Wim Desmet

List of Publications by Year
in descending order

76 papers	952 citations	471509 17 h-index	526287 27 g-index
77 all docs	77 docs citations	77 times ranked	912 citing authors

#	ARTICLE	IF	CITATIONS
1	On the acoustic radiation efficiency of local resonance based stop band materials. Journal of Sound and Vibration, 2014, 333, 3203-3213.	3.9	65
2	Vehicle state and tyre force estimation: demonstrations and guidelines. Vehicle System Dynamics, 2021, 59, 675-702.	3.7	56
3	Multibody model based estimation of multiple loads and strain field on a vehicle suspension system. Mechanical Systems and Signal Processing, 2019, 123, 1-25.	8.0	46
4	Design and Experimental Validation of a Stable Two-Stage Estimator for Automotive Sideslip Angle and Tire Parameters. IEEE Transactions on Vehicular Technology, 2017, 66, 9727-9742.	6.3	45
5	Adaptive model reduction technique for large-scale dynamical systems with frequency-dependent damping. Computer Methods in Applied Mechanics and Engineering, 2018, 332, 363-381.	6.6	37
6	Online state and input force estimation for multibody models employing extended Kalman filtering. Multibody System Dynamics, 2014, 32, 317-336.	2.7	36
7	Mathematical Model and Experimental Evaluation of Drag Torque in Disengaged Wet Clutches. ISRN Tribology, 2013, 2013, 1-16.	0.4	35
8	Broadband Load Torque Estimation in Mechatronic Powertrains Using Nonlinear Kalman Filtering. IEEE Transactions on Industrial Electronics, 2018, 65, 2378-2387.	7.9	33
9	On redundancy resolution and energy consumption of kinematically redundant planar parallel manipulators. Robotica, 2018, 36, 809-821.	1.9	33
10	Isogeometric collocation for Kirchhoffâ€"Love plates and shells. Computer Methods in Applied Mechanics and Engineering, 2018, 329, 396-420.	6.6	33
11	Distributed Observer and Controller Design for Spatially Interconnected Systems. IEEE Transactions on Control Systems Technology, 2019, 27, 1-13.	5.2	33
12	Real-time flexible multibody simulation with Global Modal Parameterization. Multibody System Dynamics, 2012, 27, 267-284.	2.7	31
13	Semi-analytic contact technique in a non-linear parametric model order reduction method for gear simulations. Meccanica, 2018, 53, 49-75.	2.0	29
14	Design of Mechatronic Systems With Configuration-Dependent Dynamics: Simulation and Optimization. IEEE/ASME Transactions on Mechatronics, 2008, 13, 638-646.	5.8	25
15	Assessment of excitation mechanisms and structural flexibility influence in excitation propagation in multi-megawatt wind turbine gearboxes: Experiments and flexible multibody model optimization. Mechanical Systems and Signal Processing, 2013, 40, 114-135.	8.0	23
16	Development of an acoustic measurement protocol to monitor acetabular implant fixation in cementless total hip Arthroplasty: A preliminary study. Medical Engineering and Physics, 2017, 49, 28-38.	1.7	21
17	A systemâ€'level model reduction technique for the efficient simulation of flexible multibody systems. International Journal for Numerical Methods in Engineering, 2011, 85, 330-354.	2.8	18
18	Modelling Techniques for Vibro-Acoustic Dynamics of Poroelastic Materials. Archives of Computational Methods in Engineering, 2015, 22, 183-236.	10.2	18

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19	Automated independent coordinates' switching for the solution of stiff DAEs with the linearly implicit Euler method. Multibody System Dynamics, 2016, 36, 67-85.	2.7	15
20	Optimal Magnetic Spring for Compliant Actuation â€" Validated Torque Density Benchmark. Actuators, 2019, 8, 18.	2.3	15
21	Acoustic analysis to monitor implant seating and early detect fractures in cementless THA: An in vivo study. Journal of Orthopaedic Research, 2021, 39, 1164-1173.	2.3	15
22	Bloch theorem with revised boundary conditions applied to glide, screw and rotational symmetric structures. Computer Methods in Applied Mechanics and Engineering, 2017, 318, 497-513.	6.6	14
23	A flexible natural coordinates formulation (FNCF) for the efficient simulation of small-deformation multibody systems. International Journal for Numerical Methods in Engineering, 2018, 115, 1353-1370.	2.8	14
24	Frictional power loss in solid-grease-lubricated needle roller bearing. Lubrication Science, 2013, 25, 351-367.	2.1	13
25	Static modes switching for more efficient flexible multibody simulation. International Journal for Numerical Methods in Engineering, 2011, 87, 1025-1045.	2.8	12
26	Super-element global modal parameterization for efficient inclusion of highly nonlinear components in multibody simulation. Multibody System Dynamics, 2014, 31, 3-25.	2.7	12
27	Hard real-time multibody simulations using ARM-based embedded systems. Multibody System Dynamics, 2016, 37, 127-143.	2.7	12
28	Large Scale Validation of a Flexible Multibody Wind Turbine Gearbox Model. Journal of Computational and Nonlinear Dynamics, 2015, 10, .	1.2	11
29	Deep learning for model order reduction of multibody systems to minimal coordinates. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113517.	6.6	11
30	Vibration-based fixation assessment of tibial knee implants: A combined in vitro and in silico feasibility study. Medical Engineering and Physics, 2017, 49, 109-120.	1.7	10
31	Determination of replicate composite bone material properties using modal analysis. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 66, 12-18.	3.1	10
32	Experimental Validation of Input Torque Balancing Applied to Weaving Machinery. Journal of Mechanical Design, Transactions of the ASME, 2008, 130, .	2.9	9
33	The design of Helmholtz resonator based acoustic lenses by using the symmetric Multi-Level Wave Based Method and genetic algorithms. Journal of Sound and Vibration, 2014, 333, 3367-3381.	3.9	9
34	A Discrete-Time Extended Kalman Filter Approach Tailored for Multibody Models: State-Input Estimation. Sensors, 2021, 21, 4495.	3.8	9
35	On the applicability of static modes switching in gear contact applications. Multibody System Dynamics, 2013, 30, 209-219.	2.7	8
36	Modal frequency and shape curvature as a measure of implant fixation: A computer study on the acetabular cup. Medical Engineering and Physics, 2018, 60, 30-38.	1.7	8

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37	Deep learning of multibody minimal coordinates for state and input estimation with Kalman filtering. Multibody System Dynamics, 2021, 53, 205-223.	2.7	8
38	A semi-analytic strategy for the system-level modelling of flexibly supported ball bearings. Meccanica, 2016, 51, 1503-1532.	2.0	7
39	A biomechanical testing system to determine micromotion between hip implant and femur accounting for deformation of the hip implant: Assessment of the influence of rigid body assumptions on micromotions measurements. Clinical Biomechanics, 2017, 42, 70-78.	1.2	7
40	Multiâ€expansion modal reduction: A pragmatic semiâ€"aÂpriori model order reduction approach for nonlinear structural dynamics. International Journal for Numerical Methods in Engineering, 2019, 118, 765-782.	2.8	7
41	Dynamic Performance of a Squeeze Film Damper with a Cylindrical Roller Bearing under a Large Static Radial Loading Range. Machines, 2019, 7, 14.	2.2	6
42	Implications of Nonsub-Wavelength Resonator Spacing on the Sound Transmission Loss Predictions of Locally Resonant Metamaterial Partitions. Journal of Vibration and Acoustics, Transactions of the ASME, 2021, 143, .	1.6	6
43	Indirect acoustic impedance eduction in presence of flow based on an analytical two-port formulation. Mechanical Systems and Signal Processing, 2014, 48, 388-403.	8.0	5
44	Sensor Selection and State Estimation for Unobservable and Non-Linear System Models. Sensors, 2021, 21, 7492.	3.8	5
45	Development of an Instrument to Assess the Stability of Cementless Femoral Implants Using Vibration Analysis During Total Hip Arthroplasty. IEEE Journal of Translational Engineering in Health and Medicine, 2021, 9, 1-10.	3.7	5
46	Parametric model order reduction for acoustic boundary element method systems through a multiparameter Krylov subspaces recycling strategy. International Journal for Numerical Methods in Engineering, 2022, 123, 5546-5569.	2.8	5
47	A parametric model order reduction technique for poroelastic finite element models. Journal of the Acoustical Society of America, 2017, 142, 2376-2385.	1.1	4
48	BÃ©zier tilings of the sphere and their applications in benchmarking multipatch isogeometric methods. Computer Methods in Applied Mechanics and Engineering, 2018, 332, 255-279.	6.6	4
49	Reverberation time and audibility in phased geometrical acoustics using plane or spherical wave reflection coefficients. Journal of the Acoustical Society of America, 2019, 145, 2681-2690.	1.1	4
50	Sensor selection for cost-effective virtual torque measurements on aÂwind turbine gearbox. Forschung Im Ingenieurwesen/Engineering Research, 2021, 85, 325-334.	1.6	4
51	The Effect and Selection of Solution Sequence in Co-Simulation. , 2021, , .		4
52	A system engineering approach for the design optimization of a hydraulic active suspension. , 2009, , .		3
53	Uncertainty assessment in random field representations: An interval approach. , 2011, , .		3
54	Transversally Asymmetric Stiffness of Laminated Stator Core: A Solution for Noise Mitigation of Electric Machines. IEEE Transactions on Energy Conversion, 2019, 34, 613-619.	5.2	3

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55	The Use of a Vibro-Acoustic Based Method to Determine the Composite Material Properties of a Replicate Clavicle Bone Model. Journal of Functional Biomaterials, 2020, 11, 69.	4.4	3
56	State and Force Estimation on a Rotating Helicopter Blade through a Kalman-Based Approach. Sensors, 2020, 20, 4196.	3.8	3
57	Angle-dependent sound absorption estimation using a compact microphone array. Journal of the Acoustical Society of America, 2021, 150, 2388-2400.	1.1	3
58	Sparse Damage Detection with Complex Group Lasso and Adaptive Complex Group Lasso. Sensors, 2022, 22, 2978.	3.8	3
59	Design of mechatronic systems with configuration-dependent dynamics: Simulation and optimization. , 2007, , .		2
60	Interference effects in phased beam tracing using exact half-space solutions. Journal of the Acoustical Society of America, 2016, 140, 4204-4212.	1.1	2
61	A nondestructive method to verify the glenosphere-baseplate assembly in reverse shoulder arthroplasty. Journal of Shoulder and Elbow Surgery, 2016, 25, e156-e165.	2.6	2
62	Consensus-based distributed sensor fusion over a network. , 2017, , .		2
63	Two Different Methods to Measure the Stability of Acetabular Implants: A Comparison Using Artificial Acetabular Models. Sensors, 2020, 20, 254.	3.8	2
64	Generating set search using simplex gradients for bound-constrained black-box optimization. Computational Optimization and Applications, 2021, 79, 35-65.	1.6	2
65	Magnetic springs: fast energy storage for reciprocating industrial drivetrains. , 0, , .		2
66	Vehicle state and tire force estimation: Performance analysis of pre and post sensor additions. , 2020, , .		2
67	On the robustness of a model-based inverse force identification applied on a structure submerged in different media. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42, 1.	1.6	1
68	Frequency dependent selection of control sensors in multi-channel acoustic control. CEAS Space Journal, 2021, 13, 119-131.	2.3	1
69	Deep learning of multibody minimal coordinates. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000348.	0.2	1
70	An adaptive direct multisearch method for black-box multi-objective optimization. Optimization and Engineering, 2022, 23, 1411-1437.	2.4	1
71	DESIGN METHODOLOGY FOR ENGINEERING STRUCTURES FEATURING AUTOMATIC DESIGN CONCEPT GENERATION BY CONSTRAINT PROGRAMMING AND OBJECTIVE RANKING BY MULTI-ATTRIBUTE EVALUATION. WIT Transactions on the Built Environment, 2020, , .	0.0	1
72	TRANSMITTED POWER AND ENERGY FLOW BEHAVIOR OF DEGRADING WET FRICTION CLUTCHES. International Journal of Applied Research in Mechanical Engineering, 2012, , 286-291.	0.1	1

#	ARTICLE	IF	CITATIONS
73	An Adaptive Order Finite Element Method for poroelastic materials described through the Biot equations. International Journal for Numerical Methods in Engineering, 0, , .	2.8	1
74	Exploiting Cyclic Angle-Dependency in a Kalman Filter-Based Torque Estimation on a Mechatronic Drivetrain. Actuators, 2022, 11, 35.	2.3	1
75	Offline adaptation of co-simulation time steps by leveraging past co-simulation runs in multi-level mechatronic systems. Mechanism and Machine Theory, 2022, 171, 104740.	4.5	1
76	Influence of Artificial Soft Tissue on Intra-Operative Vibration Analysis Method for Primary Fixation Monitoring in Cementless Total Hip Arthroplasty. Applied Sciences (Switzerland), 2022, 12, 4027.	2.5	1