	4.0	47
36	Far-Field Tsunami Impact in the North Atlantic Basin from Large Scale Flank Collapses of the Cumbre Vieja Volcano, La Palma. Pure and Applied Geophysics, 2015, 172, 3589-3616.	1.9	43

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37	New simulations and understanding of the 1908 Messina tsunami for a dual seismic and deep submarine mass failure source. Marine Geology, 2020, 421, 106093.	2.1	43
38	Performance Benchmarking Tsunami Models for NTHMPâ€™s Inundation Mapping Activities. Pure and Applied Geophysics, 2015, 172, 869-884.	1.9	42
39	On enhanced non-linear free surface flow simulations with a hybrid LBMâ€“VOF model. Computers and Mathematics With Applications, 2013, 65, 211-229.	2.7	39
40	Landslide Tsunami Hazard Along the Upper US East Coast: Effects of Slide Deformation, Bottom Friction, and Frequency Dispersion. Pure and Applied Geophysics, 2019, 176, 3059-3098.	1.9	35
41	Numerical simulation and first-order hazard analysis of large co-seismic tsunamis generated in the Puerto Rico trench: near-field impact on the North shore of Puerto Rico and far-field impact on the US East Coast. Natural Hazards and Earth System Sciences, 2010, 10, 2109-2125.	3.6	34
42	Efficient GPGPU implementation of a lattice Boltzmann model for multiphase flows with high density ratios. Computers and Fluids, 2014, 93, 1-17.	2.5	33
43	Wave-breaking and generic singularities of nonlinear hyperbolic equations. Nonlinearity, 2008, 21, T61-T79.	1.4	32
44	Role of Hurricane Wind Models in Accurate Simulation of Storm Surge and Waves. Journal of Waterway, Port, Coastal and Ocean Engineering, 2019, 145, .	1.2	32
45	Nonlinear Ocean Wave Reconstruction Algorithms Based on Simulated Spatiotemporal Data Acquired by a Flash LIDAR Camera. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 1761-1771.	6.3	27
46	Assessing the impact of extreme storms on barrier beaches along the Atlantic coastline: Application to the southern Rhode Island coast. Coastal Engineering, 2018, 133, 26-42.	4.0	26
47	Probabilistic analysis of flow in random porous media by stochastic boundary elements. Engineering Analysis With Boundary Elements, 1997, 19, 239-255.	3.7	25
48	A Unified Breaking Onset Criterion for Surface Gravity Water Waves in Arbitrary Depth. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015886.	2.6	25
49	New High-Resolution Modeling of the 2018 Palu Tsunami, Based on Supershear Earthquake Mechanisms and Mapped Coastal Landslides, Supports a Dual Source. Frontiers in Earth Science, 2021, 8, .	1.8	23
50	Ocean wave energy harvesting buoy for sensors. , 2009, , .		22
51	PROGRESS IN FULLY NONLINEAR POTENTIAL FLOW MODELING OF 3D EXTREME OCEAN WAVES. Series on Quality, Reliability and Engineering Statistics, 2010, , 75-128.	0.2	22
52	Submarine landslide megablocks show half of Anak Krakatau island failed on December 22nd, 2018. Nature Communications, 2021, 12, 2827.	12.8	21
53	A Laplace-transform-based three-dimensional BEM for poroelasticity. International Journal for Numerical Methods in Engineering, 1993, 36, 67-85.	2.8	20
54	An efficient lattice Boltzmann multiphase model for 3D flows with large density ratios at high Reynolds numbers. Computers and Mathematics With Applications, 2014, 68, 1819-1843.	2.7	20

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55	Tsunami Detection by High-Frequency Radar Beyond the Continental Shelf. Pure and Applied Geophysics, 2016, 173, 3895-3934.	1.9	19
56	Quasi-singular integrals in the modeling of nonlinear water waves in shallow water. Engineering Analysis With Boundary Elements, 1994, 13, 181-191.	3.7	18
57	Validation and inter-comparison of models for landslide tsunami generation. Ocean Modelling, 2022, 170, 101943.	2.4	18
58	A hybrid boundary element method for shallow water acoustic propagation over an irregular bottom. Engineering Analysis With Boundary Elements, 1998, 21, 131-145.	3.7	17
59	A two-layer non-hydrostatic landslide model for tsunami generation on irregular bathymetry. 1. Theoretical basis. Ocean Modelling, 2021, 159, 101749.	2.4	16
60	A two-layer non-hydrostatic landslide model for tsunami generation on irregular bathymetry. 2. Numerical discretization and model validation. Ocean Modelling, 2021, 160, 101769.	2.4	16
61	Progress on Nonlinear-Wave-Forced Sediment Transport Simulation. IEEE Journal of Oceanic Engineering, 2007, 32, 236-248.	3.8	15
62	Simulation of floating structure dynamics in waves by implicit coupling of a fully non-linear potential flow model and a rigid body motion approach. Journal of Ocean Engineering and Marine Energy, 2015, 1, 55-76.	1.7	15
63	Tsunami detection by high-frequency radar in British Columbia: performance assessment of the time-correlation algorithm for synthetic and real events. Ocean Dynamics, 2018, 68, 423-438.	2.2	14
64	A perturbation approach to large eddy simulation of waveâ€induced bottom boundary layer flows. International Journal for Numerical Methods in Fluids, 2012, 68, 1574-1604.	1.6	13
65	An improved Lagrangian model for the time evolution of nonlinear surface waves. Journal of Fluid Mechanics, 2019, 876, 527-552.	3.4	13
66	Tsunami hazard assessment along the north shore of Hispaniola from far- and near-field Atlantic sources. Natural Hazards, 2016, 82, 777-810.	3.4	12
67	Fully Nonlinear Potential Flow Simulations of Wave Shoaling Over Slopes: Spilling Breaker Model and Integral Wave Properties. Water Waves, 2020, 2, 263-297.	1.0	12
68	Discussions and Closure: Breaking Criterion and Characteristics for Solitary Waves on Slopes. Journal of Waterway, Port, Coastal and Ocean Engineering, 1998, 124, 329-335.	1.2	11
69	Tsunami hazard assessment in the Hudson River Estuary based on dynamic tsunamiâ€“tide simulations. Pure and Applied Geophysics, 2016, 173, 3999-4037.	1.9	11
70	Tsunami Detection by High Frequency Radar Beyond the Continental Shelf: II. Extension of Time Correlation Algorithm and Validation on Realistic Case Studies. Pure and Applied Geophysics, 2017, 174, 3003-3028.	1.9	10
71	An Efficient Three-Dimensional FNPF Numerical Wave Tank for Large-Scale Wave Basin Experiment Simulation. Journal of Offshore Mechanics and Arctic Engineering, 2013, 135, .	1.2	9
72	Nonlinear timeâ€domain waveâ€structure interaction: AÂparallel fast integral equation approach. International Journal for Numerical Methods in Fluids, 2022, 94, 188-222.	1.6	9

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73	Downward-propagating eruption following vent unloading implies no direct magmatic trigger for the 2018 lateral collapse of Anak Krakatau. Earth and Planetary Science Letters, 2022, 578, 117332.	4.4	9
74	Assessing coastal hazard from extreme storms with a phase resolving wave model: Case study of Narragansett, RI, USA. Coastal Engineering, 2020, 160, 103735.	4.0	8
75	NUMERICAL MODELING OF COASTAL TSUNAMI IMPACT DISSIPATION AND IMPACT. Coastal Engineering Proceedings, 2012, 1, 9.	0.1	8
76	Experimental testing and model validation for ocean wave energy harvesting buoys. , 2013, , .		7
77	Large eddy simulation of sediment transport over rippled beds. Nonlinear Processes in Geophysics, 2014, 21, 1169-1184.	1.3	7
78	The simulation of turbulent particleâ€laden channel flow by the Lattice Boltzmann method. International Journal for Numerical Methods in Fluids, 2015, 79, 491-513.	1.6	7
79	High-resolution coastal hazard assessment along the French Riviera from co-seismic tsunamis generated in the Ligurian fault system. Natural Hazards, 2019, 96, 553-586.	3.4	7
80	Numerical modeling of wave breaking induced by fixed or moving boundaries. Computational Mechanics, 1996, 17, 374-391.	4.0	7
81	Understanding and reducing the disaster risk of landslide-induced tsunamis: a short summary of the panel discussion in the World Tsunami Awareness Day Special Event of the Fifth World Landslide Forum. Landslides, 2022, 19, 533-535.	5.4	7
82	A numerical model for the efficient simulation of multiple landslide-induced tsunamis scenarios. Ocean Modelling, 2021, 168, 101899.	2.4	6
83	Fully Nonlinear Properties of Periodic Waves Shoaling over Slopes. , 1997, , 717.		5
84	Note on non-orthogonality of local curvilinear co-ordinates in a three-dimensional boundary element method. International Journal for Numerical Methods in Fluids, 2005, 48, 305-324.	1.6	5
85	Growing Understanding of Subduction Dynamics Indicates Need to Rethink Seismic Hazards. Eos, 2013, 94, 125-126.	0.1	4
86	A probabilistic method for the estimation of ocean surface currents from short time series of HF radar data. Ocean Modelling, 2018, 121, 105-116.	2.4	4
87	Does a Morphological Adjustment during Tsunami Inundation Increase Levels of Hazards?. , 2017, , .		4
88	Three-Dimensional Wave Focusing in Fully Nonlinear Wave Models. , 2002, , 1102.		3
89	Long Wave Interaction with Steeply Sloping Structures. , 1991, , 1200.		2
90	Three-Dimensional Numerical Model for Fully Nonlinear Waves Over Arbitrary Bottom. , 2002, , 1072.		2

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91	Tsunami Detection by High-Frequency Radar Beyond the Continental Shelf. Pageoph Topical Volumes, 2015, , 3895-3934.	0.2	2
92	A higher-order hypersingular boundary element method for the modeling of vortex sheet dynamics. Engineering Analysis With Boundary Elements, 1998, 21, 117-129.	3.7	1
93	A TWO-LAYER NON-HYDROSTATIC LANDSLIDE MODEL FOR TSUNAMI GENERATION ON IRREGULAR BATHYMETRY. Coastal Engineering Proceedings, 2018, , 74.	0.1	1
94	A Lattice-Boltzmann-based perturbation method. Computers and Fluids, 2020, 213, 104723.	2.5	1
95	Depth Inversion for Nonlinear Waves Shoaling over a Barred-Beach. , 1999, , 603.		0
96	Implementation and Validation of a Breaker Model in a Fully Nonlinear Wave Propagation Model. , 2002, , 1012.		0
97	The Effects of Basal Resistance and Hydroplaning on the Initial Kinematics of Seismically Induced Tsunamigenic Landslides. , 2008, , .		0
98	Foreword to the special issue on nonlinear waves over variable bathymetry. Journal of Ocean Engineering and Marine Energy, 2019, 5, 307-310.	1.7	0
99	Tsunami hazard assessment in the Hudson River Estuary based on dynamic tsunamiâ€“tide simulations. Pageoph Topical Volumes, 2016, , 3999-4037.	0.2	0
100	Tsunami coastal hazard along the US East Coast from coseismic sources in the AÃ§ores convergence zone and the Caribbean arc areas. Natural Hazards, 2022, 111, 1431-1478.	3.4	0
101	Block-structured, equal-workload, multi-grid-nesting interface for the Boussinesq wave model FUNWAVE-TVD (Total Variation Diminishing). Geoscientific Model Development, 2022, 15, 5441-5459.	3.6	0