

# Jussi T Sopanen

## List of Publications by Year in descending order

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81  
papers

1,327  
citations

430754

18  
h-index

377752

34  
g-index

82  
all docs

82  
docs citations

82  
times ranked

868  
citing authors

#	ARTICLE	IF	CITATIONS
1	Description of Elastic Forces in Absolute Nodal Coordinate Formulation. <i>Nonlinear Dynamics</i> , 2003, 34, 53-74.	2.7	157
2	Multidisciplinary Design Process of a 6-Slot 2-Pole High-Speed Permanent-Magnet Synchronous Machine. <i>IEEE Transactions on Industrial Electronics</i> , 2016, 63, 784-795.	5.2	138
3	A two-dimensional shear deformable beam element based on the absolute nodal coordinate formulation. <i>Journal of Sound and Vibration</i> , 2005, 280, 719-738.	2.1	101
4	Dynamic Torque Analysis of a Wind Turbine Drive Train Including a Direct-Driven Permanent-Magnet Generator. <i>IEEE Transactions on Industrial Electronics</i> , 2011, 58, 3859-3867.	5.2	77
5	Chatter avoidance in cutting highly flexible workpieces. <i>CIRP Annals - Manufacturing Technology</i> , 2017, 66, 377-380.	1.7	47
6	Planetary gear sets power loss modeling: Application to wind turbines. <i>Tribology International</i> , 2017, 105, 42-54.	3.0	42
7	A Linear Beam Finite Element Based on the Absolute Nodal Coordinate Formulation. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2005, 127, 621-630.	1.7	39
8	Multidisciplinary Design of a Permanent-Magnet Traction Motor for a Hybrid Bus Taking the Load Cycle into Account. <i>IEEE Transactions on Industrial Electronics</i> , 2016, 63, 3397-3408.	5.2	39
9	Dynamic simulation of a flexible rotor during drop on retainer bearings. <i>Journal of Sound and Vibration</i> , 2007, 306, 601-617.	2.1	35
10	Simple and Versatile Dynamic Model of Spherical Roller Bearing. <i>International Journal of Rotating Machinery</i> , 2013, 2013, 1-13.	0.8	31
11	Active magnetic bearing-supported rotor with misaligned cageless backup bearings: A dropdown event simulation model. <i>Mechanical Systems and Signal Processing</i> , 2015, 50-51, 692-705.	4.4	31
12	Computationally efficient approach for simulation of multibody and hydraulic dynamics. <i>Mechanism and Machine Theory</i> , 2018, 130, 435-446.	2.7	30
13	Ball bearing model performance on various sized rotors with and without centrifugal and gyroscopic forces. <i>Mechanism and Machine Theory</i> , 2015, 90, 240-260.	2.7	29
14	Three-Dimensional Beam Element Based on a Cross-Sectional Coordinate System Approach. <i>Nonlinear Dynamics</i> , 2006, 43, 311-327.	2.7	26
15	Fatigue life calculation procedure for the rotor of an embedded magnet traction motor taking into account thermomechanical loads. <i>Mechanical Systems and Signal Processing</i> , 2018, 111, 36-46.	4.4	23
16	Efficiency comparison of various friction models of a hydraulic cylinder in the framework of multibody system dynamics. <i>Nonlinear Dynamics</i> , 2021, 104, 3497-3515.	2.7	23
17	On the cosimulation of multibody systems and hydraulic dynamics. <i>Multibody System Dynamics</i> , 2020, 50, 143-167.	1.7	22
18	Behavior of thin rectangular ANCF shell elements in various mesh configurations. <i>Nonlinear Dynamics</i> , 2014, 78, 1277-1291.	2.7	21

#	ARTICLE	IF	CITATIONS
19	Combined semi-recursive formulation and lumped fluid method for monolithic simulation of multibody and hydraulic dynamics. <i>Multibody System Dynamics</i> , 2018, 44, 293-311.	1.7	21
20	Deformable Terrain Model for the Real-Time Multibody Simulation of a Tractor With a Hydraulically Driven Front-Loader. <i>IEEE Access</i> , 2019, 7, 172694-172708.	2.6	20
21	Rotordynamic Simulation Method of Induction Motors Including the Effects of Unbalanced Magnetic Pull. <i>IEEE Access</i> , 2020, 8, 21631-21643.	2.6	19
22	A touchdown bearing with surface waviness: Friction loss analysis. <i>Mechanism and Machine Theory</i> , 2017, 110, 73-84.	2.7	18
23	Vibration analysis of paper machine's asymmetric tube roll supported by spherical roller bearings. <i>Mechanical Systems and Signal Processing</i> , 2018, 104, 688-704.	4.4	18
24	Influence of surface waviness in the heat generation and thermal expansion of the touchdown bearing. <i>European Journal of Mechanics, A/Solids</i> , 2019, 74, 34-47.	2.1	17
25	Models for dynamic analysis of backup ball bearings of an AMB-system. <i>Mechanical Systems and Signal Processing</i> , 2017, 95, 324-344.	4.4	16
26	Electromagnetic and mechanical design aspects of a high-speed solid-rotor induction machine with no separate copper electric circuit in the megawatt range. <i>Electrical Engineering</i> , 2009, 91, 35-49.	1.2	15
27	Analysis of Electromagnetic Excitations in an Integrated Centrifugal Pump and Permanent Magnet Synchronous Motor. <i>IEEE Transactions on Energy Conversion</i> , 2019, 34, 1759-1768.	3.7	15
28	Design and Manufacturing of a Modular Low-Voltage Multimegawatt High-Speed Solid-Rotor Induction Motor. <i>IEEE Transactions on Industry Applications</i> , 2021, 57, 6903-6912.	3.3	15
29	Comparing double-step and penalty-based semirecursive formulations for hydraulically actuated multibody systems in a monolithic approach. <i>Multibody System Dynamics</i> , 2021, 52, 169-191.	1.7	14
30	Development and verification of frequency domain solution methods for rotor-bearing system responses caused by rolling element bearing waviness. <i>Mechanical Systems and Signal Processing</i> , 2022, 163, 108117.	4.4	14
31	Unbalanced Magnetic Pull Effects on Rotordynamics of a High-Speed Induction Generator Supported by Active Magnetic Bearings – Analysis and Experimental Verification. <i>IEEE Access</i> , 2020, 8, 212361-212370.	2.6	13
32	State estimator based on an indirect Kalman filter for a hydraulically actuated multibody system. <i>Multibody System Dynamics</i> , 2022, 54, 373-398.	1.7	13
33	Physics-Based Digital Twins Merging With Machines: Cases of Mobile Log Crane and Rotating Machine. <i>IEEE Access</i> , 2022, 10, 45962-45978.	2.6	13
34	Electric Vehicle Energy Consumption Simulation by Modeling the Efficiency of Driveline Components. <i>SAE International Journal of Commercial Vehicles</i> , 0, 9, 31-39.	0.4	11
35	Development and validation of an integrated planetary gear set permanent magnet electric motor power loss model. <i>Tribology International</i> , 2018, 124, 34-45.	3.0	11
36	Effect of off-sized balls on contact stresses in a touchdown bearing. <i>Tribology International</i> , 2018, 120, 340-349.	3.0	10

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37	Fatigue life prediction of Electric RaceAbout (ERA) traction motor rotor. <i>Procedia Structural Integrity</i> , 2021, 31, 45-50.	0.3	10
38	Real-Time Multibody Model-Based Heads-Up Display Unit of a Tractor. <i>IEEE Access</i> , 2021, 9, 57645-57657.	2.6	10
39	Integrated hub-motor drive train for off-road vehicles. , 2014, , .		9
40	Simulation of Subcritical Vibrations of a Large Flexible Rotor with Varying Spherical Roller Bearing Clearance and Roundness Profiles. <i>Machines</i> , 2020, 8, 28.	1.2	9
41	On the dynamic analysis of rotating shafts using nonlinear superelement and absolute nodal coordinate formulations. <i>Advances in Mechanical Engineering</i> , 2017, 9, 168781401773267.	0.8	7
42	Unbalance Estimation for a Large Flexible Rotor Using Force and Displacement Minimization. <i>Machines</i> , 2020, 8, 39.	1.2	7
43	Gamification Procedure Based on Real-Time Multibody Simulation. <i>International Review on Modelling and Simulations</i> , 2018, 11, 259.	0.2	7
44	State Estimation in a Hydraulically Actuated Log Crane Using Unscented Kalman Filter. <i>IEEE Access</i> , 2022, 10, 62863-62878.	2.6	7
45	Transmission configuration effect on total efficiency of Electric Vehicle powertrain. , 2014, , .		6
46	Modeling and Dynamic Analysis of Spherical Roller Bearing with Localized Defects: Analytical Formulation to Calculate Defect Depth and Stiffness. <i>Shock and Vibration</i> , 2016, 2016, 1-11.	0.3	6
47	Shrink-fitted joint behavior using three-dimensional solid finite elements in rotor dynamics with inclusion of stress-stiffening effect. <i>Advances in Mechanical Engineering</i> , 2018, 10, 168781401878005.	0.8	6
48	Commissioning and Control of the AMB Supported 3.5 kW Laboratory Gas Blower Prototype. <i>Solid State Phenomena</i> , 0, 198, 451-456.	0.3	5
49	Experimental verification of a dynamic model of a tube roll in terms of subcritical superharmonic vibrations. <i>Mechanism and Machine Theory</i> , 2013, 64, 53-66.	2.7	5
50	Performance evaluation of touchdown bearing using model-based approach. <i>Nonlinear Dynamics</i> , 2020, 101, 211-232.	2.7	5
51	Design Space Method for Conceptual Design Exploration of High Speed Slitted Solid Induction Motor. , 2021, , .		5
52	General-Purpose and Scalable Internal-Combustion Engine Model for Energy-Efficiency Studies. <i>Machines</i> , 2022, 10, 26.	1.2	5
53	Simulation-Based Transfer Learning for Support Stiffness Identification. <i>IEEE Access</i> , 2021, 9, 120652-120664.	2.6	4
54	Layered Sheet-Steel Damping Estimation Using Optical Vibrometry. , 2015, , .		3

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55	A touchdown bearing with surface waviness: A dynamic model using a multibody approach. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2017, 231, 658-669.	0.5	3
56	Dynamic Analysis of a Direct-Driven Permanent Magnet Generator Drive Train Including Flexible Turbine Blades. , 2011, , .		2
57	Twice-Running-Speed Resonances of a Paper Machine Tube Roll Supported by Spherical Roller Bearings: Analysis and Comparison With Experiments. , 2014, , .		2
58	Simulation Environment for the Real-Time Dynamic Analysis of Hybrid Mobile Machines. , 2015, , .		2
59	Stress Analysis of a Touchdown Bearing Having an Artificial Crack. , 2017, , .		2
60	Gamification and the marketing of agricultural machinery. , 2021, , 77-89.		2
61	Multi-Body Simulation Based Development Environment for Hybrid Working Machines. International Review on Modelling and Simulations, 2015, 8, 466.	0.2	2
62	Dynamic Model of Spherical Roller Bearing. , 2013, , .		1
63	Comparison of Ball Bearing Model Performance With and Without Centrifugal and Gyroscopic Forces. , 2014, , .		1
64	Theoretical Investigation Into Air Cooled Condenser Performance Optimization Through Parameterization for a 10 MW Power Plant. , 2017, , .		1
65	A Case Study of the Contact Force and Stress in the Backup Bearing of a Generator: Experimental Study and Numerical Simulation of Dropdown. Mechanisms and Machine Science, 2019, , 374-386.	0.3	1
66	Model Based Unbalance Identification for Paper Machine's Tube Roll. Mechanisms and Machine Science, 2019, , 3375-3384.	0.3	1
67	Added value from virtual sensors. , 2021, , 90-101.		1
68	Genetic Optimization of Geometrical Parameters of High Speed Rotor. , 2015, , .		1
69	Torsion Vibration Analysis of a Cardan Shaft Driven by a Permanent Magnet Electric Motor. , 2005, , 1143.		0
70	Effect of Misalignment of Retainer Bearings on Dynamic Responses of Rotor System During Emergency Stop. , 2007, , 1635.		0
71	Non-Linear Strain Description for Two-Dimensional Shear Deformable Beam Element Based on the Absolute Nodal Coordinate Formulation. , 2009, , .		0
72	Subcritical Twice-Running-Speed Vibrations of a Non-Ideal Rotor-Bearing-System: Simulation and Experiments. , 2012, , .		0

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73	Torsional Vibration Analysis of Multiple Driving Mode Hybrid Bus Drivetrain. , 2014, , .		0
74	Stresses of an AMB-Supported Rotor Arising From the Sudden Contact With Backup Bearings. , 2015, , .		0
75	Application of Hub-Wheel Electric Motor Integrated With Two Step Planetary Transmission for Heavy Off-Road Vehicles. , 2015, , .		0
76	Spherical Roller Bearing Simulation Model with Localized Defects. Mechanisms and Machine Science, 2015, , 1899-1909.	0.3	0
77	Dynamic Response of a Lightweight Stator Structure for a Large Diameter Direct-Drive Wind Turbine Generator. Mechanisms and Machine Science, 2019, , 503-517.	0.3	0
78	Effect of Operational Temperature on Contact Dynamics of Shrink-Fitted Compressor Impeller Joint. Mechanisms and Machine Science, 2019, , 3341-3351.	0.3	0
79	Unbalanced Magnetic Pull Analysis for Rotordynamics of Induction Motors. , 2020, , .		0
80	A Contact Event Model for an AMB-supported Rotor. Mechanisms and Machine Science, 2015, , 1513-1523.	0.3	0
81	Power Loss and Temperature Growth in the Backup Bearing of AMB-Supported High-Speed Electric Motor During a Dropdown. Mechanisms and Machine Science, 2019, , 144-156.	0.3	0