Francisco Javier GonzÃ¡lez Varela

List of Publications by Year
in descending order

40 papers	549 citations	623574 14 h-index	713332 21 g-index
41 all docs	41 docs citations	41 times ranked	340 citing authors

#	Article	IF	Citations
1	On the effect of multirate co-simulation techniques inÂtheÂefficiency and accuracy of multibody systemÂdynamics. Multibody System Dynamics, 2011, 25, 461-483.	1.7	65
2	Determination of Holonomic and Nonholonomic Constraint Reactions in an Index-3 Augmented Lagrangian Formulation With Velocity and Acceleration Projections. Journal of Computational and Nonlinear Dynamics, 2014, 9, .	0.7	34
3	Multibody system dynamics interface modelling for stable multirate co-simulation of multiphysics systems. Mechanism and Machine Theory, 2018, 127, 52-72.	2.7	32
4	Use of penalty formulations in dynamic simulation and analysis of redundantly constrained multibody systems. Multibody System Dynamics, 2013, 29, 57-76.	1.7	29
5	Direct sensitivity analysis of multibody systems with holonomic and nonholonomic constraints via an index-3 augmented Lagrangian formulation with projections. Nonlinear Dynamics, 2018, 93, 2039-2056.	2.7	29
6	Behaviour of augmented Lagrangian and Hamiltonian methods for multibody dynamics in the proximity of singular configurations. Nonlinear Dynamics, 2016, 85, 1491-1508.	2.7	28
7	Mobility evaluation of wheeled robots on soft terrain: Effect of internal force distribution. Mechanism and Machine Theory, 2016, 100, 259-282.	2.7	25
8	On the effect of linear algebra implementations in real-time multibody system dynamics. Computational Mechanics, 2007, 41, 607-615.	2.2	22
9	On the cosimulation of multibody systems and hydraulic dynamics. Multibody System Dynamics, 2020, 50, 143-167.	1.7	22
10	An automated methodology to select functional co-simulation configurations. Multibody System Dynamics, 2020, 48, 79-103.	1.7	21
11	Performance and Application Criteria of Two Fast Formulations for Flexible Multibody Dynamics#. Mechanics Based Design of Structures and Machines, 2007, 35, 381-404.	3.4	18
12	Efficient coupling of multibody software with numerical computing environments and block diagram simulators. Multibody System Dynamics, 2010, 24, 237-253.	1.7	17
13	Real-time simulation of cable pay-out and reel-in with towed fishing gears. Ocean Engineering, 2017, 131, 295-307.	1.9	17
14	Thermal Parameter and State Estimation for Digital Twins of E-Powertrain Components. IEEE Access, 2021, 9, 97384-97400.	2.6	17
15	Assessment of Linearization Approaches for Multibody Dynamics Formulations. Journal of Computational and Nonlinear Dynamics, 2017, 12, .	0.7	15
16	Index-3 divide-and-conquer algorithm for efficient multibody system dynamics simulations: theory and parallel implementation. Nonlinear Dynamics, 2019, 95, 727-747.	2.7	15
17	Energy-leak monitoring and correction to enhance stability in the co-simulation of mechanical systems. Mechanism and Machine Theory, 2019, 131, 172-188.	2.7	14
18	Non-intrusive parallelization of multibody system dynamic simulations. Computational Mechanics, 2009, 44, 493-504.	2.2	13

#	Article	IF	Citations
19	Load assessment and analysis of impacts in multibody systems. Multibody System Dynamics, 2016, 38, 1-19.	1.7	12
20	Co-Simulation of Multibody Systems With Contact Using Reduced Interface Models. Journal of Computational and Nonlinear Dynamics, 2020, 15, .	0.7	12
21	A collaborative benchmarking framework for multibody system dynamics. Engineering With Computers, 2010, 26, 1-9.	3.5	11
22	Interoperability and neutral data formats in multibody system simulation. Multibody System Dynamics, 2007, 18, 59-72.	1.7	10
23	A novel concept for analysis and performance evaluation of wheeled rovers. Mechanism and Machine Theory, 2015, 83, 137-151.	2.7	10
24	Model-Based Coupling for Co-Simulation of Robotic Contact Tasks. IEEE Robotics and Automation Letters, 2020, 5, 5756-5763.	3.3	9
25	Use of active steering in railway bogies to reduce rail corrugation on curves. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2007, 221, 509-519.	1.3	8
26	Weak Coupling of Multibody Dynamics and Block Diagram Simulation Tools. , 2009, , .		8
27	Vehicle-terrain interaction models for analysis and performance evaluation of wheeled rovers. , 2012, , .		8
28	Kinematic Modeling and State Estimation of Exploration Rovers. IEEE Robotics and Automation Letters, 2019, 4, 1311-1318.	3.3	7
29	Effect of gravity in wheel/terrain interaction models. Journal of Field Robotics, 2020, 37, 754-767.	3.2	6
30	Mobility Assessment of Wheeled Robots Operating on Soft Terrain. Springer Tracts in Advanced Robotics, 2016, , 331-344.	0.3	4
31	Effect of normal force dispersion on the mobility of wheeled robots operating on soft soil. , 2014, , .		3
32	On the Linearization of Multibody Dynamics Formulations. , 2016, , .		2
33	Assessment of Methods for the Real-Time Simulation of Electronic and Thermal Circuits. Energies, 2020, 13, 1354.	1.6	2
34	Use of performance indicators in the analysis of running gait impacts. Multibody System Dynamics, 2018, 43, 131-151.	1.7	1
35	Performance Indicators for Wheeled Robots Traversing Obstacles. IEEE Robotics and Automation Letters, 2020, 5, 2881-2888.	3.3	1
36	Interface Models for Multirate Co-Simulation of Nonsmooth Multibody Systems. , 2019, , .		1

#	Article	IF	Citations
37	Energy-based monitoring and correction to enhance the accuracy and stability of explicit co-simulation. Multibody System Dynamics, 2022, 55, 103-136.	1.7	1
38	Effect of Redundant Actuation on the Mobility of Wheeled Robots on Unstructured Terrain. , 2015, , .		0
39	Automatic Differentiation in Automatic Generation of the Linearized Equations of Motion. , 2021, , .		0
40	Eigenstructure assignment and compensation of explicit co-simulation problems. Mechanism and Machine Theory, 2022, 176, 105004.	2.7	0