David GonzÃ¡lez IbÃ¡Ã±ez

List of Publications by Year
in descending order

		257450	265206
67 papers	1,929 citations	24 h-index	42 g-index
70 all docs	70 docs citations	70 times ranked	1066 citing authors

#	Article	IF	Citations
1	Learning non-Markovian physics from data. Journal of Computational Physics, 2021, 428, 109982.	3.8	12
2	Structure-preserving neural networks. Journal of Computational Physics, 2021, 426, 109950.	3.8	25
3	Learning data-driven reduced elastic and inelastic models of spot-welded patches. Mechanics and Industry, 2021, 22, 32.	1.3	5
4	Deep learning of thermodynamics-aware reduced-order models from data. Computer Methods in Applied Mechanics and Engineering, 2021, 379, 113763.	6.6	46
5	Real‐time interaction of virtual and physical objects in mixed reality applications. International Journal for Numerical Methods in Engineering, 2020, 121, 3849-3868.	2.8	8
6	Physically sound, self-learning digital twins for sloshing fluids. PLoS ONE, 2020, 15, e0234569.	2.5	16
7	Scientific Machine Learning for Coarse-Grained Constitutive Models. Procedia Manufacturing, 2020, 47, 693-695.	1.9	0
8	A Data-Driven Learning Method for Constitutive Modeling: Application to Vascular Hyperelastic Soft Tissues. Materials, 2020, 13, 2319.	2.9	10
9	Thermodynamically consistent data-driven computational mechanics. Continuum Mechanics and Thermodynamics, 2019, 31, 239-253.	2.2	65
10	Learning Corrections for Hyperelastic Models From Data. Frontiers in Materials, 2019, 6, .	2.4	50
11	An augmented reality platform for interactive aerodynamic design and analysis. International Journal for Numerical Methods in Engineering, 2019, 120, 125-138.	2.8	11
12	Data-Driven GENERIC Modeling of Poroviscoelastic Materials. Entropy, 2019, 21, 1165.	2.2	11
13	Hybrid constitutive modeling: data-driven learning of corrections to plasticity models. International Journal of Material Forming, 2019, 12, 717-725.	2.0	56
14	A Manifold Learning Approach for Integrated Computational Materials Engineering. Archives of Computational Methods in Engineering, 2018, 25, 59-68.	10.2	47
15	kPCA-Based Parametric Solutions Within the PGD Framework. Archives of Computational Methods in Engineering, 2018, 25, 69-86.	10.2	34
16	A Manifold Learning Approach to Data-Driven Computational Elasticity and Inelasticity. Archives of Computational Methods in Engineering, 2018, 25, 47-57.	10.2	153
17	Oxidative stress prediction: A preliminary approach using a response surface based technique. Toxicology in Vitro, 2018, 46, 273-283.	2.4	4
18	A Multidimensional Data-Driven Sparse Identification Technique: The Sparse Proper Generalized Decomposition. Complexity, 2018, 2018, 1-11.	1.6	49

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19	Improving the realism of mixed reality through physical simulation. , 2018, , .		0
20	Reduced order modeling for physically-based augmented reality. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 53-70.	6.6	14
21	Reduced-order modeling of soft robots. PLoS ONE, 2018, 13, e0192052.	2.5	30
22	Local proper generalized decomposition. International Journal for Numerical Methods in Engineering, 2017, 112, 1715-1732.	2.8	16
23	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
24	A manifold learning approach to data-driven computational materials and processes. AIP Conference Proceedings, 2017, , .	0.4	1
25	Predicting muscle fatigue: a response surface approximation based on proper generalized decomposition technique. Biomechanics and Modeling in Mechanobiology, 2017, 16, 625-634.	2.8	4
26	<i>Vademecum</i>â€•based GFEM (Vâ€‑GFEM): optimal enrichment for transient problems. International Journal for Numerical Methods in Engineering, 2016, 108, 971-989.	2.8	12
27	A PGD-based multiscale formulation for non-linear solid mechanics under small deformations. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 806-826.	6.6	12
28	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
29	Use of α -shapes for the measurement of 3D bubbles in fluidized beds from two-fluid model simulations. Powder Technology, 2016, 288, 409-421.	4.2	7
30	Proper Generalized Decompositions. SpringerBriefs in Applied Sciences and Technology, 2016, , .	0.4	20
31	In-plane/out-of-plane separated representations of updated Lagrangian descriptions of viscoplastic flow models in plate domains. Comptes Rendus - Mecanique, 2016, 344, 225-235.	2.1	3
32	Real-time simulation techniques for augmented learning in science and engineering. Visual Computer, 2016, 32, 1465-1479.	3.5	8
33	Computational Patient Avatars for Surgery Planning. Annals of Biomedical Engineering, 2016, 44, 35-45.	2.5	30
34	Effect of the separated approximation of input data in the accuracy of the resulting PGD solution. Advanced Modeling and Simulation in Engineering Sciences, 2015, 2, .	1.7	9
35	Towards a pancreatic surgery simulator based on model order reduction. Advanced Modeling and Simulation in Engineering Sciences, 2015, 2, .	1.7	10
36	An error estimator for real-time simulators based on model order reduction. Advanced Modeling and Simulation in Engineering Sciences, 2015, 2, .	1.7	17

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37	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
38	PGD-Based Model Reduction for Surgery Simulation: Solid Dynamics and Contact Detection. Lecture Notes in Computer Science, 2014, , 193-202.	1.3	2
39	Realâ€time direct integration of reduced solid dynamics equations. International Journal for Numerical Methods in Engineering, 2014, 99, 633-653.	2.8	40
40	Real-time in silico experiments on gene regulatory networks and surgery simulation on handheld devices. Journal of Computational Surgery, 2014, 1, 1.	0.6	8
41	PGD-Based Computational Vademecum for Efficient Design, Optimization and Control. Archives of Computational Methods in Engineering, 2013, 20, 31-59.	10.2	246
42	FE2 multiscale in linear elasticity based on parametrized microscale models using proper generalized decomposition. Computer Methods in Applied Mechanics and Engineering, 2013, 257, 183-202.	6.6	36
43	Model order reduction in hyperelasticity: a proper generalized decomposition approach. International Journal for Numerical Methods in Engineering, 2013, 96, 129-149.	2.8	37
44	Streamline upwind/Petrovâ€"Galerkinâ€based stabilization of proper generalized decompositions for highâ€dimensional advectionâ€"diffusion equations. International Journal for Numerical Methods in Engineering, 2013, 94, 1216-1232.	2.8	11
45	Multiparametric response surface construction by means of proper generalized decomposition: An extension of the PARAFAC procedure. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 543-557.	6.6	10
46	Realâ€time simulation of biological soft tissues: a PGD approach. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 586-600.	2.1	72
47	Real Time Simulation of Non-Linear Solids by PGD Techniques. Key Engineering Materials, 2012, 504-506, 467-472.	0.4	0
48	Real-Time Simulation for Virtual Surgery in a PGD Framework. , 2012, , .		0
49	A natural neighbour Lagrangeâ€"Galerkin method for the simulation of Newtonian and Oldroydâ€B free surface flows. International Journal for Numerical Methods in Fluids, 2012, 70, 860-885.	1.6	1
50	Realâ€time simulation of surgery by reducedâ€order modeling and Xâ€FEM techniques. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 574-588.	2.1	63
51	Proper Generalized Decomposition based dynamic data driven inverse identification. Mathematics and Computers in Simulation, 2012, 82, 1677-1695.	4.4	57
52	A comparative study on the performance of meshless approximations and their integration. Computational Mechanics, 2011, 48, 121-137.	4.0	22
53	Natural Element simulation of free-surface, newtonian and non-newtonian flows. , 2011, , .		0
54	Recent advances on the use of separated representations. International Journal for Numerical Methods in Engineering, 2010, 81, 637-659.	2.8	97

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55	SUPG-based stabilization using a separated representations approach. International Journal of Material Forming, 2010, 3, 883-886.	2.0	3
56	A higher order method based on local maximum entropy approximation. International Journal for Numerical Methods in Engineering, 2010, 83, 741-764.	2.8	31
57	Non incremental strategies based on separated representations: applications in computational rheology. Communications in Mathematical Sciences, 2010, 8, 671-695.	1.0	56
58	Numerically explicit potentials for the homogenization of nonlinear elastic heterogeneous materials. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 2723-2737.	6.6	98
59	A high order method using MAX-ENT approximation schemes. International Journal of Material Forming, 2009, 2, 577-580.	2.0	2
60	Towards an Isogeometric Meshless Natural Element Method. , 2009, , 237-257.		0
61	Improved boundary tracking in meshless simulations of free-surface flows. Computational Mechanics, 2008, 42, 467-479.	4.0	6
62	Higherâ€order natural element methods: Towards an isogeometric meshless method. International Journal for Numerical Methods in Engineering, 2008, 74, 1928-1954.	2.8	20
63	A natural element updated Lagrangian approach for modelling fluid structure interactions. European Journal of Computational Mechanics, 2007, 16, 323-336.	0.6	1
64	A natural element updated Lagrangian strategy for free-surface fluid dynamics. Journal of Computational Physics, 2007, 223, 127-150.	3.8	46
65	Recent advances in the meshless simulation of aluminium extrusion and other related forming processes. Archives of Computational Methods in Engineering, 2006, 13, 3-43.	10.2	8
66	Numerical integration in Natural Neighbour Galerkin methods. International Journal for Numerical Methods in Engineering, 2004, 60, 2077-2104.	2.8	49
67	Volumetric locking in natural neighbour Galerkin methods. International Journal for Numerical Methods in Engineering, 2004, 61, 611-632.	2.8	36