Varvara G Kouznetsova

List of Publications by Year
in descending order

67	5,230	147726	110317
papers	citations	31 h-index	64 g-index

73	73	73	3040
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Multi-scale computational homogenization: Trends and challenges. Journal of Computational and Applied Mathematics, 2010, 234, 2175-2182.	1.1	747
2	An approach to micro-macro modeling of heterogeneous materials. Computational Mechanics, 2001, 27, 37-48.	2.2	729
3	Multi-scale constitutive modelling of heterogeneous materials with a gradient-enhanced computational homogenization scheme. International Journal for Numerical Methods in Engineering, 2002, 54, 1235-1260.	1.5	658
4	Multi-scale second-order computational homogenization of multi-phase materials: a nested finite element solution strategy. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 5525-5550.	3.4	520
5	A review of predictive nonlinear theories for multiscale modeling of heterogeneous materials. Journal of Computational Physics, 2017, 330, 192-220.	1.9	348
6	Towards optimal design of locally resonant acoustic metamaterials. Journal of the Mechanics and Physics of Solids, 2014, 71, 179-196.	2.3	135
7	Visco-elastic effects on wave dispersion in three-phase acoustic metamaterials. Journal of the Mechanics and Physics of Solids, 2016, 96, 29-47.	2.3	115
8	Novel boundary conditions for strain localization analyses in microstructural volume elements. International Journal for Numerical Methods in Engineering, 2012, 90, 1-21.	1.5	113
9	Transient computational homogenization for heterogeneous materials under dynamic excitation. Journal of the Mechanics and Physics of Solids, 2013, 61, 2125-2146.	2.3	103
10	Computational homogenization for heterogeneous thin sheets. International Journal for Numerical Methods in Engineering, 2010, 83, 1180-1205.	1.5	91
11	Multi-scale computational homogenization of structured thin sheets. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S393-S404.	0.8	81
12	Size of a Representative Volume Element in a Second-Order Computational Homogenization Framework. International Journal for Multiscale Computational Engineering, 2004, 2, 575-598.	0.8	79
13	Homogenization of locally resonant acoustic metamaterials towards an emergent enriched continuum. Computational Mechanics, 2016, 57, 423-435.	2.2	70
14	MultiScale First-Order and Second-Order Computational Homogenization of Microstructures towards Continua. International Journal for Multiscale Computational Engineering, 2003, 1, 371-386.	0.8	69
15	A multi-scale approach to bridge microscale damage and macroscale failure: a nested computational homogenization-localization framework. International Journal of Fracture, 2012, 178, 157-178.	1.1	65
16	Multi-scale continuousâ€“discontinuous framework for computational-homogenizationâ€“localization. Journal of the Mechanics and Physics of Solids, 2012, 60, 1486-1507.	2.3	63
17	A multi-scale model of martensitic transformation plasticity. Mechanics of Materials, 2008, 40, 641-657.	1.7	61
18	Grain boundary interface mechanics in strain gradient crystal plasticity. Journal of the Mechanics and Physics of Solids, 2013, 61, 2659-2679.	2.3	60

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19	A multiscale model of grain boundary structure and energy: From atomistics to a continuum description. Acta Materialia, 2015, 82, 513-529.	3.8	60
20	On the role of interlath retained austenite in the deformation of lath martensite. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 045011.	0.8	59
21	Multiâ€scale computational homogenizationâ€“localization for propagating discontinuities using Xâ€FEM. International Journal for Numerical Methods in Engineering, 2015, 102, 496-527.	1.5	57
22	A general multiscale framework for the emergent effective elastodynamics of metamaterials. Journal of the Mechanics and Physics of Solids, 2018, 111, 414-433.	2.3	55
23	The attenuation performance of locally resonant acoustic metamaterials based on generalised viscoelastic modelling. International Journal of Solids and Structures, 2017, 126-127, 163-174.	1.3	53
24	2D Phase field modeling of sintering of silver nanoparticles. Computer Methods in Applied Mechanics and Engineering, 2016, 312, 492-508.	3.4	52
25	Subgrain lath martensite mechanics: A numericalâ€“experimental analysis. Journal of the Mechanics and Physics of Solids, 2014, 73, 69-83.	2.3	50
26	Retardation of plastic instability via damage-enabled microstrain delocalization. Journal of Materials Science, 2015, 50, 6882-6897.	1.7	45
27	Contribution of austenite-martensite transformation to deformability of advanced high strength steels: From atomistic mechanisms to microstructural response. Acta Materialia, 2018, 156, 463-478.	3.8	44
28	Homogenized enriched continuum analysis of acoustic metamaterials with negative stiffness and double negative effects. Journal of the Mechanics and Physics of Solids, 2018, 119, 104-117.	2.3	36
29	Measurement and modeling of the effective thermal conductivity of sintered silver pastes. International Journal of Thermal Sciences, 2016, 108, 185-194.	2.6	35
30	Gradient-enhanced computational homogenization for the micro-macro scale transition. European Physical Journal Special Topics, 2001, 11, Pr5-145-Pr5-152.	0.2	34
31	A multiscale framework for localizing microstructures towards the onset of macroscopic discontinuity. Computational Mechanics, 2014, 54, 299-319.	2.2	33
32	Multilayered Inclusions in Locally Resonant Metamaterials: Two-Dimensional Versus Three-Dimensional Modeling. Journal of Vibration and Acoustics, Transactions of the ASME, 2017, 139, .	1.0	29
33	Deformation behaviour of lath martensite in multi-phase steels. Scripta Materialia, 2016, 110, 74-77.	2.6	28
34	Thermo-mechanical analyses of heterogeneous materials with a strongly anisotropic phase: the case of cast iron. International Journal of Solids and Structures, 2015, 63, 153-166.	1.3	24
35	Microstructural study of the mechanical response of compacted graphite iron: An experimental and numerical approach. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 658, 439-449.	2.6	22
36	Microstructure statisticsâ€“property relations of silver particle-basedÂinterconnects. Materials and Design, 2017, 118, 304-313.	3.3	21

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37	Model reduction in computational homogenization for transient heat conduction. Computational Mechanics, 2020, 65, 249-266.	2.2	21
38	Analysis of the correlation between micro-mechanical fields and fatigue crack propagation path in nodular cast iron. Acta Materialia, 2020, 188, 302-314.	3.8	21
39	Reduced crystal plasticity for materials with constrained slip activity. Mechanics of Materials, 2016, 92, 198-210.	1.7	20
40	Revisiting the martensite/ferrite interface damage initiation mechanism: The key role of substructure boundary sliding. Acta Materialia, 2021, 205, 116533.	3.8	20
41	Enabling microstructure-based damage and localization analyses and upscaling. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 074008.	0.8	18
42	Contactless and Frictionless Pure Bending. Experimental Mechanics, 2010, 50, 683-693.	1.1	17
43	A semi-analytical approach towards plane wave analysis of local resonance metamaterials using a multiscale enriched continuum description. International Journal of Mechanical Sciences, 2017, 133, 188-198.	3.6	17
44	Defect redistribution within a continuum grain boundary plasticity model. Journal of the Mechanics and Physics of Solids, 2015, 83, 243-262.	2.3	15
45	Grain boundary interfacial plasticity with incorporation of internal structure and energy. Mechanics of Materials, 2015, 90, 69-82.	1.7	15
46	Computational homogenization of locally resonant acoustic metamaterial panels towards enriched continuum beam/shell structures. Computer Methods in Applied Mechanics and Engineering, 2021, 387, 114161.	3.4	14
47	Towards acoustic metafoams: The enhanced performance of a poroelastic material with local resonators. Journal of the Mechanics and Physics of Solids, 2019, 124, 189-205.	2.3	13
48	Data-driven reduced homogenization for transient diffusion problems with emergent history effects. Computer Methods in Applied Mechanics and Engineering, 2021, 380, 113773.	3.4	12
49	Broadening the attenuation range of acoustic metafoams through graded microstructures. Journal of Sound and Vibration, 2020, 483, 115472.	2.1	11
50	The mechanical behaviour of metastable austenitic steels in pure bending. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7207-7213.	2.6	9
51	Computational homogenization. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2010, , 327-394.	0.3	9
52	Enriched continuum for multi-scale transient diffusion coupled to mechanics. Advanced Modeling and Simulation in Engineering Sciences, 2020, 7, .	0.7	9
53	Multiscale modeling of residual stresses in isotropic conductive adhesives with nano-particles. Computational Materials Science, 2013, 66, 50-64.	1.4	8
54	Elevated temperature creep of pearlitic steels: an experimentalâ€“numerical approach. Mechanics of Time-Dependent Materials, 2014, 18, 611-631.	2.3	8

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55	Transient analysis of nonlinear locally resonant metamaterials via computational homogenization. Mathematics and Mechanics of Solids, 2019, 24, 3136-3155.	1.5	8
56	Frequency domain boundary value problem analyses of acoustic metamaterials described by an emergent generalized continuum. Computational Mechanics, 2020, 65, 789-805.	2.2	8
57	A multi-scale computational strategy for structured thin sheets. International Journal of Material Forming, 2008, 1, 61-64.	0.9	7
58	Predictive modeling of interfacial damage in substructured steels: application to martensitic microstructures. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 025006.	0.8	7
59	Two-scale analysis of transient diffusion problems through a homogenized enriched continuum. European Journal of Mechanics, A/Solids, 2021, 87, 104212.	2.1	6
60	COMPUTATIONAL HOMOGENISATION FOR NON-LINEAR HETEROGENEOUS SOLIDS. Computational and Experimental Methods in Structures, 2009, , 1-42.	0.2	5
61	Modeling the Interaction between Plasticity and the Austenite-Martensite Transformation. International Journal for Multiscale Computational Engineering, 2007, 5, 129-140.	0.8	5
62	Multiscale Mechanics in Microelectronics: A Paradigm in Miniaturization. Journal of Electronic Packaging, Transactions of the ASME, 2005, 127, 255-261.	1.2	4
63	A simplified formula to estimate the size of the cyclic plastic zone in metals containing elastic particles. Engineering Fracture Mechanics, 2021, 241, 107428.	2.0	4
64	A multi-scale model for structure-property relations of materials exhibiting martensite transformation plasticity. International Journal of Material Forming, 2009, 2, 491-494.	0.9	2
65	Modeling of the effective thermal conductivity of sintered porous pastes. , 2014, , .		1
66	Microstructural model for the timeâ€dependent thermomechanical analysis of cast irons. GAMM Mitteilungen, 2015, 38, 248-267.	2.7	1
67	Two-scale continuous-discontinuous modelling of damaging materials. , 2004, , 161-170.		0