

# Alberto Cardona

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

84  
papers

2,534  
citations

29  
h-index

48  
g-index

87  
ext. papers

2,877  
ext. citations

3.2  
avg. IF

5.15  
L-index

#	Paper	IF	Citations
84	A beam finite element non-linear theory with finite rotations. <i>International Journal for Numerical Methods in Engineering</i> , <b>1988</b> , 26, 2403-2438	2.4	443
83	Time integration of the equations of motion in mechanism analysis. <i>Computers and Structures</i> , <b>1989</b> , 33, 801-820	4.5	128
82	A reduction method for nonlinear structural dynamic analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1985</b> , 49, 253-279	5.7	123
81	Geometrically exact beam finite element formulated on the special Euclidean group. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2014</b> , 268, 451-474	5.7	86
80	Lie group generalized-time integration of constrained flexible multibody systems. <i>Mechanism and Machine Theory</i> , <b>2012</b> , 48, 121-137	4	86
79	Finite element modeling of welding processes. <i>Applied Mathematical Modelling</i> , <b>2011</b> , 35, 688-707	4.5	79
78	A multiharmonic method for non-linear vibration analysis. <i>International Journal for Numerical Methods in Engineering</i> , <b>1994</b> , 37, 1593-1608	2.4	74
77	A load-dependent basis for reduced nonlinear structural dynamics. <i>Computers and Structures</i> , <b>1985</b> , 20, 203-210	4.5	65
76	Computational modelling of shaped metal deposition. <i>International Journal for Numerical Methods in Engineering</i> , <b>2011</b> , 85, 84-106	2.4	61
75	Modelling of superelements in mechanism analysis. <i>International Journal for Numerical Methods in Engineering</i> , <b>1991</b> , 32, 1565-1593	2.4	61
74	Design of bistable compliant mechanisms using precision position and rigid-body replacement methods. <i>Mechanism and Machine Theory</i> , <b>2010</b> , 45, 304-326	4	60
73	On the Use of Lie Group Time Integrators in Multibody Dynamics. <i>Journal of Computational and Nonlinear Dynamics</i> , <b>2010</b> , 5,	1.4	57
72	Kinematics and dynamics of rigid and flexible mechanisms using finite elements and quaternion algebra. <i>Computational Mechanics</i> , <b>1988</b> , 4, 115-135	4	53
71	Fast Fourier nonlinear vibration analysis. <i>Computational Mechanics</i> , <b>1998</b> , 22, 128-142	4	51
70	Analytical solutions of the thermal field induced by moving double-ellipsoidal and double-elliptical heat sources in a semi-infinite body. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2011</b> , 27, 595-607	2.6	47
69	Thermomechanical model of a continuous casting process. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2000</b> , 182, 439-455	5.7	45
68	Simultaneous enforcement of constraints at position and velocity levels in the nonsmooth generalized-. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2014</b> , 281, 131-161	5.7	44

67	Rigid and flexible joint modelling in multibody dynamics using finite elements. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1991</b> , 89, 395-418	5.7	43
66	Thermal stress evaluation in the steel continuous casting process. <i>International Journal for Numerical Methods in Engineering</i> , <b>2006</b> , 65, 1355-1377	2.4	41
65	A fast convergent and accurate temperature model for phase-change heat conduction. <i>International Journal for Numerical Methods in Engineering</i> , <b>1999</b> , 44, 1863-1884	2.4	41
64	An automated method for type synthesis of planar linkages based on a constrained subgraph isomorphism detection. <i>Multibody System Dynamics</i> , <b>2007</b> , 18, 233-258	2.8	40
63	Energy Preserving Time Integration for Constrained Multibody Systems. <i>Multibody System Dynamics</i> , <b>2004</b> , 11, 41-61	2.8	39
62	Finite-element modelling of heat transfer in shaped metal deposition and experimental validation. <i>Acta Materialia</i> , <b>2012</b> , 60, 6621-6630	8.4	35
61	Superelements Modelling in Flexible Multibody Dynamics. <i>Multibody System Dynamics</i> , <b>2000</b> , 4, 245-266	2.8	35
60	Kinematic and dynamic analysis of mechanisms with cams. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1993</b> , 103, 115-134	5.7	34
59	Solution of non-linear thermal transient problems by a reduction method. <i>International Journal for Numerical Methods in Engineering</i> , <b>1986</b> , 23, 1023-1042	2.4	33
58	Finite element modelling of inverse design problems in large deformations anisotropic hyperelasticity. <i>International Journal for Numerical Methods in Engineering</i> , <b>2008</b> , 74, 894-910	2.4	32
57	Validation of flexible multibody dynamics beam formulations using benchmark problems. <i>Multibody System Dynamics</i> , <b>2016</b> , 37, 29-48	2.8	32
56	Time-Step-Size-Independent Conditioning and Sensitivity to Perturbations in the Numerical Solution of Index Three Differential Algebraic Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2007</b> , 29, 397-414	2.6	30
55	Constitutive models of steel under continuous casting conditions. <i>Journal of Materials Processing Technology</i> , <b>2003</b> , 135, 30-43	5.3	28
54	Non-smooth model of a frictionless and dry three-dimensional revolute joint with clearance for multibody system dynamics. <i>Mechanism and Machine Theory</i> , <b>2018</b> , 121, 335-354	4	28
53	Error analysis of generalized-(alpha) Lie group time integration methods for constrained mechanical systems. <i>Numerische Mathematik</i> , <b>2015</b> , 129, 149-179	2.2	26
52	Drag and non-drag force influences in numerical simulations of metallurgical ladles. <i>Journal of Materials Processing Technology</i> , <b>2005</b> , 160, 296-305	5.3	26
51	A nonlinear beam element formulation in the framework of an energy preserving time integration scheme for constrained multibody systems dynamics. <i>Computers and Structures</i> , <b>2008</b> , 86, 47-63	4.5	24
50	A superelement formulation for mechanism analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1992</b> , 100, 1-29	5.7	24

49	Synthesis of Planar Multiloop Linkages Starting from Existing Parts or Mechanisms: Enumeration and Initial Sizing # #Communicated by M.Ceccarelli View all notes. <i>Mechanics Based Design of Structures and Machines</i> , <b>2008</b> , 36, 364-391	1.7	23
48	Evaluation of simple bifurcation points and post-critical path in large finite rotation problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1999</b> , 175, 137-156	5.7	21
47	Optimal Design of Cams. <i>Multibody System Dynamics</i> , <b>2002</b> , 7, 285-305	2.8	20
46	On the calculation of viscous damping of microbeam resonators in air. <i>Journal of Sound and Vibration</i> , <b>2009</b> , 327, 249-253	3.9	18
45	Visco-plastic constitutive models of steel at high temperature. <i>Journal of Materials Processing Technology</i> , <b>2000</b> , 102, 143-152	5.3	17
44	An augmented Lagrangian technique combined with a mortar algorithm for modelling mechanical contact problems. <i>International Journal for Numerical Methods in Engineering</i> , <b>2013</b> , 93, 420-442	2.4	16
43	Automated sketching of non-fractionated kinematic chains. <i>Mechanism and Machine Theory</i> , <b>2013</b> , 68, 67-82	4	16
42	Modeling of a hydraulic actuator in flexible machine dynamics simulation. <i>Mechanism and Machine Theory</i> , <b>1990</b> , 25, 193-207	4	16
41	Improving the k-compressibility of Hyper Reduced Order Models with moving sources: Applications to welding and phase change problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2014</b> , 274, 237-263	5.7	14
40	An enrichment scheme for solidification problems. <i>Computational Mechanics</i> , <b>2013</b> , 52, 17-35	4	14
39	An energy preserving/decaying scheme for nonlinearly constrained multibody systems. <i>Multibody System Dynamics</i> , <b>2007</b> , 18, 435-470	2.8	13
38	Three-dimensional numerical solution for wear prediction using a mortar contact algorithm. <i>International Journal for Numerical Methods in Engineering</i> , <b>2013</b> , 96, 467-486	2.4	12
37	Two Lie Group Formulations for Dynamic Multibody Systems With Large Rotations <b>2011</b> ,		12
36	Inverse finite element method for large-displacement beams. <i>International Journal for Numerical Methods in Engineering</i> , <b>2010</b> , 84, 1166-1182	2.4	12
35	Topological Synthesis of Planar Metamorphic Mechanisms for Low-Voltage Circuit Breakers. <i>Mechanics Based Design of Structures and Machines</i> , <b>2012</b> , 40, 453-468	1.7	10
34	THREE-DIMENSIONAL GEARS MODELLING IN MULTIBODY SYSTEMS ANALYSIS. <i>International Journal for Numerical Methods in Engineering</i> , <b>1997</b> , 40, 357-381	2.4	10
33	Numerical solution of frictional contact problems based on a mortar algorithm with an augmented Lagrangian technique. <i>Multibody System Dynamics</i> , <b>2015</b> , 35, 353-375	2.8	9
32	Geometric Interpretation of a Non-Linear Beam Finite Element on The Lie Group SE(3). <i>Archive of Mechanical Engineering</i> , <b>2014</b> , 61, 305-329		9

31	Topological and dimensional synthesis of planar linkages for multiple kinematic tasks. <i>Multibody System Dynamics</i> , <b>2013</b> , 29, 189-211	2.8	9
30	Continuation methods for tracing the equilibrium path in flexible mechanism analysis. <i>Engineering Computations</i> , <b>1998</b> , 15, 190-220	1.4	9
29	An Object-Oriented Implementation of the Finite Element Method for Coupled problems. <i>Revue Europeenne Des Elements</i> , <b>1998</b> , 7, 469-504		8
28	A nonsmooth frictional contact formulation for multibody system dynamics. <i>International Journal for Numerical Methods in Engineering</i> , <b>2020</b> , 121, 3584-3609	2.4	7
27	A fixed-mesh Eulerian-Lagrangian approach for stress analysis in continuous casting. <i>International Journal for Numerical Methods in Engineering</i> , <b>2007</b> , 70, 728-755	2.4	7
26	A robust nonsmooth generalized-(alpha ) scheme for flexible systems with impacts. <i>Multibody System Dynamics</i> , <b>2020</b> , 48, 127-149	2.8	7
25	General treatment of essential boundary conditions in reduced order models for non-linear problems. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , <b>2016</b> , 3,	2.7	6
24	Numerical and experimental stress analysis of an internal-combustion engine valve during the closing event. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , <b>2014</b> , 228, 479-489	1.4	6
23	On the Constraints Formulation in the Nonsmooth Generalized-(alpha ) Method <b>2018</b> , 335-374		5
22	Full numerical quadrature of weakly singular double surface integrals in Galerkin boundary element methods. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2011</b> , 27, 314-334	2.6	5
21	Failure internal pressure of spherical steel containments. <i>Nuclear Engineering and Design</i> , <b>1985</b> , 90, 209-222		5
20	A Lie Algebra Approach to Lie Group Time Integration of Constrained Systems. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , <b>2016</b> , 91-158	0.6	5
19	Determination of wear in internal combustion engine valves using the finite element method and experimental tests. <i>Mechanism and Machine Theory</i> , <b>2016</b> , 104, 81-99	4	4
18	Un algoritmo de contacto mortar aplicable a problemas tridimensionales. <i>Revista Internacional De Metodos Numericos Para Calculo Y Diseno En Ingenieria</i> , <b>2012</b> , 28, 80-92	1.8	4
17	Global-Local ROM for the solution of parabolic problems with highly concentrated moving sources. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2017</b> , 326, 739-756	5.7	4
16	Order reduction in time integration caused by velocity projection. <i>Journal of Mechanical Science and Technology</i> , <b>2015</b> , 29, 2579-2585	1.6	3
15	Combined Graph Layout Algorithms for Automated Sketching of Kinematic Chains <b>2012</b> ,		3
14	Modelling, simulation and control of flexible multibody systems. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , <b>2008</b> , 21-74	0.6	3

13	A collocation meshless method based on local optimal point interpolation. <i>International Journal for Numerical Methods in Engineering</i> , <b>2003</b> , 57, 509-536	2.4	3
12	Synthesis and Optimization of Flexible Mechanisms <b>2009</b> , 81-93		3
11	Electro-Mechano-Fluidic Modeling of Microsystems Using Finite Elements. <i>IEEE Transactions on Magnetics</i> , <b>2012</b> , 48, 355-358	2	2
10	Reduction methods and explicit time integration technique in structural dynamics. <i>Advances in Engineering Software (1978)</i> , <b>1984</b> , 6, 36-44		2
9	A General Purpose Formulation for Nonsmooth Dynamics With Finite Rotations: Application to the Woodpecker Toy. <i>Journal of Computational and Nonlinear Dynamics</i> , <b>2021</b> , 16,	1.4	2
8	On the adaptation of local impact laws for multiple impact problems. <i>Nonlinear Dynamics</i> , <b>2020</b> , 102, 1997-2016	5	2
7	Global-local HROM for non-linear thermal problems with irreversible changes of material states. <i>Comptes Rendus - Mecanique</i> , <b>2018</b> , 346, 539-555	2.1	2
6	Automated Type and Modular Dimensional Synthesis of Planar Linkages <b>2010</b> ,		1
5	Computation of Stress and Strain Evolution During Heat Treatment of Work Rolls. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2006</b> , 73, 1045-1053	2.7	1
4	Unilateral contact condition enhanced with squeeze film modelling in automotive differentials. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>2016</b> , 230, 1243-1257	1.3	
3	Dynamic Analysis of Constrained Nonlinear Multibody Systems with Intermittent Contact <b>2006</b> , 572-572		
2	Simulation of Sliding Friction of Spherical Rigid Bodies Subject to Multiple Impact Collisions. <i>Mechanisms and Machine Science</i> , <b>2021</b> , 151-158	0.3	
1	Design of cams using a general purpose mechanism analysis program <b>2001</b> , 603-605		