Nicolas Auffray

List of Publications by Year
in descending order

42	1,363	393982 19	344852 36
papers	citations	h-index	g-index

43	43	43	522
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Analytical continuum mechanics Ã la Hamiltonâ€“Piola least action principle for second gradient continua and capillary fluids. Mathematics and Mechanics of Solids, 2015, 20, 375-417.	1.5	212
2	Matrix representations for 3D strain-gradient elasticity. Journal of the Mechanics and Physics of Solids, 2013, 61, 1202-1223.	2.3	94
3	A complete description of bi-dimensional anisotropic strain-gradient elasticity. International Journal of Solids and Structures, 2015, 69-70, 195-206.	1.3	93
4	Anisotropic and dispersive wave propagation within strain-gradient framework. Wave Motion, 2016, 63, 120-134.	1.0	89
5	Willis elastodynamic homogenization theory revisited for periodic media. Journal of the Mechanics and Physics of Solids, 2015, 77, 158-178.	2.3	84
6	On the validity range of strain-gradient elasticity: A mixed static-dynamic identification procedure. European Journal of Mechanics, A/Solids, 2018, 69, 179-191.	2.1	79
7	Derivation of anisotropic matrix for bi-dimensional strain-gradient elasticity behavior. International Journal of Solids and Structures, 2009, 46, 440-454.	1.3	73
8	Strain gradient elastic homogenization of bidimensional cellular media. International Journal of Solids and Structures, 2010, 47, 1698-1710.	1.3	66
9	EVALUATION OF GENERALIZED CONTINUUM SUBSTITUTION MODELS FOR HETEROGENEOUS MATERIALS. International Journal for Multiscale Computational Engineering, 2012, 10, 527-549.	0.8	65
10	Computational second-order homogenization of materials with effective anisotropic strain-gradient behavior. International Journal of Solids and Structures, 2020, 191-192, 434-448.	1.3	50
11	Symmetry classes for even-order tensors. Mathematics and Mechanics of Complex Systems, 2013, 1, 177-210.	0.5	37
12	On Anisotropic Polynomial Relations for the Elasticity Tensor. Journal of Elasticity, 2014, 115, 77-103.	0.9	32
13	Complete symmetry classification and compact matrix representations for 3D strain gradient elasticity. International Journal of Solids and Structures, 2019, 159, 197-210.	1.3	30
14	On asymptotic elastodynamic homogenization approaches for periodic media. Journal of the Mechanics and Physics of Solids, 2016, 88, 274-290.	2.3	29
15	Strain-gradient homogenization: A bridge between the asymptotic expansion and quadratic boundary condition methods. Mechanics of Materials, 2020, 143, 103309.	1.7	29
16	A generalized theory of elastodynamic homogenization for periodic media. International Journal of Solids and Structures, 2016, 84, 139-146.	1.3	28
17	Symmetry classes for oddâ€order tensors. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 421-447.	0.9	26
18	A Minimal Integrity Basis for the Elasticity Tensor. Archive for Rational Mechanics and Analysis, 2017, 226, 1-31.	1.1	23

#	Article	IF	Citations
19	An experimental evidence of the failure of Cauchy elasticity for the overall modeling of a non-centro-symmetric lattice under static loading. International Journal of Solids and Structures, 2018, 147, 223-237.	1.3	23
20	Isotropic invariants of a completely symmetric third-order tensor. Journal of Mathematical Physics, 2014, 55, .	0.5	19
21	Continuum modelling of frequency dependent acoustic beam focussing and steering in hexagonal lattices. European Journal of Mechanics, A/Solids, 2019, 77, 103803.	2.1	19
22	Handbook of bi-dimensional tensors: Part I: Harmonic decomposition and symmetry classes. Mathematics and Mechanics of Solids, 2017, 22, 1847-1865.	1.5	17
23	On the algebraic structure of isotropic generalized elasticity theories. Mathematics and Mechanics of Solids, 2015, 20, 565-581.	1.5	14
24	Invariant-based reconstruction of bidimensional elasticity tensors. International Journal of Solids and Structures, 2016, 87, 183-193.	1.3	12
25	DÃ©composition harmonique des tenseurs â€“ MÃ©thode spectrale. Comptes Rendus - Mecanique, 2008, 336, 370-375.	2.1	11
26	Identification of transient heat sources using the reciprocity gap. Inverse Problems in Science and Engineering, 2013, 21, 721-738.	1.2	9
27	On the Failure of Classic Elasticity in Predicting Elastic Wave Propagation in Gyroid Lattices for Very Long Wavelengths. Symmetry, 2020, 12, 1243.	1.1	9
28	Least Action Principle for Second Gradient Continua and Capillary Fluids: A Lagrangian Approach Following Piolaâ€™s Point of View. Advanced Structured Materials, 2014, , 606-694.	0.3	9
29	Quasi-periodic lattices: Pattern matters too. Scripta Materialia, 2022, 209, 114378.	2.6	9
30	Explicit harmonic structure of bidimensional linear strain-gradient elasticity. European Journal of Mechanics, A/Solids, 2021, 87, 104202.	2.1	8
31	Analytical expressions for odd-order anisotropic tensor dimension. Comptes Rendus - Mecanique, 2014, 342, 284-291.	2.1	7
32	Generic separating sets for three-dimensional elasticity tensors. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20190056.	1.0	7
33	On the isotropic moduli of 2D strain-gradient elasticity. Continuum Mechanics and Thermodynamics, 2015, 27, 5-19.	1.4	6
34	Geometrical Picture of Third-Order Tensors. Advanced Structured Materials, 2013, , 17-40.	0.3	6
35	Space of 2D elastic materials: a geometric journey. Continuum Mechanics and Thermodynamics, 2019, 31, 1205-1229.	1.4	5
36	Symmetry classes in piezoelectricity from second-order symmetries. Mathematics and Mechanics of Complex Systems, 2021, 9, 77-105.	0.5	5

#	Article	IF	Citations
37	Symmetry Classes and Matrix Representations of the 2D Flexoelectric Law. Symmetry, 2020, 12, 674.	1.1	4
38	Analytical expressions for anisotropic tensor dimension. Comptes Rendus - Mecanique, 2010, 338, 260-265.	2.1	3
39	Class-Jump Phenomenon for Physical Symmetries in Bi-dimensional Space. Lecture Notes in Applied and Computational Mechanics, 2009, , 1-11.	2.0	3
40	Minimal Functional Bases for Elasticity Tensor Symmetry Classes. Journal of Elasticity, 2021, 147, 201-228.	0.9	3
41	Toward a homogenizing machine. International Journal of Solids and Structures, 2020, 191-192, 534-549.	1.3	2
42	Classification of first strain-gradient elasticity tensors by symmetry planes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	2