Vincent Acary

List of Publications by Year
in descending order

62	1,851	279701	315616
papers	citations	23	38
		h-index	g-index

66	66	66	1010
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Numerical Methods for Nonsmooth Dynamical Systems. Lecture Notes in Applied and Computational Mechanics, 2008, , .	2.0	346
2	Chattering-Free Digital Sliding-Mode Control With State Observer and Disturbance Rejection. IEEE Transactions on Automatic Control, 2012, 57, 1087-1101.	3.6	173
3	Implicit Euler numerical scheme and chattering-free implementation of sliding mode systems. Systems and Control Letters, 2010, 59, 284-293.	1.3	151
4	On the equivalence between complementarity systems, projected systems and differential inclusions. Systems and Control Letters, 2006, 55, 45-51.	1.3	116
5	Lyapunov Stability and Performance Analysis of the Implicit Discrete Sliding Mode Control. IEEE Transactions on Automatic Control, 2016, 61, 3016-3030.	3.6	85
6	The Contact Dynamics method: A nonsmooth story. Comptes Rendus - Mecanique, 2018, 346, 247-262.	2.1	73
7	Nonsmooth Modeling and Simulation for Switched Circuits. Lecture Notes in Electrical Engineering, 2011, , .	0.3	64
8	Projected event-capturing time-stepping schemes for nonsmooth mechanical systems with unilateral contact and Coulombâ€™s friction. Computer Methods in Applied Mechanics and Engineering, 2013, 256, 224-250.	3.4	63
9	Simultaneous enforcement of constraints at position and velocity levels in the nonsmooth generalized-α scheme. Computer Methods in Applied Mechanics and Engineering, 2014, 281, 131-161.	3.4	61
10	Implicit discrete-time twisting controller without numerical chattering: Analysis and experimental results. Control Engineering Practice, 2016, 46, 129-141.	3.2	55
11	A nonsmooth Newton solver for capturing exact Coulomb friction in fiber assemblies. ACM Transactions on Graphics, 2011, 30, 1-14.	4.9	54
12	Non-smooth contact dynamics approach of cohesive materials. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2001, 359, 2497-2518.	1.6	53
13	A nonsmooth generalizedâ€•α scheme for flexible multibody systems with unilateral constraints. International Journal for Numerical Methods in Engineering, 2013, 96, 487-511.	1.5	45
14	Multibody systems with 3D revolute joints with clearances: an industrial case study with an experimental validation. Multibody System Dynamics, 2018, 42, 249-282.	1.7	43
15	Experimental Comparisons Between Implicit and Explicit Implementations of Discrete-Time Sliding Mode Controllers: Toward Input and Output Chattering Suppression. IEEE Transactions on Control Systems Technology, 2015, 23, 2071-2075.	3.2	41
16	Higher order Moreauâ€™s sweeping process: mathematical formulation and numerical simulation. Mathematical Programming, 2008, 113, 133-217.	1.6	38
17	Time-Stepping Numerical Simulation of Switched Circuits Within the Nonsmooth Dynamical Systems Approach. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2010, 29, 1042-1055.	1.9	32
18	Numerical simulation of piecewise-linear models of gene regulatory networks using complementarity systems. Physica D: Nonlinear Phenomena, 2014, 269, 103-119.	1.3	32

#	Article	IF	Citations
19	Timestepping schemes for nonsmooth dynamics based on discontinuous Galerkin methods: Definition and outlook. Mathematics and Computers in Simulation, 2014, 95, 180-199.	2.4	31
20	Energy conservation and dissipation properties of time-integration methods for nonsmooth elastodynamics with contact. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2016, 96, 585-603.	0.9	31
21	Time-discretizations of differentiators: Design of implicit algorithms and comparative analysis. International Journal of Robust and Nonlinear Control, 2021, 31, 7679-7723.	2.1	30
22	Higher order event capturing time-stepping schemes for nonsmooth multibody systems with unilateral constraints and impacts. Applied Numerical Mathematics, 2012, 62, 1259-1275.	1.2	28
23	Lyapunov Stability Analysis of the Implicit Discrete-Time Twisting Control Algorithm. IEEE Transactions on Automatic Control, 2020, 65, 2619-2626.	3.6	28
24	Nonsmooth contact dynamics for the numerical simulation of collisions in musical string instruments. Journal of the Acoustical Society of America, 2018, 143, 3195-3205.	0.5	19
25	Switching, relay and complementarity systems: A tutorial on their well-posedness and relationships. Physica D: Nonlinear Phenomena, 2012, 241, 1985-2002.	1.3	17
26	Half-explicit timestepping schemes on velocity level based on time-discontinuous Galerkin methods. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 250-276.	3.4	16
27	Discrete-time twisting controller without numerical chattering: analysis and experimental results with an implicit method. , 2014, , .		14
28	Analysis of collocated feedback controllers for four-bar planar mechanisms with joint clearances. Multibody System Dynamics, 2016, 38, 101-136.	1.7	14
29	On preserving dissipativity properties of linear complementarity dynamical systems with the $$\theta$$ θ-method. Numerische Mathematik, 2013, 125, 601-637.	0.9	12
30	On Solving Contact Problems with Coulomb Friction: Formulations and Numerical Comparisons. , 2018, , 375-457.		11
31	3D Revolute Joint with Clearance in Multibody Systems. Mechanisms and Machine Science, 2018, , 11-18.	0.3	11
32	Comparison between explicit and implicit discrete-time implementations of sliding-mode controllers. , 2013, , .		10
33	Comparison of several formulations and integration methods for the resolution of DAEs formulations in event-driven simulation of nonsmooth frictionless multibody dynamics. Multibody System Dynamics, 2017, 41, 201-231.	1.7	8
34	On the Constraints Formulation in the Nonsmooth Generalized-$$\alpha$$ α Method. , 2018, , 335-374.		7
35	A complementarity approach for the computation of periodic oscillations in piecewise linear systems. Nonlinear Dynamics, 2016, 85, 1255-1273.	2.7	6
36	Enhanced matching perturbation attenuation with discrete-time implementations of sliding-mode controllers. , 2014, , .		5

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37	Comments on "Chattering-Free Digital Sliding-Mode Control With State Observer and Disturbance Rejection". IEEE Transactions on Automatic Control, 2016, 61, 3707-3707.	3.6	5
38	The contact problem in Lagrangian systems with redundant frictional bilateral and unilateral constraints and singular mass matrix. The all-sticking contacts problem. Multibody System Dynamics, 2020, 48, 151-192.	1.7	5
39	Applications of an Existence Result for the Coulomb Friction Problem. Lecture Notes in Applied and Computational Mechanics, 2013, , 45-66.	2.0	5
40	Nonsmooth Dynamical Systems: Motivating Examples and Basic Concepts. Lecture Notes in Applied and Computational Mechanics, 2008, , 1-54.	2.0	3
41	Time-Stepping via Complementarity. Advances in Industrial Control, 2012, , 417-450.	0.4	2
42	Computing period and shape of oscillations in piecewise linear Lur'e systems: A complementarity approach. , 2013, , .		2
43	Finite time tracking of unilaterally constrained planar systems with pre-specified settling time: Second order sliding mode synthesis and chattering-free digital implementation. , 2012, , .		1
44	Concurrent multiple impacts modelling. , 2003, , 1842-1847.		1
45	Index-2 hybrid DAE: a case study with well-posedness and numerical analysis. IFAC-PapersOnLine, 2020, 53, 1888-1893.	0.5	1
46	Reduced-Order Model for the Nonlinear Dynamics of Cables. Journal of Engineering Mechanics - ASCE, 2022, 148, .	1.6	1
47	Basics on Mathematical Programming Theory. , 2008, , 331-402.		0
48	Numerical Methods for the Frictional Contact Problem. Lecture Notes in Applied and Computational Mechanics, 2008, , 403-440.	2.0	0
49	Higher Order Constrained Dynamical Systems. , 2008, , 177-188.		0
50	Nonsmooth Dynamical Systems: A Short Zoology. Lecture Notes in Applied and Computational Mechanics, 2008, , 57-105.	2.0	0
51	Complementarity Systems. Lecture Notes in Applied and Computational Mechanics, 2008, , 165-176.	2.0	0
52	Time-Stepping Schemes for Systems with AC Solutions. Lecture Notes in Applied and Computational Mechanics, 2008, , 243-284.	2.0	0
53	Event-Driven Schemes for Inclusions with AC Solutions. Lecture Notes in Applied and Computational Mechanics, 2008, , 203-217.	2.0	0
54	Time-Stepping Scheme for the HOSP. , 2008, , 319-325.		0

#	ARTICLE	IF	CITATIONS
55	Event-Driven Schemes for Lagrangian Systems. , 2008, , 219-241.		0
56	The SICONOS Platform. , 2008, , 443-488.		0
57	Mechanical Systems with Unilateral Constraints and Friction. , 2008, , 107-163.		0
58	Influence of imperfect joints and geometrical tolerances on a circuit breaker dynamics. Mechanisms and Machine Science, 2019, , 3069-3078.	0.3	0
59	Time-Stepping Schemes for Mechanical Systems. Lecture Notes in Applied and Computational Mechanics, 2008, , 285-317.	2.0	0
60	Buck and Delta-Sigma Converters. Lecture Notes in Electrical Engineering, 2011, , 239-265.	0.3	0
61	Simple Circuits. Lecture Notes in Electrical Engineering, 2011, , 215-237.	0.3	0
62	Introduction to Switched Circuits. Lecture Notes in Electrical Engineering, 2011, , 3-32.	0.3	0