

Javier Segurado

List of Publications by Year in descending order

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98
papers

5,641
citations

66343

42
h-index

79698

73
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100
all docs

100
docs citations

100
times ranked

3989
citing authors

#	ARTICLE	IF	CITATIONS
1	FFT based approaches in micromechanics: fundamentals, methods and applications. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 023002.	2.0	29
2	Adaptation and validation of FFT methods for homogenization of lattice based materials. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114223.	6.6	20
3	Particle size effects in ductile composites: An FFT homogenization study. Journal of the Mechanics and Physics of Solids, 2022, 160, 104759.	4.8	8
4	A generalized line tension model for precipitate strengthening in metallic alloys. European Journal of Mechanics, A/Solids, 2022, 93, 104540.	3.7	7
5	Effect of printing direction and thickness on the mechanical behavior of SLM fabricated Hastelloy-X. International Journal of Plasticity, 2022, 153, 103250.	8.8	17
6	Micromechanical characterization of the material response in a PA12-SLS fabricated lattice structure and its correlation with bulk behavior. Polymer Testing, 2022, 110, 107556.	4.8	14
7	A multiplicative finite strain crystal plasticity formulation based on additive elastic corrector rates: Theory and numerical implementation. International Journal of Plasticity, 2021, 137, 102899.	8.8	14
8	A variational fast Fourier transform method for phase-transforming materials. Modelling and Simulation in Materials Science and Engineering, 2021, 29, 045001.	2.0	6
9	Dislocation dynamics prediction of the strength of Al-Cu alloys containing shearable $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e706" altimg="si18.svg" \rangle < \text{mml:msup} < \text{mml:mrow} < \text{mml:mi} > 1 < / \text{mml:mi} > < / \text{mml:mrow} > < \text{mml:mrow} > < \text{mml:mo} > \hat{\epsilon}^2 < / \text{mml:mo} > < \text{mml:mo} > \hat{\epsilon}^2 < / \text{mml:mo} >$ precipitates. Journal of the Mechanics and Physics of Solids, 2021, 151, 104375.	4.8	11
10	An FFT-based approach for Bloch wave analysis: application to polycrystals. Computational Mechanics, 2021, 68, 981-1001.	4.0	6
11	An FFT framework for simulating non-local ductile failure in heterogeneous materials. Computer Methods in Applied Mechanics and Engineering, 2021, 380, 113759.	6.6	18
12	Effect of slip transmission at grain boundaries in Al bicrystals. International Journal of Plasticity, 2020, 126, 102600.	8.8	50
13	Simulation of the Hall-Petch effect in FCC polycrystals by means of strain gradient crystal plasticity and FFT homogenization. Journal of the Mechanics and Physics of Solids, 2020, 134, 103755.	4.8	49
14	A microstructures generation tool for virtual ply property screening of hybrid composites with high volume fractions of non-circular fibers " VIPER. Composites Part A: Applied Science and Manufacturing, 2020, 129, 105691.	7.6	16
15	A coupled model of diffusional creep of polycrystalline solids based on climb of dislocations at grain boundaries. Journal of the Mechanics and Physics of Solids, 2020, 135, 103786.	4.8	14
16	An upscaling approach for micromechanics based fatigue: from RVEs to specimens and component life prediction. International Journal of Fracture, 2020, 223, 93-108.	2.2	14
17	The influence of underlying microstructure on surface stress and strain fields calculated by crystal plasticity finite element method. Materials Today Communications, 2020, 24, 101176.	1.9	1
18	Crystal-Plasticity-Finite-Element Modeling of the Quasi-Static and Dynamic Response of a Directionally Solidified Nickel-Base Superalloy. Materials, 2020, 13, 2990.	2.9	1

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19	Multiscale modelling of precipitation hardening in Al-Cu alloys: Dislocation dynamics simulations and experimental validation. <i>Acta Materialia</i> , 2020, 188, 475-485.	7.9	72
20	On the accuracy of spectral solvers for micromechanics based fatigue modeling. <i>Computational Mechanics</i> , 2019, 63, 365-382.	4.0	39
21	DBFFT: A displacement based FFT approach for non-linear homogenization of the mechanical behavior. <i>International Journal of Engineering Science</i> , 2019, 144, 103131.	5.0	31
22	Effect of grain orientation and local strains on void growth and coalescence in titanium. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 760, 258-266.	5.6	14
23	Development of a thermo-mechanically coupled crystal plasticity modeling framework: Application to polycrystalline homogenization. <i>International Journal of Plasticity</i> , 2019, 119, 313-330.	8.8	31
24	An algorithm for stress and mixed control in Galerkin-based FFT homogenization. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 119, 797-805.	2.8	25
25	A three-dimensional misorientation axis- and inclination-dependent Kobayashi-Warren-Carter grain boundary model. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 128, 32-53.	4.8	18
26	Microstructure-based modelling and Digital Image Correlation measurement of strain fields in austenitic stainless steel 316L during tension loading. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 751, 99-106.	5.6	13
27	An atomistic investigation of the interaction of dislocations with Guinier-Preston zones in Al-Cu alloys. <i>Acta Materialia</i> , 2019, 162, 189-201.	7.9	51
28	Microstructure-Based Modelling and Digital Image Correlation Measurement of (Residual) Strain Fields in Austenitic Stainless Steel 316L During Tension Loading. <i>Structural Integrity</i> , 2019, , 313-314.	1.4	0
29	Crystal plasticity simulation of the effect of grain size on the fatigue behavior of polycrystalline Inconel 718. <i>International Journal of Fatigue</i> , 2018, 113, 236-245.	5.7	51
30	An analysis of the influence of grain size on the strength of FCC polycrystals by means of computational homogenization. <i>Acta Materialia</i> , 2018, 148, 72-85.	7.9	58
31	Microstructure-based fatigue life model of metallic alloys with bilinear Coffin-Manson behavior. <i>International Journal of Fatigue</i> , 2018, 107, 40-48.	5.7	72
32	Computational Homogenization of Polycrystals. <i>Advances in Applied Mechanics</i> , 2018, , 1-114.	2.3	70
33	Discrete dislocation dynamics simulations of dislocation-precipitate interaction in Al-Cu alloys. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 118, 228-244.	4.8	53
34	Integrated Computational Materials Engineering in Solar Plants: The Virtual Materials Design Project. <i>Jom</i> , 2018, 70, 1659-1669.	1.9	3
35	Fitting electron density as a physically sound basis for the development of interatomic potentials of complex alloys. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 18647-18656.	2.8	2
36	MUESLI - a Material UnivErSal Library. <i>Advances in Engineering Software</i> , 2017, 105, 1-8.	3.8	10

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37	Modeling cyclic deformation of inconel 718 superalloy by means of crystal plasticity and computational homogenization. <i>International Journal of Solids and Structures</i> , 2017, 122-123, 148-161.	2.7	85
38	Preface: special issue on computational micromechanics of materials. <i>Meccanica</i> , 2016, 51, 269-270.	2.0	0
39	A 3D dislocation dynamics analysis of the size effect on the strength of [1 1 1] LiF micropillars at 300K and 600K. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016, 24, 035009.	2.0	3
40	Three-dimensional investigation of grain orientation effects on void growth in commercially pure titanium. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 671, 221-232.	5.6	27
41	Multiscale modeling of the small punch test in nanostructured Ti. <i>Meccanica</i> , 2016, 51, 443-453.	2.0	0
42	On the robustness of an inverse optimization approach based on the Levenberg-Marquardt method for the mechanical behavior of polycrystals. <i>European Journal of Mechanics, A/Solids</i> , 2015, 53, 220-228.	3.7	18
43	Multiscale modeling of the mechanical behavior of IN718 superalloy based on micropillar compression and computational homogenization. <i>Acta Materialia</i> , 2015, 98, 242-253.	7.9	83
44	Origin of the reversed yield asymmetry in Mg-rare earth alloys at high temperature. <i>Acta Materialia</i> , 2015, 92, 265-277.	7.9	39
45	Temperature and stain rate effect on the deformation of nanostructured pure titanium. <i>International Journal of Plasticity</i> , 2015, 70, 191-205.	8.8	40
46	Effect of indentation size on the nucleation and propagation of tensile twinning in pure magnesium. <i>Acta Materialia</i> , 2015, 93, 114-128.	7.9	39
47	Thermostructural behaviour of Ni-Cr materials: modelling of bulk and nanoparticle systems. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 15912-15920.	2.8	13
48	An atomistically informed kinetic Monte Carlo model of grain boundary motion coupled to shear deformation. <i>International Journal of Plasticity</i> , 2015, 68, 98-110.	8.8	18
49	Three-dimensional dislocation dynamics analysis of size effects on void growth. <i>Scripta Materialia</i> , 2015, 95, 11-14.	5.2	38
50	An inverse optimization strategy to determine single crystal mechanical behavior from polycrystal tests: Application to AZ31 Mg alloy. <i>International Journal of Plasticity</i> , 2014, 57, 1-15.	8.8	103
51	Nanostructured titanium-based materials for medical implants: Modeling and development. <i>Materials Science and Engineering Reports</i> , 2014, 81, 1-19.	31.8	214
52	Monotonic loading and fatigue response of a bio-based polyamide PA11 and a petrol-based polyamide PA12 manufactured by selective laser sintering. <i>European Polymer Journal</i> , 2014, 59, 36-45.	5.4	49
53	Fatigue crack growth of SLS polyamide 12: Effect of reinforcement and temperature. <i>Composites Part B: Engineering</i> , 2014, 59, 285-292.	12.0	56
54	Understanding size effects on the strength of single crystals through high-temperature micropillar compression. <i>Acta Materialia</i> , 2014, 81, 50-57.	7.9	55

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55	Measuring the critical resolved shear stresses in Mg alloys by instrumented nanoindentation. <i>Acta Materialia</i> , 2014, 71, 283-292.	7.9	128
56	Effect of rare earth additions on the critical resolved shear stresses of magnesium alloys. <i>Materials Letters</i> , 2014, 128, 199-203.	2.6	78
57	Computational study of atomic mobility for bcc phase in Ti-Al-Fe system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2014, 46, 205-212.	1.6	28
58	Microtesting and Crystal Plasticity Modelling of IN718 Superalloy Grains. , 2014, , .		1
59	Latent hardening size effect in small-scale plasticity. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 055009.	2.0	28
60	Simulation of the deformation of polycrystalline nanostructured Ti by computational homogenization. <i>Computational Materials Science</i> , 2013, 76, 3-11.	3.0	56
61	Evolution of microstructure, macrotexture and mechanical properties of commercially pure Ti during ECAP-conform processing and drawing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 562, 128-136.	5.6	150
62	Molecular dynamics modeling and simulation of void growth in two dimensions. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 075010.	2.0	30
63	Micropillar compression of LiF [111] single crystals: Effect of size, ion irradiation and misorientation. <i>International Journal of Plasticity</i> , 2012, 36, 50-63.	8.8	69
64	Application of digital image correlation at the microscale in fiber-reinforced composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2012, 43, 1630-1638.	7.6	89
65	Intraply fracture of fiber-reinforced composites: Microscopic mechanisms and modeling. <i>Composites Science and Technology</i> , 2012, 72, 1223-1232.	7.8	133
66	Three dimensional (3D) microstructure-based modeling of interfacial decohesion in particle reinforced metal matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 557, 113-118.	5.6	100
67	Effect of Misorientation on the Compression of Highly Anisotropic Single-Crystal Micropillars. <i>Advanced Engineering Materials</i> , 2012, 14, 1004-1008.	3.5	27
68	Multiscale modeling of plasticity based on embedding the viscoplastic self-consistent formulation in implicit finite elements. <i>International Journal of Plasticity</i> , 2012, 28, 124-140.	8.8	194
69	On the Extremal Properties of Hashin's Hollow Cylinder Assemblage in Nonlinear Elasticity. <i>Journal of Elasticity</i> , 2012, 107, 1-10.	1.9	3
70	Multiscale Modeling of Composite Materials: a Roadmap Towards Virtual Testing. <i>Advanced Materials</i> , 2011, 23, 5130-5147.	21.0	298
71	Effect of water conditioning on the fracture behavior of PA12 composites processed by selective laser sintering. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 6927-6933.	5.6	30
72	Discrete dislocation dynamics analysis of the effect of lattice orientation on void growth in single crystals. <i>International Journal of Plasticity</i> , 2010, 26, 806-819.	8.8	68

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73	Modeling of the Densification of Porous Molybdenum by a Unit Cell Approach. Journal of the Mechanical Behavior of Materials, 2009, 19, 289-296.	1.8	0
74	Strength and toughness of cellular SiC at elevated temperature. Engineering Failure Analysis, 2009, 16, 2598-2603.	4.0	6
75	Finite deformation of incompressible fiber-reinforced elastomers: A computational micromechanics approach. Journal of the Mechanics and Physics of Solids, 2009, 57, 1596-1613.	4.8	49
76	Failure surface of epoxy-modified fiber-reinforced composites under transverse tension and out-of-plane shear. International Journal of Solids and Structures, 2009, 46, 2265-2274.	2.7	120
77	Effect of interface fracture on the tensile deformation of fiber-reinforced elastomers. International Journal of Solids and Structures, 2009, 46, 4287-4297.	2.7	31
78	An analysis of the size effect on void growth in single crystals using discrete dislocation dynamics. Acta Materialia, 2009, 57, 1427-1436.	7.9	55
79	Dislocation dynamics in non-convex domains using finite elements with embedded discontinuities. Modelling and Simulation in Materials Science and Engineering, 2008, 16, 035008.	2.0	10
80	Computational issues in the simulation of two-dimensional discrete dislocation mechanics. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S361-S375.	2.0	16
81	Finite element and homogenization modelling of materials. , 2007, , 121-147.		3
82	Finite deformation of porous elastomers: a computational micromechanics approach. Philosophical Magazine, 2007, 87, 5607-5627.	1.6	26
83	Ultra-High-Strength Nanofibrillar Al ₂ O ₃ -YAG-YSZ Eutectics. Advanced Materials, 2007, 19, 2313-2318.	21.0	156
84	Micromechanics of elasto-plastic materials reinforced with ellipsoidal inclusions. International Journal of Solids and Structures, 2007, 44, 6945-6962.	2.7	123
85	Micromechanics of particle-reinforced elasto-viscoplastic composites: Finite element simulations versus affine homogenization. International Journal of Plasticity, 2007, 23, 1041-1060.	8.8	108
86	Numerical simulations of void linkage in model materials using a nonlocal ductile damage approximation. International Journal of Fracture, 2007, 148, 205-219.	2.2	16
87	Processing, microstructure and mechanical properties of directionally-solidified Al ₂ O ₃ -Y ₃ Al ₅ O ₁₂ -ZrO ₂ ternary eutectics. Journal of the European Ceramic Society, 2006, 26, 3113-3121.	5.7	112
88	Computational micromechanics of composites: The effect of particle spatial distribution. Mechanics of Materials, 2006, 38, 873-883.	3.2	167
89	A computational micromechanics study of the effect of interface decohesion on the mechanical behavior of composites. Acta Materialia, 2005, 53, 4931-4942.	7.9	117
90	Three-dimensional multiparticle cell simulations of deformation and damage in sphere-reinforced composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 365, 267-274.	5.6	115

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91	Numerical simulation of elasto-plastic deformation of composites: evolution of stress microfields and implications for homogenization models. <i>Journal of the Mechanics and Physics of Solids</i> , 2004, 52, 1573-1593.	4.8	121
92	A new three-dimensional interface finite element to simulate fracture in composites. <i>International Journal of Solids and Structures</i> , 2004, 41, 2977-2993.	2.7	125
93	A numerical investigation of the effect of particle clustering on the mechanical properties of composites. <i>Acta Materialia</i> , 2003, 51, 2355-2369.	7.9	284
94	Numerical Simulations of the Creep Deformation of MMCs in 4-Point Bending Mode. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2003, 125, 50-55.	1.4	3
95	On the accuracy of mean-field approaches to simulate the plastic deformation of composites. <i>Scripta Materialia</i> , 2002, 46, 525-529.	5.2	80
96	Micromechanical studies of the densification of porous molybdenum. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 333, 270-278.	5.6	15
97	A numerical approximation to the elastic properties of sphere-reinforced composites. <i>Journal of the Mechanics and Physics of Solids</i> , 2002, 50, 2107-2121.	4.8	472
98	A stochastic solver based on the residence time algorithm for crystal plasticity models. <i>Computational Mechanics</i> , 0, , 1.	4.0	3