Francisco

List of Publications by Year
in descending order

125 papers	4,807 citations	147801 31 h-index	98798 67 g-index
127 all docs	127 docs citations	127 times ranked	1720 citing authors

#	Article	IF	Citations
1	A Short Review on Model Order Reduction Based on Proper Generalized Decomposition. Archives of Computational Methods in Engineering, 2011, 18, 395-404.	10.2	460
2	A new family of solvers for some classes of multidimensional partial differential equations encountered in kinetic theory modeling of complex fluids. Journal of Non-Newtonian Fluid Mechanics, 2006, 139, 153-176.	2.4	423
3	Recent Advances and New Challenges in the Use of the Proper Generalized Decomposition for Solving Multidimensional Models. Archives of Computational Methods in Engineering, 2010, 17, 327-350.	10.2	301
4	A new family of solvers for some classes of multidimensional partial differential equations encountered in kinetic theory modelling of complex fluids. Journal of Non-Newtonian Fluid Mechanics, 2007, 144, 98-121.	2.4	271
5	PGD-Based Computational Vademecum for Efficient Design, Optimization and Control. Archives of Computational Methods in Engineering, 2013, 20, 31-59.	10.2	246
6	An overview of the proper generalized decomposition with applications in computational rheology. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 578-592.	2.4	194
7	The Proper Generalized Decomposition for Advanced Numerical Simulations. SpringerBriefs in Applied Sciences and Technology, 2014, , .	0.4	175
8	A Manifold Learning Approach to Data-Driven Computational Elasticity and Inelasticity. Archives of Computational Methods in Engineering, 2018, 25, 47-57.	10.2	153
9	Data-driven modeling and learning in science and engineering. Comptes Rendus - Mecanique, 2019, 347, 845-855.	2.1	150
10	Virtual, Digital and Hybrid Twins: A New Paradigm in Data-Based Engineering and Engineered Data. Archives of Computational Methods in Engineering, 2020, 27, 105-134.	10.2	142
11	Advanced simulation of models defined in plate geometries: 3D solutions with 2D computational complexity. Computer Methods in Applied Mechanics and Engineering, 2012, 201-204, 1-12.	6.6	137
12	An error estimator for separated representations of highly multidimensional models. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1872-1880.	6.6	103
13	Data-driven non-linear elasticity: constitutive manifold construction and problem discretization. Computational Mechanics, 2017, 60, 813-826.	4.0	101
14	First steps towards an advanced simulation of composites manufacturing by automated tape placement. International Journal of Material Forming, 2014, 7, 81-92.	2.0	88
15	On the Convergence of a Greedy Rank-One Update Algorithm forÂaÂClass of Linear Systems. Archives of Computational Methods in Engineering, 2010, 17, 473-486.	10.2	65
16	Thermodynamically consistent data-driven computational mechanics. Continuum Mechanics and Thermodynamics, 2019, 31, 239-253.	2.2	65
17	Proper generalized decomposition of multiscale models. International Journal for Numerical Methods in Engineering, 2010, 83, 1114-1132.	2.8	64
18	Proper Generalized Decomposition based dynamic data driven inverse identification. Mathematics and Computers in Simulation, 2012, 82, 1677-1695.	4.4	57

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19	Hybrid constitutive modeling: data-driven learning of corrections to plasticity models. International Journal of Material Forming, 2019, 12, 717-725.	2.0	56
20	Routes for Efficient Computational Homogenization ofÂNonlinear Materials Using theÂProper Generalized Decompositions. Archives of Computational Methods in Engineering, 2010, 17, 373-391.	10.2	54
21	Consistent closure schemes for statistical models of anisotropic fluids. Journal of Non-Newtonian Fluid Mechanics, 2008, 149, 40-55.	2.4	52
22	Proper generalized decomposition of timeâ€multiscale models. International Journal for Numerical Methods in Engineering, 2012, 90, 569-596.	2.8	52
23	Learning Corrections for Hyperelastic Models From Data. Frontiers in Materials, 2019, 6, .	2.4	50
24	3D Modeling of squeeze flows occurring in composite laminates. International Journal of Material Forming, 2015, 8, 73-83.	2.0	49
25	A Multidimensional Data-Driven Sparse Identification Technique: The Sparse Proper Generalized Decomposition. Complexity, 2018, 2018, 1-11.	1.6	49
26	Recirculating Flows Involving Short Fiber Suspensions: Numerical Difficulties and Efficient Advanced Micro-Macro Solvers. Archives of Computational Methods in Engineering, 2009, 16, 1-30.	10.2	48
27	A Manifold Learning Approach for Integrated Computational Materials Engineering. Archives of Computational Methods in Engineering, 2018, 25, 59-68.	10.2	47
28	Deep learning of thermodynamics-aware reduced-order models from data. Computer Methods in Applied Mechanics and Engineering, 2021, 379, 113763.	6.6	46
29	Separated representations of 3D elastic solutions in shell geometries. Advanced Modeling and Simulation in Engineering Sciences, 2014, 1, .	1.7	42
30	From ROM of Electrochemistry to AI-Based Battery Digital and Hybrid Twin. Archives of Computational Methods in Engineering, 2021, 28, 979-1015.	10.2	41
31	Non-incremental transient solution of the Rayleighâ€“BÃ©nard convection model by using the PGD. Journal of Non-Newtonian Fluid Mechanics, 2013, 200, 65-78.	2.4	37
32	Non-intrusive Sparse Subspace Learning for Parametrized Problems. Archives of Computational Methods in Engineering, 2019, 26, 303-326.	10.2	35
33	kPCA-Based Parametric Solutions Within the PGD Framework. Archives of Computational Methods in Engineering, 2018, 25, 69-86.	10.2	34
34	PGD-Based Modeling of Materials, Structures and Processes. ESAFORM Bookseries on Material Forming, 2014, , .	0.1	31
35	Solving parametric complex fluids models in rheometric flows. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1588-1601.	2.4	30
36	3D modeling of squeeze flow of multiaxial laminates. Journal of Non-Newtonian Fluid Mechanics, 2016, 234, 188-200.	2.4	29

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37	Integration of gradient based and response surface methods to develop a cascade optimisation strategy for Y-shaped tube hydroforming process design. Advances in Engineering Software, 2010, 41, 336-348.	3.8	28
38	Learning slosh dynamics by means of data. Computational Mechanics, 2019, 64, 511-523.	4.0	27
39	On the use of interaction tensors to describe and predict rod interactions in rod suspensions. Rheologica Acta, 2014, 53, 445-456.	2.4	26
40	On the multiscale description of dilute suspensions of non-Brownian rigid clusters composed of rods. Journal of Non-Newtonian Fluid Mechanics, 2015, 222, 34-44.	2.4	25
41	A multi-scale description of orientation in simple shear flows of confined rod suspensions. Journal of Non-Newtonian Fluid Mechanics, 2016, 233, 61-74.	2.4	25
42	Structure-preserving neural networks. Journal of Computational Physics, 2021, 426, 109950.	3.8	25
43	An efficient reduced simulation of residual stresses in composite forming processes. International Journal of Material Forming, 2010, 3, 1339-1350.	2.0	24
44	Computational vademecums for the real-time simulation of haptic collision between nonlinear solids. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 210-223.	6.6	24
45	Model order reduction for real-time data assimilation through Extended Kalman Filters. Computer Methods in Applied Mechanics and Engineering, 2017, 326, 679-693.	6.6	24
46	Computational vademecums for realâ€time simulation of surgical cutting in haptic environments. International Journal for Numerical Methods in Engineering, 2016, 108, 1230-1247.	2.8	23
47	Data-Driven Computational Plasticity. Procedia Engineering, 2017, 207, 209-214.	1.2	23
48	From Single-Scale to Two-Scales Kinetic Theory Descriptions of Rods Suspensions. Archives of Computational Methods in Engineering, 2013, 20, 1-29.	10.2	21
49	A fully deterministic microâ€“macro simulation of complex flows involving reversible network fluid models. Mathematics and Computers in Simulation, 2010, 80, 1936-1961.	4.4	20
50	Reduced numerical modeling of flows involving liquid-crystalline polymers. Journal of Non-Newtonian Fluid Mechanics, 2009, 160, 140-156.	2.4	19
51	Orientation kinematics of short fibres in a second-order viscoelastic fluid. Rheologica Acta, 2016, 55, 397-409.	2.4	19
52	A Second-Gradient Theory of Dilute Suspensions of Flexible Rods in a Newtonian Fluid. Archives of Computational Methods in Engineering, 2015, 22, 511-527.	10.2	18
53	Analysis of the Folgar & Tucker model for concentrated fibre suspensions in unconfined and confined shear flows via direct numerical simulation. Composites Part A: Applied Science and Manufacturing, 2016, 91, 388-397.	7.6	18
54	Direct simulation of concentrated fiber suspensions subjected to bending effects. Modelling and Simulation in Materials Science and Engineering, 2015, 23, 055007.	2.0	17

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55	On the use of model order reduction for simulating automated fibre placement processes. Advanced Modeling and Simulation in Engineering Sciences, 2016, 3, .	1.7	16
56	About the origins of residual stresses in in situ consolidated thermoplastic composite rings. International Journal of Material Forming, 2017, 10, 779-792.	2.0	16
57	Microstructural analysis of pre-impreganted tapes consolidation. International Journal of Material Forming, 2017, 10, 369-378.	2.0	15
58	High-resolution thermal analysis at thermoplastic pre-impregnated acomposite interfaces. Composite Interfaces, 2015, 22, 767-777.	2.3	14
59	Surrogate parametric metamodel based on Optimal Transport. Mathematics and Computers in Simulation, 2022, 194, 36-63.	4.4	14
60	On the space-time separated representation of integral linear viscoelastic models. Comptes Rendus - Mecanique, 2015, 343, 247-263.	2.1	13
61	Second-gradient modelling of orientation development and rheology of dilute confined suspensions. Journal of Non-Newtonian Fluid Mechanics, 2016, 237, 54-64.	2.4	13
62	On the fully 3D simulations of thermoelastic models defined in plate and shell geometries. European Journal of Computational Mechanics, 2012, 21, 40-51.	0.6	12
63	A separated representation of an error indicator for the mesh refinement process under the proper generalized decomposition framework. Computational Mechanics, 2015, 55, 251-266.	4.0	12
64	Flow modeling of linear and nonlinear fluids in two and three scale fibrous fabrics. International Journal of Material Forming, 2016, 9, 215-227.	2.0	12
65	Flow modeling of linear and nonlinear fluids in two scale fibrous fabrics. International Journal of Material Forming, 2017, 10, 317-328.	2.0	12
66	On the prediction of residual stresses in automated tape placement. International Journal of Material Forming, 2017, 10, 633-640.	2.0	12
67	Advanced separated spatial representations for hardly separable domains. Computer Methods in Applied Mechanics and Engineering, 2019, 354, 802-819.	6.6	12
68	Model reduction based on sparse identification techniques for induction machines: Towards the real time and accuracy-guaranteed simulation of faulty induction machines. International Journal of Electrical Power and Energy Systems, 2021, 125, 106417.	5.5	12
69	Learning non-Markovian physics from data. Journal of Computational Physics, 2021, 428, 109982.	3.8	12
70	Efficient mold cooling optimization by using model reduction. International Journal of Material Forming, 2011, 4, 73-82.	2.0	11
71	Non-incremental boundary element discretization of parabolic models based on the use of the proper generalized decompositions. Engineering Analysis With Boundary Elements, 2011, 35, 2-17.	3.7	11
72	Arlequin based PGD domain decomposition. Computational Mechanics, 2014, 54, 1175-1190.	4.0	11

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73	Some applications of compressed sensing in computational mechanics: model order reduction, manifold learning, data-driven applications and nonlinear dimensionality reduction. Computational Mechanics, 2019, 64, 1259-1271.	4.0	11
74	Manifold embedding of heterogeneity in permeability of a woven fabric for optimization of the VARTM process. Composites Science and Technology, 2018, 168, 238-245.	7.8	10
75	Effects of material and process parameters on in-situ consolidation. International Journal of Material Forming, 2019, 12, 491-503.	2.0	10
76	Deterministic solution of the kinetic theory model of colloidal suspensions of structureless particles. Rheologica Acta, 2012, 51, 527-543.	2.4	9
77	Kinetic theory of colloidal suspensions: morphology, rheology, and migration. Rheologica Acta, 2013, 52, 557-577.	2.4	9
78	Simulating squeeze flows in multiaxial laminates: towards fully 3D mixed formulations. International Journal of Material Forming, 2017, 10, 653-669.	2.0	9
79	Advanced thermal simulation of processes involving materials exhibiting fine-scale microstructures. International Journal of Material Forming, 2016, 9, 179-202.	2.0	7
80	On the interfacial thermal properties of two rough surfaces in contact in preimpregnated composites consolidation. Surface Topography: Metrology and Properties, 2017, 5, 045010.	1.6	7
81	A first step toward a PGD-based time parallelisation strategy. European Journal of Computational Mechanics, 2012, 21, 300-311.	0.6	6
82	Modeling nanocomposites: from rheology to forming processes simulation. International Journal of Material Forming, 2009, 2, 141-144.	2.0	5
83	Flow modelling of quasi-Newtonian fluids in two-scale fibrous fabrics. International Journal of Material Forming, 2017, 10, 547-556.	2.0	5
84	High-resolution elastic analysis of thin-ply composite laminates. Composite Structures, 2017, 172, 15-21.	5.8	5
85	From dilute to entangled fibre suspensions involved in the flow of reinforced polymers: A unified framework. Journal of Non-Newtonian Fluid Mechanics, 2017, 250, 8-17.	2.4	5
86	A cyber physical system approach for composite part: From smart manufacturing to predictive maintenance. AIP Conference Proceedings, 2018, , .	0.4	5
87	Towards parametric RTM processes: The interpolative mapping. AIP Conference Proceedings, 2019, , .	0.4	5
88	Multi-Scale Modeling and Simulation of Thermoplastic Automated Tape Placement: Effects of Metallic Particles Reinforcement on Part Consolidation. Nanomaterials, 2019, 9, 695.	4.1	5
89	Parametric evaluation of part distortion in additive manufacturing processes. International Journal of Material Forming, 2020, 13, 29-41.	2.0	5
90	Modeling of the rheological properties of multinanolayer films in the presence of compatibilized interphase. Journal of Rheology, 2020, 64, 981-989.	2.6	5

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91	Learning the Macroscopic Flow Model of Short Fiber Suspensions from Fine-Scale Simulated Data. Entropy, 2020, 22, 30.	2.2	5
92	Domain decomposition involving subdomain separable space representations for solving parametric problems in complex geometries. Advanced Modeling and Simulation in Engineering Sciences, 2022, 9, .	1.7	5
93	Engineering empowered by physics-based and data-driven hybrid models: A methodological overview. International Journal of Material Forming, 2022, 15, 1.	2.0	5
94	On the properties evolution of engineered surfaces of thin reinforced thermoplastic tapes during consolidation. Surface Topography: Metrology and Properties, 2017, 5, 044003.	1.6	4
95	Complex Algorithms for Data-Driven Model Learning in Science and Engineering. Complexity, 2019, 2019, 1-3.	1.6	4
96	Multiscale proper generalized decomposition based on the partition of unity. International Journal for Numerical Methods in Engineering, 2019, 120, 727-747.	2.8	4
97	A local multiple proper generalized decomposition based on the partition of unity. International Journal for Numerical Methods in Engineering, 2019, 120, 139-152.	2.8	4
98	Tensor Representation of Non-linear Models Using Cross Approximations. Journal of Scientific Computing, 2019, 81, 22-47.	2.3	4
99	On the effective conductivity and the apparent viscosity of a thin rough polymer interface using PGDâ€based separated representations. International Journal for Numerical Methods in Engineering, 2020, 121, 5256-5274.	2.8	4
100	Reduced order modeling of selective laser melting: from calibration to parametric part distortion. International Journal of Material Forming, 2021, 14, 973-986.	2.0	4
101	Shrinkage porosity prediction empowered by physics-based and data-driven hybrid models. International Journal of Material Forming, 2022, 15, 1.	2.0	4
102	Fractional modelling of functionalized CNT suspensions. Rheologica Acta, 2015, 54, 109-119.	2.4	3
103	From standard to fractional structural visco-elastodynamics: Application to seismic site response. Physics and Chemistry of the Earth, 2017, 98, 3-15.	2.9	3
104	Consistent data-driven computational mechanics. AIP Conference Proceedings, 2018, , .	0.4	3
105	Modelling the effect of particle inertia on the orientation kinematics of fibres and spheroids immersed in a simple shear flow. Computers and Mathematics With Applications, 2020, 79, 539-554.	2.7	3
106	Simulating microstructure evolution during passive mixing. International Journal of Material Forming, 2012, 5, 73-81.	2.0	2
107	Advanced modeling and simulation of sheet moulding compound (SMC) processes. International Journal of Material Forming, 2020, 13, 675-685.	2.0	2
108	Shape Parametrization & Morphing in Sheet-Metal Forming. Procedia Manufacturing, 2020, 47, 702-706.	1.9	2

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109	MORPH-DSLAM: Model Order Reduction for Physics-Based Deformable SLAM. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2022, 44, 7764-7777.	13.9	2
110	Data-driven in computational plasticity. AIP Conference Proceedings, 2018, , .	0.4	1
111	Processing of a laminated composite part by microwave heating. AIP Conference Proceedings, 2019, , .	0.4	1
112	A novel sensitivity analysis on friction spot joining process performed on aluminumpolycarbonate sheets by simulation. International Journal of Material Forming, 2020, 13, 737-747.	2.0	1
113	Electromagnetic field propagation in a composite laminate and induced thermal field. International Journal of Material Forming, 2021, 14, 97-103.	2.0	1
114	On the Equivalent In-Plane Permeability. International Journal of Material Forming, 2010, 3, 651-654.	2.0	0
115	From elastic homogenization to upscaling of non-Newtonian fluid flows in porous media. International Journal of Material Forming, 2018, 11, 607-617.	2.0	0
116	Simulation of the microwave heating of a thin multilayered composite material: A parameter analysis. AIP Conference Proceedings, 2018, , .	0.4	0
117	Model and system learners, optimal process constructors and kinetic theory-based goal-oriented design: A new paradigm in materials and processes informatics. AIP Conference Proceedings, 2018, , .	0.4	0
118	On the multi-scale description of micro-structured fluids composed of aggregating rods. Continuum Mechanics and Thermodynamics, 2019, 31, 955-967.	2.2	0
119	Parametric numerical solutions of additive manufacturing processes. AIP Conference Proceedings, 2019, , .	0.4	0
120	A simple microstructural viscoelastic model for flowing foams. International Journal of Material Forming, 2019, 12, 295-306.	2.0	0
121	Parametric inverse impulse response based on reduced order modeling and randomized excitations. Mechanical Systems and Signal Processing, 2020, 135, 106392.	8.0	0
122	IJMF 10th anniversary - advances in material forming. International Journal of Material Forming, 2020, 13, 661-661.	2.0	0
123	The international journal of material forming - 10th anniversary. International Journal of Material Forming, 2021, 14, 1-2.	2.0	0
124	Parametric analysis and machine learning-based parametric modeling of wire laser metal deposition induced porosity. International Journal of Material Forming, 2022, 15, 1.	2.0	0
125	Real-time prediction by data-driven models applied to induction heating process. International Journal of Material Forming, 2022, 15, .	2.0	0