

Stephanos Theodossiades

List of Publications by Year in descending order

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121
papers

2,576
citations

185998

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233125

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125
docs citations

125
times ranked

1044
citing authors

#	ARTICLE	IF	CITATIONS
1	NON-LINEAR DYNAMICS OF GEAR-PAIR SYSTEMS WITH PERIODIC STIFFNESS AND BACKLASH. Journal of Sound and Vibration, 2000, 229, 287-310.	2.1	281
2	Rotational energy harvesting for self-powered sensing. Joule, 2021, 5, 1074-1118.	11.7	172
3	Gear teeth impacts in hydrodynamic conjunctions promoting idle gear rattle. Journal of Sound and Vibration, 2007, 303, 632-658.	2.1	95
4	Periodic and chaotic dynamics of motor-driven gear-pair systems with backlash. Chaos, Solitons and Fractals, 2001, 12, 2427-2440.	2.5	93
5	Transient elastohydrodynamic lubrication of rough new or worn piston compression ring conjunction with an out-of-round cylinder bore. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2012, 226, 284-305.	1.0	79
6	Dynamic analysis of piecewise linear oscillators with time periodic coefficients. International Journal of Non-Linear Mechanics, 2000, 35, 53-68.	1.4	64
7	Lightly loaded lubricated impacts: Idle gear rattle. Journal of Sound and Vibration, 2007, 308, 418-430.	2.1	59
8	A study on torsional vibration attenuation in automotive drivetrains using absorbers with smooth and non-smooth nonlinearities. Applied Mathematical Modelling, 2017, 46, 674-690.	2.2	59
9	On the dynamics of lubricated hypoid gears. Mechanism and Machine Theory, 2012, 48, 94-120.	2.7	55
10	Transient mixed thermo-elastohydrodynamic lubrication in multi-speed transmissions. Tribology International, 2012, 49, 17-29.	3.0	54
11	ON GEARED ROTORDYNAMIC SYSTEMS WITH OIL JOURNAL BEARINGS. Journal of Sound and Vibration, 2001, 243, 721-745.	2.1	53
12	Effect of a Dual-Mass Flywheel on the Impact-Induced Noise in Vehicular Powertrain Systems. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2006, 220, 747-761.	1.1	50
13	Targeted energy transfer and modal energy redistribution in automotive drivetrains. Nonlinear Dynamics, 2017, 87, 169-190.	2.7	50
14	Comparison between transfer path analysis methods on an electric vehicle. Applied Acoustics, 2017, 118, 83-101.	1.7	49
15	Influence of In-Plane Dynamics of Thin Compression Rings on Friction in Internal Combustion Engines. Journal of Engineering for Gas Turbines and Power, 2012, 134, .	0.5	48
16	On the effect of multiple parallel nonlinear absorbers in palliation of torsional response of automotive drivetrain. International Journal of Non-Linear Mechanics, 2017, 96, 22-35.	1.4	46
17	Broadband energy harvesting from parametric vibrations of a class of nonlinear Mathieu systems. Applied Physics Letters, 2017, 110, .	1.5	44
18	Ultra-low frequency energy harvesting using bi-stability and rotary-translational motion in a magnet-tethered oscillator. Nonlinear Dynamics, 2020, 101, 2131-2143.	2.7	44

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19	On the identification of piston slap events in internal combustion engines using tribodynamic analysis. <i>Mechanical Systems and Signal Processing</i> , 2015, 58-59, 308-324.	4.4	42
20	Transient Tribo-Dynamics of Thermo-Elastic Compliant High-Performance Piston Skirts. <i>Tribology Letters</i> , 2014, 53, 51-70.	1.2	41
21	On the dynamics of a nonlinear energy harvester with multiple resonant zones. <i>Nonlinear Dynamics</i> , 2018, 92, 1271-1286.	2.7	39
22	On the Transient Three-Dimensional Tribodynamics of Internal Combustion Engine Top Compression Ring. <i>Journal of Engineering for Gas Turbines and Power</i> , 2017, 139, .	0.5	38
23	Analytical characterization of damping in gear teeth dynamics under hydrodynamic conditions. <i>Mechanism and Machine Theory</i> , 2015, 94, 141-147.	2.7	37
24	An investigation of manual transmission drive rattle. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2010, 224, 167-181.	0.5	36
25	Non-Newtonian mixed elastohydrodynamics of differential hypoid gears at high loads. <i>Meccanica</i> , 2014, 49, 1115-1138.	1.2	35
26	Axle whine phenomenon in light trucks: a combined numerical and experimental investigation. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2011, 225, 885-894.	1.1	34
27	Transmission efficiency and noise, vibration and harshness refinement of differential hypoid gear pairs. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2014, 228, 19-33.	0.5	34
28	Design and validation of a nonlinear vibration absorber to attenuate torsional oscillations of propulsion systems. <i>Nonlinear Dynamics</i> , 2020, 100, 33-49.	2.7	33
29	Elastohydrodynamic lubrication of hypoid gear pairs at high loads. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2012, 226, 183-198.	1.0	32
30	A transient tribodynamic approach for the calculation of internal combustion engine piston slap noise. <i>Journal of Sound and Vibration</i> , 2015, 352, 192-209.	2.1	30
31	Multiphysics Investigations on the Dynamics of Differential Hypoid Gears. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2014, 136, .	1.0	28
32	Gear transmission rattle: Assessment of meshing forces under hydrodynamic lubrication. <i>Applied Acoustics</i> , 2019, 144, 85-95.	1.7	27
33	Prediction of airborne radiated noise from lightly loaded lubricated meshing gear teeth. <i>Applied Acoustics</i> , 2015, 100, 79-86.	1.7	24
34	Dynamics and efficiency of planetary gear sets for hybrid powertrains. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2016, 230, 1359-1368.	1.1	24
35	Non-Newtonian mixed thermo-elastohydrodynamics of hypoid gear pairs. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2018, 232, 1105-1125.	1.0	24
36	Friction in ultra-thin conjunction of valve seals of pressurised metered dose inhalers. <i>Wear</i> , 2010, 268, 845-852.	1.5	23

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37	Effect of teeth micro-geometrical form modification on contact kinematics and efficiency of high performance transmissions. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2017, 231, 538-555.	0.5	23
38	Structural vibration absorption in multilayered sandwich structures using negative stiffness nonlinear oscillators. Applied Acoustics, 2021, 182, 108240.	1.7	23
39	Transient mixed non-Newtonian thermo-elastohydrodynamics of vehicle differential hypoid gears with starved partial counter-flow inlet boundary. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2014, 228, 1159-1173.	1.0	22
40	Impact dynamics of rough and surface protected MEMS gears. Tribology International, 2009, 42, 197-205.	3.0	21
41	An Analytical Approach for Prediction of Elastohydrodynamic Friction with Inlet Shear Heating and Starvation. Tribology Letters, 2016, 64, 1.	1.2	21
42	Inefficiency predictions in a hypoid gear pair through tribodynamics analysis. Tribology International, 2018, 119, 631-644.	3.0	21
43	Mode identification in impact-induced high-frequency vehicular driveline vibrations using an elasto-multi-body dynamics approach. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2004, 218, 81-94.	0.5	20
44	Lubrication of a flexible piston skirt conjunction subjected to thermo-elastic deformation: A combined numerical and experimental investigation. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2014, 228, 69-81.	1.0	20
45	Elasto-multi-body dynamics of internal combustion engines with tribological conjunctions. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2010, 224, 261-277.	0.5	19
46	Lubrication analysis and sub-surface stress field of an automotive differential hypoid gear pair under dynamic loading. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 1183-1197.	1.1	19
47	Vibration energy harvester for variable speed rotor applications using passively self-tuned beams. Journal of Sound and Vibration, 2019, 444, 176-196.	2.1	19
48	A self-tuned rotational vibration energy harvester for self-powered wireless sensing in powertrains. Applied Energy, 2021, 302, 117479.	5.1	19
49	Transmission drive rattle with thermo-elastohydrodynamic impacts: numerical and experimental investigations. International Journal of Powertrains, 2011, 1, 137.	0.1	18
50	Impact-induced vibration in vehicular driveline systems: Theoretical and experimental investigations. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2005, 219, 1-12.	0.5	16
51	Non-linear vibro-impact phenomenon belying transmission idle rattle. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2008, 222, 1909-1923.	1.1	16
52	Root cause identification and physics of impact-induced driveline noise in vehicular powertrain systems. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2005, 219, 1303-1319.	1.1	14
53	On the Effect of Transient In-Plane Dynamics of the Compression Ring Upon Its Tribological Performance. Journal of Engineering for Gas Turbines and Power, 2015, 137, .	0.5	14
54	Tribo-dynamic analysis of high-speed roller bearings for electrified vehicle powertrains. Tribology International, 2021, 154, 106675.	3.0	14

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55	Thermal Analysis of an Oil Jet-Dry Sump Transmission Gear Under Mixed-Elastohydrodynamic Conditions. <i>Journal of Tribology</i> , 2018, 140, .	1.0	13
56	Passive Control of Piston Secondary Motion Using Nonlinear Energy Absorbers. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2017, 139, .	1.0	12
57	An Alternative Formulation of the Dynamic Transmission Error to Study the Oscillations of Automotive Hypoid Gears. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2014, 136, .	1.0	11
58	Ultrasonic wireless power links for battery-free condition monitoring in metallic enclosures. <i>Ultrasonics</i> , 2021, 114, 106395.	2.1	11
59	A multi-physics transient wear model for helical gear pairs. <i>Tribology International</i> , 2022, 169, 107463.	3.0	11
60	Regular and chaotic forced vibration of thin rotating rings. <i>International Journal of Non-Linear Mechanics</i> , 1998, 33, 843-855.	1.4	10
61	Effect of Compression Ring Elastodynamics Behaviour upon Blowby and Power Loss. , 0, , .		10
62	On the Effect of DLC and WCC Coatings on the Efficiency of Manual Transmission Gear Pairs. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 3102.	1.3	10
63	Tailoring Strongly Nonlinear Negative Stiffness. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2014, 136, .	1.7	9
64	Transient thermal analysis of mixed-elastohydrodynamic contact of high performance transmission in a dry sump environment. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2019, 233, 326-338.	1.0	9
65	Analytical Evaluation of Fitted Piston Compression Ring: Modal Behaviour and Frictional Assessment. , 0, , .		8
66	The Tribo-Contact Dynamics Phenomenon in Torsional Impact of Loose Gears - Promoting Gear Rattle. , 2002, , .		7
67	A multi-physics multi-scale approach in engine design analysis. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , 2007, 221, 335-348.	0.5	7
68	Tribology of rough ultra-film contacts in drug delivery devices. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2008, 222, 2209-2216.	1.1	7
69	Effect of tapered roller bearing supports on the dynamic behaviour of hypoid gear pair differentials. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2016, 230, 1090-1104.	1.1	7
70	A study on automotive drivetrain transient response to "clutch abuse"™ events. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2016, 230, 1403-1416.	1.1	7
71	Thermal "Hydrodynamic Behaviour of Coated Pivoted Pad Thrust Bearings: Comparison between Babbitt, PTFE and DLC. <i>Lubricants</i> , 2018, 6, 50.	1.2	7
72	Tribodynamics of hydraulic actuated clutch system for engine-downsizing in heavy duty off-highway vehicles. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2019, 233, 976-993.	1.1	7

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73	On the stability analysis of gear pairs with tooth profile modification. Mechanism and Machine Theory, 2022, 174, 104888.	2.7	7
74	A Nonlinear Concept of Electromagnetic Energy Harvester for Rotational Applications. Journal of Vibration and Acoustics, Transactions of the ASME, 2019, 141, .	1.0	6
75	Methods of palliation for high frequency elasto-acoustic response of truck drivetrain systems. International Journal of Heavy Vehicle Systems, 2006, 13, 253.	0.1	5
76	Numerical and Experimental Analysis of Manual Transmissions - Gear Rattle. , 0, , .		5
77	Design Optimization Study of a Nonlinear Energy Absorber for Internal Combustion Engine Pistons. Journal of Computational and Nonlinear Dynamics, 2018, 13, .	0.7	5
78	Asperity level characterization of abrasive wear using atomic force microscopy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210103.	1.0	5
79	On the Effect of Cardboard Liners on Impact-Induced High Frequency Vehicular Driveline Vibrations. , 2007, , 535.		4
80	Thin film tribology of pharmaceutical elastomeric seals. Applied Mathematical Modelling, 2013, 37, 406-419.	2.2	4
81	Automotive dry clutch fully coupled transient tribodynamics. Nonlinear Dynamics, 2021, 105, 1213-1235.	2.7	4
82	Impact-induced vibration in vehicular driveline systems: Theoretical and experimental investigations. , 0, .		4
83	Development of an anisotropic co-rotational beam model including variable cross-section. Mechanics of Advanced Materials and Structures, 2023, 30, 423-436.	1.5	3
84	From multi-body to many-body dynamics. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2009, 223, 2835-2847.	1.1	2
85	The Effect of Thermo-Hydrodynamics on Manual Automotive Transmissions Gear Rattle. , 2009, , .		2
86	Multi-physics approach for analysis of transmission rattle. , 2010, , 878-913.		2
87	Drive Rattle Elastodynamic Response of Manual Automotive Transmissions. , 2011, , .		2
88	Assessment of Thermo-Structural Effects on EHL Piston Skirt Lubrication. , 2012, , .		2
89	The Effect of Vehicle Cruising Speed on the Dynamics of Automotive Hypoid Gears. , 2012, , .		2
90	Tribo-Dynamics of Differential Hypoid Gears. , 2013, , .		2

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91	Dynamic Analysis of Automotive Hypoid Gears. , 2013, , .		2
92	Tribodynamics of differential hypoid gears. , 2014, , 340-350.		2
93	Energy Harvesting From Torsional Vibrations Using a Nonlinear Oscillator. , 2016, , .		2
94	Effect of bearing thermally induced preload on the efficiency of automotive manual transmission under RDE. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2019, 233, 7423-7441.	1.1	2
95	Noise, vibration and harshness during dry clutch engagement oscillations. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2020, 234, 4572-4588.	1.1	2
96	On the Effect of Clutch Dynamic Properties on Noise, Vibration and Harshness Phenomena. , 0, , .		2
97	A Nonlinear Energy Sink Design to Attenuate the Torsional Oscillations of Lightly Loaded Gear Pairs. Applied Sciences (Switzerland), 2022, 12, 6778.	1.3	2
98	Elasto-Multibody Dynamic Simulation of Impact Induced High Frequency Vehicular Driveline Vibrations. , 2003, , .		1
99	Nano-Scale Impact Characteristics of Rough Surfaces in Humid Atmosphere With Full or Partial SAM Protection. , 2008, , .		1
100	Nano- and Component Level Friction of Rubber Seals in Dispensing Devices. , 2009, , .		1
101	Friction Under Transient Mixed Regime of Lubrication in Conjunction of an Elastic Ring Within a Real Cylinder. , 2012, , .		1
102	Nonlinear Dynamics of an Automotive Differential Hypoid Gear Pair. , 2015, , .		1
103	An Electromagnetic Energy Harvester for Rotational Applications. , 2017, , .		1
104	Physical realisation of a nonlinear electromagnetic energy harvester for rotational applications. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 0, , 095440622098519.	1.1	1
105	Effects of transmission shaft flexibility on rolling element bearing tribodynamics in a high-performance transmission. Mechanism and Machine Theory, 2021, 165, 104440.	2.7	1
106	Dynamics of gear-pair systems with backlash. , 1999, , 69-78.		1
107	On the Road Towards Zero-Prototype Development of Electrified Powertrains via Modelling NVH and Mechanical Efficiency. Mechanisms and Machine Science, 2022, , 267-290.	0.3	1
108	Development of three-dimensional co-rotational beam model for nonlinear dynamic analysis of highly flexible slender composite blades. Mechanics of Advanced Materials and Structures, 0, , 1-12.	1.5	1

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109	Gear teeth impacts in hydrodynamic conjunctions: Idle rattle. , 2006, , 19-28.		0
110	Multi-physics analysis for MEMS meshing micro-gear contacts. Journal of Physics: Conference Series, 2008, 105, 012002.	0.3	0
111	Tribo-elasto-multi-body dynamics of a single cylinder engine under fired condition. , 2010, , 928-945e.		0
112	Microengines and microgears. , 2010, , 947-959.		0
113	Handling Performance of a Vehicle Equipped with an Actively Controlled Differential. , 2011, , .		0
114	Elastohydrodynamics of Hypoid Gears in Axle Whine Conditions. , 0, , .		0
115	A Direct Comparison between Numerical and Experimental Results for Airborne Noise Levels in Automotive Transmission Rattle. , 0, , .		0
116	Power Transmission with Gears. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 1021-1021.	1.1	0
117	Calculation of the kinematics of hypoid gears towards developing a method for an equivalent crossed helical gear pair selection for use in tribological experimental evaluations. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2017, 231, 519-537.	0.5	0
118	Determination of Engine Roughness Using Multi-Physics Numerical Predictions. , 2005, , .		0
119	Nano-Scale Impact Dynamics of Ultra-Thin Bonded Layers. , 2009, , .		0
120	Vibration of Thin Circular Spinning Rings. The Shock and Vibration Digest, 1999, 31, 101-114.	6.2	0
121	Analysis of Non-Linear Impact Dynamics in Automotive Transmissions: Gear Rattle. , 0, , .		0