Norbert Hoffmann

List of Publications by Year in Descending Order

112 papers	2,958 citations	26 h-index	51 g-index
124 ext. papers	3,385 ext. citations	3.5 avg, IF	5.61 L-index

#	Paper	IF	Citations
112	Galilean-transformed solitons and supercontinuum generation in dispersive media. *Physica D: Nonlinear Phenomena*, **2022**, 133342	3.3	
111	Experiments on uni-directional and nonlinear wave group shoaling. *Ocean Dynamics*, **2021**, 71, 1105	2.3	0
110	Explainable machine learning determines effects on the sound absorption coefficient measured in the impedance tube. *Journal of the Acoustical Society of America*, **2021**, 149, 1932	2.2	3
109	Experimental observations of nonlinear vibration localization in a cyclic chain of weakly coupled nonlinear oscillators. *Journal of Sound and Vibration*, **2021**, 497, 115952	3.9	7
108	Critical thresholds for mode-coupling instability in viscoelastic sliding contacts. *Nonlinear Dynamics*, **2021**, 104, 2995	5	2
107	Deep learning for brake squeal: Brake noise detection, characterization and prediction. *Mechanical Systems and Signal Processing*, **2021**, 149, 107181	7.8	20
106	Nonlinear vibration localisation in a symmetric system of two coupled beams. *Nonlinear Dynamics*, **2021**, 103, 3417-3428	5	5
105	Modelling shear wave propagation in soft tissue surrogates using a finite element- and finite difference method. *Proceedings in Applied Mathematics and Mechanics*, **2021**, 20, e202000148	0.2	
104	Limit cycle computation of self-excited dynamic systems using nonlinear modes. *Proceedings in Applied Mathematics and Mechanics*, **2021**, 20, e202000340	0.2	
103	Spatially localized vibrations in a rotor subjected to flutter. *Nonlinear Dynamics*, **2021**, 103, 309-325	5	4
102	The Peregrine Breather on the Zero-Background Limit as the Two-Soliton Degenerate Solution: An Experimental Study. *Frontiers in Physics*, **2021**, 9,	3.9	2
101	Parameter Identification for Ultrasound Shear Wave Elastography Simulation. *Current Directions in Biomedical Engineering*, **2021**, 7, 35-38	0.5	
100	Introducing envelope soliton solutions for wave-structure investigations. *Ocean Engineering*, **2021**, 234, 109271	3.9	0
99	The Basin Stability of Bi-Stable Friction-Excited Oscillators. *Lubricants*, **2020**, 8, 105	3.1	3
98	On the Deterministic Prediction of Water Waves. *Fluids*, **2020**, 5, 9	1.6	14
97	Hyperchaos co-existing with periodic orbits in a frictional oscillator. *Journal of Sound and Vibration*, **2020**, 472, 115203	3.9	12
96	Self-excited vibrations due to viscoelastic interactions. *Mechanical Systems and Signal Processing*, **2020**, 144, 106894	7.8	15

95	Investigation of Nonlinear Wave–Ice Interaction Using Parameter Study and Numerical Simulation. *Journal of Offshore Mechanics and Arctic Engineering*, **2020**, 142,	1.5	2
94	The extended periodic motion concept for fast limit cycle detection of self-excited systems. *Computers and Structures*, **2020**, 227, 106139	4.5	4
93	Nucleation and propagation of excitation fronts in self-excited systems. *Physica D: Nonlinear Phenomena*, **2020**, 401, 132176	3.3	5
92	Numerical and experimental analysis of the bi-stable state for frictional continuous system. *Nonlinear Dynamics*, **2020**, 102, 1361-1374	5	5
91	Reconstruction of Governing Equations from Vibration Measurements for Geometrically Nonlinear Systems. *Lubricants*, **2019**, 7, 64	3.1	8
90	Determining growth rates of instabilities from time-series vibration data: Methods and applications for brake squeal. *Mechanical Systems and Signal Processing*, **2019**, 129, 250-264	7.8	11
89	Energy harvesting below the onset of flutter. *Journal of Sound and Vibration*, **2019**, 458, 17-21	3.9	5
88	Recovery of Differential Equations from Impulse Response Time Series Data for Model Identification and Feature Extraction. *Vibration*, **2019**, 2, 25-46	2	8
87	Drifting breathers and Fermi–Pasta–Ulam paradox for water waves. *Wave Motion*, **2019**, 90, 168-174	1.8	3
86	Multi-scale dynamics of particle dampers using wavelets: Extracting particle activity metrics from ring down experiments. *Journal of Sound and Vibration*, **2019**, 454, 1-13	3.9	5
85	Revealing transitions in friction-excited vibrations by nonlinear time-series analysis. *Nonlinear Dynamics*, **2019**, 98, 2613-2630	5	11
84	Directional soliton and breather beams. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 9759-9763	11.5	11
83	Dissipative solitons in forced cyclic and symmetric structures. *Mechanical Systems and Signal Processing*, **2019**, 117, 280-292	7.8	0
82	Complex machine dynamics: systematic recurrence quantification analysis of disk brake vibration data. *Nonlinear Dynamics*, **2019**, 97, 2483-2497	5	14
81	Solitons in Cyclic and Symmetric Structures. *Conference Proceedings of the Society for Experimental Mechanics*, **2019**, 175-178	0.3	
80	Establishing a common database of ice experiments and using machine learning to understand and predict ice behavior. *Cold Regions Science and Technology*, **2019**, 162, 56-73	3.8	13
79	Computation of quasi-periodic localised vibrations in nonlinear cyclic and symmetric structures using harmonic balance methods. *Journal of Sound and Vibration*, **2019**, 438, 54-65	3.9	15
78	Multistability and localization in forced cyclic symmetric structures modelled by weakly-coupled Duffing oscillators. *Journal of Sound and Vibration*, **2019**, 440, 202-211	3.9	23

77	Impact of an irregular friction formulation on dynamics of a minimal model for brake squeal. *Mechanical Systems and Signal Processing*, **2018**, 107, 439-451	7.8	26
76	Nonlinear real time prediction of ocean surface waves. *Ocean Engineering*, **2018**, 157, 387-400	3.9	15
75	Dark solitons, modulation instability and breathers in a chain of weakly nonlinear oscillators with cyclic symmetry. *Journal of Sound and Vibration*, **2018**, 413, 467-481	3.9	9
74	Vibro-acoustic and nonlinear analysis of cadavric femoral bone impaction in cavity preparations. *International Journal of Mechanical Sciences*, **2018**, 144, 739-745	5.5	7
73	Multiple spatially localized dynamical states in friction-excited oscillator chains. *Journal of Sound and Vibration*, **2018**, 417, 56-64	3.9	26
72	Detection of unstable periodic orbits in mineralising geological systems. *Chaos*, **2018**, 28, 085711	3.3	12
71	Phase Domain Walls in Weakly Nonlinear Deep Water Surface Gravity Waves. *Physical Review Letters*, **2018**, 120, 224102	7.4	3
70	Vibro-acoustic and nonlinear analysis of cadavric femoral bone impaction in cavity preparations. *MATEC Web of Conferences*, **2018**, 148, 14007	0.3	6
69	Subcritical bifurcation in a self-excited single-degree-of-freedom system with velocity weakeningstrengthening friction law: analytical results and comparison with experiments. *Nonlinear Dynamics*, **2017**, 90, 2037-2046	5	39
68	Determining periodic orbits via nonlinear filtering and recurrence spectra in the presence of noise. *Procedia Engineering*, **2017**, 199, 772-777		5
67	Load-separation curves for the contact of self-affine rough surfaces. *Scientific Reports*, **2017**, 7, 6900	4.9	40
66	Snaking bifurcations in a self-excited oscillator chain with cyclic symmetry. *Communications in Nonlinear Science and Numerical Simulation*, **2017**, 44, 108-119	3.7	21
65	Rogue waves and entropy consumption. *Europhysics Letters*, **2017**, 120, 30008	1.6	6
64	Characterization of complex states for friction-excited systems. *Proceedings in Applied Mathematics and Mechanics*, **2017**, 17, 45-46	0.2	2
63	Continuation techniques for analysis of whole aeroengine dynamics with imperfect bifurcations and isolated solutions. *Nonlinear Dynamics*, **2016**, 86, 1897-1911	5	25
62	Capturing rogue waves by multi-point statistics. *New Journal of Physics*, **2016**, 18, 013017	2.9	12
61	Travelling and standing envelope solitons in discrete non-linear cyclic structures. *Mechanical Systems and Signal Processing*, **2016**, 81, 75-87	7.8	5
60	Rogue wave spectra of the SasaSatsuma equation. *Physica D: Nonlinear Phenomena*, **2015**, 294, 37-42	3.3	29

59	Initial wave breaking dynamics of Peregrine-type rogue waves: A numerical and experimental study. *European Journal of Mechanics, B/Fluids*, **2015**, 49, 71-76	2.4	33
58	On vibrations in non-linear, forced, friction-excited systems. *Proceedings in Applied Mathematics and Mechanics*, **2015**, 15, 267-268	0.2	1
57	The influence of joints on friction induced vibration in brake squeal. *Journal of Sound and Vibration*, **2015**, 340, 239-252	3.9	43
56	Dominant damping effects in friction brake noise, vibration and harshness: the relevance of joints. *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, **2015**, 229, 728-734	1.4	13
55	Gray solitons on the surface of water. *Physical Review E*, **2014**, 89, 011002	2.4	13
54	Nonlinear time series analysis of vibration data from a friction brake: SSA, PCA, and MFDFA. *Chaos, Solitons and Fractals*, **2014**, 69, 90-99	9.3	33
53	Rogue waves of the Sasa-Satsuma equation in a chaotic wave field. *Physical Review E*, **2014**, 90, 032902	2.4	36
52	Stochastic analysis of ocean wave states with and without rogue waves. *New Journal of Physics*, **2014**, 16, 053037	2.9	10
51	Nonlinearities in Friction Brake NVH - Experimental and Numerical Studies **2014**,		10
50	A simple model for friction detachment at an interface of finite size mimicking Fineberg's experiments on uneven loading. *Physical Mesomechanics*, **2014**, 17, 311-320	1.6	3
49	Friction induced dynamics of ball joints: Instability and post bifurcation behavior. *European Journal of Mechanics, A/Solids*, **2014**, 45, 161-173	3.7	11
48	Test Method Development for Nonlinear Damping Extraction of Dovetail Joints. *Conference Proceedings of the Society for Experimental Mechanics*, **2014**, 229-237	0.3	6
47	The Influence of Loading Conditions on the Static Coefficient of Friction: A Study on Brake Creep Groan. *Conference Proceedings of the Society for Experimental Mechanics*, **2014**, 149-160	0.3	3
46	Super-rogue waves in simulations based on weakly nonlinear and fully nonlinear hydrodynamic equations. *Physical Review E*, **2013**, 88, 012909	2.4	50
45	Hydrodynamic supercontinuum. *Physical Review Letters*, **2013**, 111, 054104	7.4	51
44	Experiments on wind-perturbed rogue wave hydrodynamics using the Peregrine breather model. *Physics of Fluids*, **2013**, 25, 101704	4.4	42
43	Deep-Water Waves: on the Nonlinear Schrödinger Equation and its Solutions. *Journal of Theoretical and Applied Mechanics (Bulgaria)*, **2013**, 43,	5.8	9
42	Vibration transfer in the ball-stem contact interface of artificial hips. *Medical Engineering and Physics*, **2013**, 35, 1513-7	2.4	6

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41	Experimental observation of dark solitons on the surface of water. *Physical Review Letters*, **2013**, 110, 124101	7.4	70
40	Frictional dissipation in elastically dissimilar oscillating Hertzian contacts. *International Journal of Mechanical Sciences*, **2013**, 72, 55-62	5.5	8
39	On the Robustness of Instabilities in Friction-Induced Vibration. *Journal of Vibration and Acoustics, Transactions of the ASME*, **2013**, 135,	1.6	5
38	The influence of stem design on critical squeaking friction with ceramic bearings. *Journal of Orthopaedic Research*, **2013**, 31, 1627-32	3.8	10
37	Recurrence analysis and phase space reconstruction of irregular vibration in friction brakes: Signatures of chaos in steady sliding. *Journal of Sound and Vibration*, **2012**, 331, 3887-3896	3.9	34
36	Super Rogue Waves: Observation of a Higher-Order Breather in Water Waves. *Physical Review X*, **2012**, 2,	9.1	158
35	Observation of a hierarchy of up to fifth-order rogue waves in a water tank. *Physical Review E*, **2012**, 86, 056601	2.4	151
34	Friction-induced whirl vibration: root cause of squeaking in total hip arthroplasty. *Journal of Biomechanics*, **2012**, 45, 297-303	2.9	19
33	Spectral properties of the Peregrine soliton observed in a water wave tank. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		16
32	Observation of rogue wave holes in a water wave tank. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		19
31	Experimental study of spatiotemporally localized surface gravity water waves. *Physical Review E*, **2012**, 86, 016311	2.4	50
30	Deformation characteristics and eigenfrequencies of press-fit acetabular cups. *Clinical Biomechanics*, **2011**, 26, 46-51	2.2	26
29	Rogue wave observation in a water wave tank. *Physical Review Letters*, **2011**, 106, 204502	7.4	749
28	Solitary vortex solutions in a sheared and differentially heated vertical fluid layer with stable stratification. *European Journal of Mechanics, B/Fluids*, **2011**, 30, 245-251	2.4	1
27	A numerical study on stick-slip motion of a brake pad in steady sliding. *Journal of Sound and Vibration*, **2011**, 330, 636-651	3.9	35
26	The influence of component design, bearing clearance and axial load on the squeaking characteristics of ceramic hip articulations. *Journal of Biomechanics*, **2011**, 44, 837-41	2.9	44
25	Simulation of full-scale ice-structure-interaction by an extended Matlock-model. *Cold Regions Science and Technology*, **2010**, 60, 130-136	3.8	18
24	On chaotic friction induced vibration due to rate dependent friction. *Mechanics Research Communications*, **2010**, 37, 92-95	2.2	14

#	Publication		
23	Squeak in hip endoprosthesis systems: An experimental study and a numerical technique to analyze design variants. *Medical Engineering and Physics*, **2010**, 32, 604-9	2.4	43
22	On transient growth of wear pattern properties. *Wear*, **2010**, 268, 886-892	3.5	5
21	Experimental Evidence for Breather Type Dynamics in Freak Waves. *Proceedings in Applied Mathematics and Mechanics*, **2010**, 10, 495-496	0.2	6
20	Friction-Induced Vibration of Artificial Hip Joints. *GAMM Mitteilungen*, **2009**, 32, 193-204	1.8	10
19	The effect of long-wavelength stiffness variation on wear pattern generation. *Journal of Sound and Vibration*, **2009**, 322, 785-797	3.9	4
18	On New Localized Vortex Solutions in the Couette-Ekman Layer. *Springer Proceedings in Physics*, **2009**, 111-114	0.2	
17	On the role of varying normal load and of randomly distributed relative velocities in the wavelength selection process of wear-pattern generation. *International Journal of Solids and Structures*, **2007**, 44, 8718-8734	3.1	7
16	Linear stability of steady sliding in point contacts with velocity dependent and LuGre type friction. *Journal of Sound and Vibration*, **2007**, 301, 1023-1034	3.9	25
15	On wear pattern generation in elastic systems. *Proceedings in Applied Mathematics and Mechanics*, **2007**, 7, 4050003-4050004	0.2	
14	Transient Growth and Stick-Slip in Sliding Friction. *Journal of Applied Mechanics, Transactions ASME*, **2006**, 73, 642-647	2.7	10
13	Influence of the contact model on the onset of sprag-slip. *Proceedings in Applied Mathematics and Mechanics*, **2006**, 6, 311-312	0.2	6
12	A stochastic averaging approach for printed circuit boards with nonlinear damping characteristics subjected to random vibration loads. *Mechanics Research Communications*, **2006**, 33, 385-393	2.2	1
11	Quenching mode-coupling friction-induced instability using high-frequency dither. *Journal of Sound and Vibration*, **2005**, 279, 471-480	3.9	23
10	Non-conservative beating in sliding friction affected systems: transient amplification of vibrational energy and a technique to determine optimal initial conditions. *Mechanical Systems and Signal Processing*, **2004**, 18, 611-623	7.8	10
9	A sufficient criterion for the onset of sprag-slip oscillations. *Archive of Applied Mechanics*, **2004**, 73, 650-660	2.1	43
8	Effects of damping on mode-coupling instability in friction induced oscillations. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2003**, 83, 524-534	1	157
7	A minimal model for studying properties of the mode-coupling type instability in friction induced oscillations. *Mechanics Research Communications*, **2002**, 29, 197-205	2.2	203
6	Linear instability of Poiseuille–Couette–Ekman flows: Local results for flows between differentially rotating disks with throughflow. *Physics of Fluids*, **2001**, 13, 2735-2738	4.4	7

5	Isolated solitary vortex solutions for the Ekman Couette layer. *European Journal of Mechanics, B/Fluids*, **2000**, 19, 391-402	2.4	8
4	Instabilities of shear flows between two coaxial differentially rotating cones. *Physics of Fluids*, **1999**, 11, 1676-1678	4.4	20
3	Upper bounds on energy dissipation in Couette-Ekman flow. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1999**, 255, 277-286	2.3	19
2	Transitions to complex flows in the Ekman-Couette layer. *Journal of Fluid Mechanics*, **1998**, 366, 311-331	3.7	30
1	bSTAB: an open-source software for computing the basin stability of multi-stable dynamical systems. *Nonlinear Dynamics*,1	5	2