

Eduardo Bayo

List of Publications by Year in descending order

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95
papers

3,424
citations

236612

25
h-index

155451

55
g-index

97
all docs

97
docs citations

97
times ranked

1282
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinematic and Dynamic Simulation of Multibody Systems. Mechanical Engineering Series, 1994, , .	0.1	591
2	A finite-element approach to control the end-point motion of a single-link flexible robot. Journal of Field Robotics, 1987, 4, 63-75.	0.7	294
3	A replacement for the srs method in seismic analysis. Earthquake Engineering and Structural Dynamics, 1981, 9, 187-192.	2.5	285
4	A modified lagrangian formulation for the dynamic analysis of constrained mechanical systems. Computer Methods in Applied Mechanics and Engineering, 1988, 71, 183-195.	3.4	209
5	Inverse Dynamics and Kinematics of Multi- Link Elastic Robots: An Iterative Frequency Domain Approach. International Journal of Robotics Research, 1989, 8, 49-62.	5.8	209
6	Augmented lagrangian and mass-orthogonal projection methods for constrained multibody dynamics. Nonlinear Dynamics, 1996, 9, 113-130.	2.7	184
7	Piezoelectric actuator design for vibration suppression - Placement and sizing. Journal of Guidance, Control, and Dynamics, 1993, 16, 859-864.	1.6	112
8	Modeling and Solution Methods for Efficient Real-Time Simulation of Multibody Dynamics. Multibody System Dynamics, 1997, 1, 259-280.	1.7	83
9	Title is missing!. Multibody System Dynamics, 2000, 4, 55-73.	1.7	74
10	Exponentially Stable Tracking Control for Multijoint Flexible-Link Manipulators. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1993, 115, 53-59.	0.9	71
11	Singularity-free augmented Lagrangian algorithms for constrained multibody dynamics. Nonlinear Dynamics, 1994, 5, 209-231.	2.7	71
12	An effective component-based method to model semi-rigid connections for the global analysis of steel and composite structures. Engineering Structures, 2006, 28, 97-108.	2.6	67
13	Dynamics of flexible multibody systems using cartesian co-ordinates and large displacement theory. International Journal for Numerical Methods in Engineering, 1991, 32, 1543-1563.	1.5	61
14	Computed torque for the position control of open-chain flexible robots. , 0, , .		59
15	Development of practical design methods for steel structures with semi-rigid connections. Engineering Structures, 2005, 27, 1125-1137.	2.6	59
16	An efficient computational method for real time multibody dynamic simulation in fully cartesian coordinates. Computer Methods in Applied Mechanics and Engineering, 1991, 92, 377-395.	3.4	55
17	On trajectory generation for flexible robots. Journal of Field Robotics, 1987, 4, 229-235.	0.7	51
18	The semi-rigid behaviour of three-dimensional steel beam-to-column joints subjected to proportional loading. Part I. Experimental evaluation. Journal of Constructional Steel Research, 2007, 63, 1241-1253.	1.7	48

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19	A Systematic Design Procedure to Minimize a Performance Index for Robot Force Sensors. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1991, 113, 388-394.	0.9	47
20	An efficient computation of the inverse dynamics of flexible manipulators in the time domain. , 0, , .		46
21	On the Accuracy of End-Point Trajectory Tracking for Flexible Arms by Noncausal Inverse Dynamic Solutions. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1991, 113, 320-324.	0.9	41
22	Six-axis force sensor evaluation and a new type of optimal frame truss design for robotic applications. Journal of Field Robotics, 1989, 6, 191-208.	0.7	40
23	A simple and highly parallelizable method for real-time dynamic simulation based on velocity transformations. Computer Methods in Applied Mechanics and Engineering, 1993, 107, 313-339.	3.4	40
24	Use of Special Ritz Vectors in Dynamic Substructure Analysis. Journal of Structural Engineering, 1986, 112, 1944-1954.	1.7	38
25	Experimental and numerical validation of a new design for three-dimensional semi-rigid composite joints. Engineering Structures, 2013, 48, 55-69.	2.6	38
26	Use of ritz vectors in wave propagation and foundation response. Earthquake Engineering and Structural Dynamics, 1984, 12, 499-505.	2.5	34
27	An alternative design for internal and external semi-rigid composite joints. Part II: Finite element modelling and analytical study. Engineering Structures, 2008, 30, 232-246.	2.6	27
28	Topological Mapping for Tension Structures. Journal of Structural Engineering, 2006, 132, 970-977.	1.7	26
29	The semi-rigidbehaviour of three-dimensional steel beam-to-column steel joints subjected to proportional loading. Part II: Theoretical model and validation. Journal of Constructional Steel Research, 2007, 63, 1254-1267.	1.7	25
30	Experimental behaviour of 3D end-plate beam-to-column bolted steel joints. Engineering Structures, 2019, 188, 277-289.	2.6	23
31	A Close Look at the Embedment of Optical Fibers into Composite Structures. Journal of Composites Technology and Research, 1989, 11, 106.	0.4	20
32	Shear behaviour of trapezoidal column panels. I: Experiments and finite element modelling. Journal of Constructional Steel Research, 2015, 108, 60-69.	1.7	19
33	T-stub behavior under out-of-plane bending. II: Parametric study and analytical characterization. Engineering Structures, 2015, 98, 241-250.	2.6	17
34	Shear behaviour of trapezoidal column panels. II: Parametric study and cruciform element. Journal of Constructional Steel Research, 2015, 108, 70-81.	1.7	17
35	A simple and efficient computational approach for the forward dynamics of elastic robots. Journal of Field Robotics, 1989, 6, 363-382.	0.7	16
36	An efficient cruciform element to model semirigid composite connections for frame analysis. Journal of Constructional Steel Research, 2012, 72, 97-104.	1.7	16

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37	Penalty Formulations for the Dynamic Analysis of Elastic Mechanisms. Journal of Mechanisms, Transmissions, and Automation in Design, 1989, 111, 321-327.	0.2	15
38	A non-recursive Lagrangian solution of the non-causal inverse dynamics of flexible multibody systems: The planar case. International Journal for Numerical Methods in Engineering, 1993, 36, 2725-2741.	1.5	14
39	Flexible Multibody Dynamics Based on a Fully Cartesian System of Support Coordinates. Journal of Mechanical Design, Transactions of the ASME, 1993, 115, 294-299.	1.7	14
40	Initial stiffness and strength characterization of minor axis T-stub under out-of-plane bending. Journal of Constructional Steel Research, 2018, 140, 208-221.	1.7	14
41	WELL-CONDITIONED NUMERICAL APPROACH FOR THE SOLUTION OF THE INVERSE HEAT CONDUCTION PROBLEM. Numerical Heat Transfer, Part B: Fundamentals, 1992, 21, 79-98.	0.6	13
42	An alternative design for internal and external semi-rigid composite joints. Part I: Experimental research. Engineering Structures, 2008, 30, 218-231.	2.6	13
43	The seismic performance of a semi-rigid composite joint with a double-sided extended end-plate. Part I: Experimental research. Engineering Structures, 2010, 32, 385-396.	2.6	13
44	Shear behaviour of stiffened double rectangular column panels: Characterization and cruciform element. Journal of Constructional Steel Research, 2016, 117, 126-138.	1.7	13
45	General component based cruciform finite elements to model 2D steel joints with beams of equal and different depths. Engineering Structures, 2017, 152, 698-708.	2.6	13
46	A Lagrangian approach to the non-causal inverse dynamics of flexible multibody systems: The three-dimensional case. International Journal for Numerical Methods in Engineering, 1994, 37, 3343-3361.	1.5	12
47	Exponentially Stable Tracking Control for Multi-Joint Flexible-Link Manipulators. , 1990, , .		11
48	Title is missing!. Journal of Dynamical and Control Systems, 1999, 9, 173-195.	0.4	11
49	Trajectory planning for flexible manipulators. , 0, , .		9
50	Penalty based Hamiltonian equations for the dynamic analysis of constrained mechanical systems. Mechanism and Machine Theory, 1994, 29, 725-737.	2.7	9
51	Stiffness modelling of 2D welded joints using metamodels based on mode shapes. Journal of Constructional Steel Research, 2019, 156, 242-251.	1.7	9
52	Redundant actuators to achieve minimal vibration trajectory tracking of flexible multibodies: Theory and application. Nonlinear Dynamics, 1994, 6, 419-431.	2.7	9
53	Accuracy of Discrete Models for the Solution of the Inverse Dynamics Problem for Flexible Arms, Feasible Trajectories. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1997, 119, 396-404.	0.9	8
54	Inverse Dynamics of Non-Minimum Phase Systems with Non-Zero Initial Conditions. Journal of Dynamical and Control Systems, 1997, 7, 49-71.	0.4	7

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55	A multi-index variable time step method for the dynamic simulation of multibody systems. <i>International Journal for Numerical Methods in Engineering</i> , 1999, 44, 1579-1598.	1.5	7
56	An efficient and direct method for buckling analysis of steel frame structures. <i>Journal of Constructional Steel Research</i> , 2001, 57, 1321-1336.	1.7	7
57	Integrated 3D Web Application for Structural Analysis Software as a Service. <i>Journal of Computing in Civil Engineering</i> , 2013, 27, 159-166.	2.5	7
58	Inverse dynamics of spatial open-chain flexible manipulators with lumped and distributed actuators. <i>Journal of Field Robotics</i> , 1994, 11, 327-338.	0.7	6
59	Cancelling vibrations in flexible articulated structures using non-causal inverse dynamics. <i>IET Control Theory and Applications</i> , 2000, 147, 596-604.	1.7	5
60	An effective and user-friendly web application for the collaborative analysis of steel joints. <i>Advances in Engineering Software</i> , 2018, 119, 60-67.	1.8	5
61	Major axis steel joint under torsion: Stiffness and strength characterization. <i>Engineering Structures</i> , 2019, 180, 586-602.	2.6	5
62	Seismic performance of semi-rigid composite joints with a double-sided extended end-plate. Part II: Seismic simulations. <i>Engineering Structures</i> , 2010, 32, 397-408.	2.6	4
63	Metamodelling of stiffness matrices for 2D welded asymmetric steel joints. <i>Journal of Constructional Steel Research</i> , 2019, 162, 105703.	1.7	4
64	Major axis steel joint with additional plates subjected to torsion: Stiffness characterization. <i>Engineering Structures</i> , 2020, 220, 111021.	2.6	4
65	Forward Dynamics of Flexible Multibody Systems. <i>Mechanical Engineering Series</i> , 1994, , 375-408.	0.1	4
66	Acceleration Profiles for Causal Solutions of the Inverse Dynamics Approach to the Control of Single Link Flexible Arms. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1991, 113, 752-754.	0.9	3
67	WELL-CONDITIONED NUMERICAL METHOD FOR THE NONLINEAR INVERSE HEAT CONDUCTION PROBLEM. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 1992, 22, 321-347.	0.6	3
68	Existence and uniqueness of solutions of the inverse dynamics of multilink flexible arms: Convergence of a numerical scheme. <i>Journal of Field Robotics</i> , 1993, 10, 73-102.	0.7	3
69	Inverse dynamics of articulated flexible structures: Simultaneous trajectory tracking and vibration reduction. <i>Journal of Dynamical and Control Systems</i> , 1994, 4, 299-309.	0.4	3
70	A Direct Method for Buckling Analysis of Single Layer Lattice Structures. <i>International Journal of Space Structures</i> , 2002, 17, 285-292.	0.3	3
71	Stream Sockets versus Web Services for High-Performance and Secure Structural Analysis in Internet Environments. <i>Journal of Computing in Civil Engineering</i> , 2009, 23, 47-56.	2.5	3
72	Robust design to optimize client-server bi-directional communication for structural analysis web applications or services. <i>Advances in Engineering Software</i> , 2017, 112, 136-146.	1.8	3

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73	Trajectory Shaping for Flexible Manipulators: A Comparative Study. , 1989, , 159-174.		3
74	Experiments with End-Point Control of a Flexible Link using the Inverse Dynamics Approach and Passive Damping. , 1990, , .		3
75	Accuracy of discrete models for the inverse dynamics of flexible arms, feasible trajectories. , 1990, , .		2
76	Dynamic Analysis. Equations of Motion. Mechanical Engineering Series, 1994, , 156-200.	0.1	2
77	Optimal output-trajectory tracking - Application to Mobile Transporter Avionic Breadboard. , 2000, , .		2
78	Axial-moment interaction for 2D welded steel joints using FEA: An initial investigation. Journal of Constructional Steel Research, 2020, 168, 106001.	1.7	2
79	Stiffness metamodelling of 2D bolted extended end-plate steel connections using modal decomposition. Journal of Building Engineering, 2021, 34, 101925.	1.6	2
80	Mechanical model for 2D steel joints with beams of different depth without web stiffeners. , 2016, , .		2
81	Aplicaci3n web para el an4lisis y dise±o de estructuras. Informes De La Construcci3n, 2014, 66, m001.	0.1	2
82	03.28: Performance of cruciform finite elements that model 2D steel joints with beams of unequal depth in frame analysis. Ce/Papers, 2017, 1, 729-738.	0.1	1
83	Characterization of the behaviour of welded steel joints through modal components. Ce/Papers, 2019, 3, 331-336.	0.1	1
84	Practical and efficient approaches for semi-rigid design of composite frames. Steel and Composite Structures, 2007, 7, 161-184.	1.3	1
85	An assessment of the rotation capacity required by structural hollow sections for plastic analysis. , 2017, , 277-284.		1
86	Control Structural Interaction Testbed: A Model for University Industry Interaction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1991, 25, 97-102.	0.4	0
87	Discussion: "Inverse Dynamics of Flexible Robot Arms: Modeling and Computation for Trajectory Control" (Asada, H., Ma, Z.-D., and Tokumaru, H., 1990, ASME J. of Dyn. Syst., Meas., Control, 112, pp.) Tj ETQq1 1,0,784314 rgBT /Ov 192-193.	0.9	0
88	Improved Formulations for Real-Time Dynamics. Mechanical Engineering Series, 1994, , 271-324.	0.1	0
89	A comparative study between eurocode 3 and NBE-EA-95 for standard steel construction. Journal of Constructional Steel Research, 1998, 46, 140-141.	1.7	0
90	Simple efficient architecture. , 2010, , 393-394.		0

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91	CONTROL STRUCTURAL INTERACTION TESTBED: A MODEL FOR UNIVERSITY INDUSTRY INTERACTION. , 1992, , 97-102.		0
92	Vibration Control of an Experimental Two-Link Manipulator. , 1993, , .		0
93	Numerical Integration of the Equations of Motion. Mechanical Engineering Series, 1994, , 243-270.	0.1	0
94	Inverse Dynamics of Flexible Multibodies. Mechanical Engineering Series, 1994, , 409-434.	0.1	0
95	Finite Element Modelling and Parametric Study of Three-Dimensional Semi-Rigid Composite Joints. , 0, , .		0