

# Alberto Cardona

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3057930/publications.pdf>

Version: 2024-02-01

85  
papers

3,214  
citations

147566

31  
h-index

155451

55  
g-index

87  
all docs

87  
docs citations

87  
times ranked

1649  
citing authors

#	ARTICLE	IF	CITATIONS
1	A beam finite element non-linear theory with finite rotations. International Journal for Numerical Methods in Engineering, 1988, 26, 2403-2438.	1.5	525
2	Time integration of the equations of motion in mechanism analysis. Computers and Structures, 1989, 33, 801-820.	2.4	154
3	A reduction method for nonlinear structural dynamic analysis. Computer Methods in Applied Mechanics and Engineering, 1985, 49, 253-279.	3.4	149
4	Geometrically exact beam finite element formulated on the special Euclidean group. Computer Methods in Applied Mechanics and Engineering, 2014, 268, 451-474.	3.4	129
5	Lie group generalized- $\hat{\pm}$ time integration of constrained flexible multibody systems. Mechanism and Machine Theory, 2012, 48, 121-137.	2.7	124
6	Finite element modeling of welding processes. Applied Mathematical Modelling, 2011, 35, 688-707.	2.2	107
7	Modelling of superelements in mechanism analysis. International Journal for Numerical Methods in Engineering, 1991, 32, 1565-1593.	1.5	91
8	A multiharmonic method for non-linear vibration analysis. International Journal for Numerical Methods in Engineering, 1994, 37, 1593-1608.	1.5	88
9	A load-dependent basis for reduced nonlinear structural dynamics. Computers and Structures, 1985, 20, 203-210.	2.4	79
10	On the Use of Lie Group Time Integrators in Multibody Dynamics. Journal of Computational and Nonlinear Dynamics, 2010, 5, .	0.7	76
11	Computational modelling of shaped metal deposition. International Journal for Numerical Methods in Engineering, 2011, 85, 84-106.	1.5	74
12	Kinematics and dynamics of rigid and flexible mechanisms using finite elements and quaternion algebra. Computational Mechanics, 1988, 4, 115-135.	2.2	70
13	Design of bistable compliant mechanisms using precision- $\hat{\pm}$ position and rigid-body replacement methods. Mechanism and Machine Theory, 2010, 45, 304-326.	2.7	70
14	Analytical solutions of the thermal field induced by moving double-ellipsoidal and double-elliptical heat sources in a semi-infinite body. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 595-607.	1.0	67
15	Fast Fourier nonlinear vibration analysis. Computational Mechanics, 1998, 22, 128-142.	2.2	64
16	Simultaneous enforcement of constraints at position and velocity levels in the nonsmooth generalized- $\hat{\pm}$ scheme. Computer Methods in Applied Mechanics and Engineering, 2014, 281, 131-161.	3.4	61
17	Energy Preserving Time Integration for Constrained Multibody Systems. Multibody System Dynamics, 2004, 11, 41-61.	1.7	60
18	Validation of flexible multibody dynamics beam formulations using benchmark problems. Multibody System Dynamics, 2016, 37, 29-48.	1.7	55

#	ARTICLE	IF	CITATIONS
19	Rigid and flexible joint modelling in multibody dynamics using finite elements. Computer Methods in Applied Mechanics and Engineering, 1991, 89, 395-418.	3.4	52
20	Thermomechanical model of a continuous casting process. Computer Methods in Applied Mechanics and Engineering, 2000, 182, 439-455.	3.4	52
21	A fast convergent and accurate temperature model for phase-change heat conduction. International Journal for Numerical Methods in Engineering, 1999, 44, 1863-1884.	1.5	48
22	Finite-element modelling of heat transfer in shaped metal deposition and experimental validation. Acta Materialia, 2012, 60, 6621-6630.	3.8	48
23	Thermal stress evaluation in the steel continuous casting process. International Journal for Numerical Methods in Engineering, 2006, 65, 1355-1377.	1.5	46
24	An automated method for type synthesis of planar linkages based on a constrained subgraph isomorphism detection. Multibody System Dynamics, 2007, 18, 233-258.	1.7	46
25	Superelements Modelling in Flexible Multibody Dynamics. Multibody System Dynamics, 2000, 4, 245-266.	1.7	42
26	Kinematic and dynamic analysis of mechanisms with cams. Computer Methods in Applied Mechanics and Engineering, 1993, 103, 115-134.	3.4	39
27	Non-smooth model of a frictionless and dry three-dimensional revolute joint with clearance for multibody system dynamics. Mechanism and Machine Theory, 2018, 121, 335-354.	2.7	38
28	Solution of non-linear thermal transient problems by a reduction method. International Journal for Numerical Methods in Engineering, 1986, 23, 1023-1042.	1.5	37
29	Time-Step-Independent Conditioning and Sensitivity to Perturbations in the Numerical Solution of Index Three Differential Algebraic Equations. SIAM Journal of Scientific Computing, 2007, 29, 397-414.	1.3	35
30	Drag and non-drag force influences in numerical simulations of metallurgical ladles. Journal of Materials Processing Technology, 2005, 160, 296-305.	3.1	34
31	Finite element modelling of inverse design problems in large deformations anisotropic hyperelasticity. International Journal for Numerical Methods in Engineering, 2008, 74, 894-910.	1.5	34
32	Constitutive models of steel under continuous casting conditions. Journal of Materials Processing Technology, 2003, 135, 30-43.	3.1	32
33	A superelement formulation for mechanism analysis. Computer Methods in Applied Mechanics and Engineering, 1992, 100, 1-29.	3.4	31
34	Error analysis of generalized- $\alpha$ Lie group time integration methods for constrained mechanical systems. Numerische Mathematik, 2015, 129, 149-179.	0.9	30
35	A nonlinear beam element formulation in the framework of an energy preserving time integration scheme for constrained multibody systems dynamics. Computers and Structures, 2008, 86, 47-63.	2.4	28
36	Optimal Design of Cams. Multibody System Dynamics, 2002, 7, 285-305.	1.7	27

#	ARTICLE	IF	CITATIONS
37	Synthesis of Planar Multiloop Linkages Starting from Existing Parts or Mechanisms: Enumeration and Initial Sizing. <i>Mechanics Based Design of Structures and Machines</i> , 2008, 36, 364-391.	3.4	24
38	Evaluation of simple bifurcation points and post-critical path in large finite rotation problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1999, 175, 137-156.	3.4	22
39	Visco-plastic constitutive models of steel at high temperature. <i>Journal of Materials Processing Technology</i> , 2000, 102, 143-152.	3.1	22
40	On the calculation of viscous damping of microbeam resonators in air. <i>Journal of Sound and Vibration</i> , 2009, 327, 249-253.	2.1	20
41	Automated sketching of non-fractionated kinematic chains. <i>Mechanism and Machine Theory</i> , 2013, 68, 67-82.	2.7	20
42	Modeling of a hydraulic actuator in flexible machine dynamics simulation. <i>Mechanism and Machine Theory</i> , 1990, 25, 193-207.	2.7	18
43	An augmented Lagrangian technique combined with a mortar algorithm for modelling mechanical contact problems. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 93, 420-442.	1.5	18
44	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> , 2014, 274, 237-263.	3.4	18
45	Two Lie Group Formulations for Dynamic Multibody Systems With Large Rotations. , 2011, , .		17
46	An enrichment scheme for solidification problems. <i>Computational Mechanics</i> , 2013, 52, 17-35.	2.2	17
47	A nonsmooth frictional contact formulation for multibody system dynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 3584-3609.	1.5	17
48	An energy preserving/decaying scheme for nonlinearly constrained multibody systems. <i>Multibody System Dynamics</i> , 2007, 18, 435-470.	1.7	14
49	Three-dimensional numerical solution for wear prediction using a mortar contact algorithm. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 96, 467-486.	1.5	14
50	THREE-DIMENSIONAL GEARS MODELLING IN MULTIBODY SYSTEMS ANALYSIS. <i>International Journal for Numerical Methods in Engineering</i> , 1997, 40, 357-381.	1.5	13
51	Inverse finite element method for large displacement beams. <i>International Journal for Numerical Methods in Engineering</i> , 2010, 84, 1166-1182.	1.5	13
52	A Lie Algebra Approach to Lie Group Time Integration of Constrained Systems. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2016, , 91-158.	0.3	13
53	Continuation methods for tracing the equilibrium path in flexible mechanism analysis. <i>Engineering Computations</i> , 1998, 15, 190-220.	0.7	12
54	Topological Synthesis of Planar Metamorphic Mechanisms for Low-Voltage Circuit Breakers. <i>Mechanics Based Design of Structures and Machines</i> , 2012, 40, 453-468.	3.4	12

#	ARTICLE	IF	CITATIONS
55	Geometric Interpretation of a Non-Linear Beam Finite Element on The Lie Group SE(3). Archive of Mechanical Engineering, 2014, 61, 305-329.	0.7	12
56	Topological and dimensional synthesis of planar linkages for multiple kinematic tasks. Multibody System Dynamics, 2013, 29, 189-211.	1.7	11
57	Numerical solution of frictional contact problems based on a mortar algorithm with an augmented Lagrangian technique. Multibody System Dynamics, 2015, 35, 353-375.	1.7	11
58	A robust nonsmooth generalized- $\alpha$ scheme for flexible systems with impacts. Multibody System Dynamics, 2020, 48, 127-149.	1.7	11
59	Numerical and experimental stress analysis of an internal-combustion engine valve during the closing event. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2014, 228, 479-489.	1.1	10
60	Determination of wear in internal combustion engine valves using the finite element method and experimental tests. Mechanism and Machine Theory, 2016, 104, 81-99.	2.7	10
61	General treatment of essential boundary conditions in reduced order models for non-linear problems. Advanced Modeling and Simulation in Engineering Sciences, 2016, 3, .	0.7	10
62	An Object-Oriented Implementation of the Finite Element Method for Coupled problems. Revue Europeenne Des Elements, 1998, 7, 469-504.	0.1	9
63	A fixed-mesh Eulerian-Lagrangian approach for stress analysis in continuous casting. International Journal for Numerical Methods in Engineering, 2007, 70, 728-755.	1.5	9
64	Full numerical quadrature of weakly singular double surface integrals in Galerkin boundary element methods. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 314-334.	1.0	9
65	On the Constraints Formulation in the Nonsmooth Generalized- $\alpha$ Method. , 2018, , 335-374.		7
66	On the adaptation of local impact laws for multiple impact problems. Nonlinear Dynamics, 2020, 102, 1997-2016.	2.7	7
67	Global-Local ROM for the solution of parabolic problems with highly concentrated moving sources. Computer Methods in Applied Mechanics and Engineering, 2017, 326, 739-756.	3.4	6
68	Failure internal pressure of spherical steel containments. Nuclear Engineering and Design, 1985, 90, 209-222.	0.8	5
69	A General Purpose Formulation for Nonsmooth Dynamics With Finite Rotations: Application to the Woodpecker Toy. Journal of Computational and Nonlinear Dynamics, 2021, 16, .	0.7	5
70	Reduction methods and explicit time integration technique in structural dynamics. Advances in Engineering Software (1978), 1984, 6, 36-44.	0.1	4
71	A collocation meshless method based on local optimal point interpolation. International Journal for Numerical Methods in Engineering, 2003, 57, 509-536.	1.5	4
72	Modelling, simulation and control of flexible multibody systems. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2008, , 21-74.	0.3	4

#	ARTICLE	IF	CITATIONS
73	Order reduction in time integration caused by velocity projection. Journal of Mechanical Science and Technology, 2015, 29, 2579-2585.	0.7	4
74	Combined Graph Layout Algorithms for Automated Sketching of Kinematic Chains. , 2012, , .		3
75	Electro-Mechano-Fluidic Modeling of Microsystems Using Finite Elements. IEEE Transactions on Magnetics, 2012, 48, 355-358.	1.2	3
76	Synthesis and Optimization of Flexible Mechanisms. , 2009, , 81-93.		3
77	Automated Type and Modular Dimensional Synthesis of Planar Linkages. , 2010, , .		2
78	Galerkin Boundary Elements for a Computation of the Surface Traction in Exterior Stokes Flows. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	2
79	Global-local HROM for non-linear thermal problems with irreversible changes of material states. Comptes Rendus - Mecanique, 2018, 346, 539-555.	2.1	2
80	Computation of Stress and Strain Evolution During Heat Treatment of Work Rolls. Journal of Applied Mechanics, Transactions ASME, 2006, 73, 1045-1053.	1.1	1
81	Dynamic Analysis of Constrained Nonlinear Multibody Systems with Intermittent Contact. , 2006, , 572-572.		0
82	Numerical and Experimental Stress Analysis of an Internal Combustion Engine Valve During the Closing Event. , 2012, , .		0
83	Wear Prediction in Internal Combustion Engine Valve Materials. , 2012, , .		0
84	Unilateral contact condition enhanced with squeeze film modelling in automotive differentials. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 1243-1257.	1.1	0
85	Design of cams using a general purpose mechanism analysis program. , 2001, , 603-605.		0