Patrizia Trovalusci

List of Publications by Year
in descending order

73	1,902	185998 28	264894 42
papers	citations	h-index	g-index

76	76	76	610
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Scale-dependent homogenization of random composites as micropolar continua. European Journal of Mechanics, A/Solids, 2015, 49, 396-407.	2.1	127
2	Non-linear micropolar and classical continua for anisotropic discontinuous materials. International Journal of Solids and Structures, 2003, 40, 1281-1297.	1.3	105
3	Cosserat and Cauchy materials as continuum models of brick masonry. Meccanica, 1996, 31, 421-432.	1.2	91
4	Limit Analysis for No-Tension and Frictional Three-Dimensional Discrete Systems*. Mechanics Based Design of Structures and Machines, 1998, 26, 287-304.	0.6	89
5	Collapse behaviour of three-dimensional brick-block systems using non-linear programming. Structural Engineering and Mechanics, 2000, 10, 181-195.	1.0	84
6	Derivation of microstructured continua from lattice systems via principle of virtual works: the case of masonry-like materials as micropolar, second gradient and classical continua. Acta Mechanica, 2014, 225, 157-177.	1.1	79
7	A multiscale damage analysis of periodic composites using a couple-stress/Cauchy multidomain model: Application to masonry structures. Composites Part B: Engineering, 2018, 141, 50-59.	5.9	73
8	Masonry as structured continuum. Meccanica, 1995, 30, 673-683.	1.2	65
9	Material symmetries of micropolar continua equivalent to lattices. International Journal of Solids and Structures, 1999, 36, 2091-2108.	1.3	63
10	Block masonry as equivalent micropolar continua: the role of relative rotations. Acta Mechanica, 2012, 223, 1455-1471.	1.1	57
11	A MULTISCALE/MULTIDOMAIN MODEL FOR THE FAILURE ANALYSIS OF MASONRY WALLS: A VALIDATION WITH A COMBINED FEM/DEM APPROACH. International Journal for Multiscale Computational Engineering, 2018, 16, 325-343.	0.8	49
12	A multifield model for blocky materials based on multiscale description. International Journal of Solids and Structures, 2005, 42, 5778-5794.	1.3	47
13	Voigt and PoincarÃ©â€™s mechanisticâ€“energetic approaches to linear elasticity and suggestions for multiscale modelling. Archive of Applied Mechanics, 2011, 81, 1573-1584.	1.2	46
14	Deformation of atomic models and their equivalent continuum counterparts using Eringenâ€™s two-phase local/nonlocal model. Mechanics Research Communications, 2019, 97, 26-32.	1.0	46
15	Genesis of the multiscale approach for materials with microstructure. Archive of Applied Mechanics, 2009, 79, 981-997.	1.2	45
16	Sensitivity to material contrast in homogenization of random particle composites as micropolar continua. Composites Part B: Engineering, 2018, 136, 39-45.	5.9	44
17	From classical to Voigtâ€™s molecular models in elasticity. Archive for History of Exact Sciences, 2010, 64, 525-559.	0.2	43
18	Multiscale failure analysis of periodic masonry structures with traditional and fiber-reinforced mortar joints. Composites Part B: Engineering, 2017, 118, 75-95.	5.9	41

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19	A multiscale description of particle composites: From lattice microstructures to micropolar continua. Composites Part B: Engineering, 2017, 128, 164-173.	5.9	39
20	Particulate random composites homogenized as micropolar materials. Meccanica, 2014, 49, 2719-2727.	1.2	36
21	Some Novel Numerical Applications of Cosserat Continua. International Journal of Computational Methods, 2018, 15, 1850054.	0.8	33
22	Scale dependent continuum approaches for discontinuous assemblies: â€˜Explicitâ€™ and â€˜implicitâ€™ non-local models. Mechanics Research Communications, 2020, 103, 103461.	1.0	33
23	Mechanical Behavior of Anisotropic Composite Materials as Micropolar Continua. Frontiers in Materials, 2019, 6, .	1.2	32
24	â€˜Explicitâ€™ and â€˜implicitâ€™ non-local continuous descriptions for a plate with circular inclusion in tension. Meccanica, 2020, 55, 927-944.	1.2	32
25	Constitutive Relations for Elastic Microcracked Bodies: From a Lattice Model to a Multifield Continuum Description. International Journal of Damage Mechanics, 1999, 8, 153-173.	2.4	31
26	Fast statistical homogenization procedure (FSHP) for particle random composites using virtual element method. Computational Mechanics, 2019, 64, 197-210.	2.2	31
27	A Generalized Continuum Formulation for Composite Microcracked Materials and Wave Propagation in a Bar. Journal of Applied Mechanics, Transactions ASME, 2010, 77, .	1.1	30
28	Multiscale modeling of materials by a multifield approach: Microscopic stress and strain distribution in fiberâ€“matrix compositesâ€†. Acta Materialia, 2006, 54, 3485-3492.	3.8	29
29	Discrete and Continuous Approaches for the Failure Analysis of Masonry Structures Subjected to Settlements. Frontiers in Built Environment, 2020, 6, .	1.2	29
30	Scale Effects in Orthotropic Composite Assemblies as Micropolar Continua: A Comparison between Weak- and Strong-Form Finite Element Solutions. Materials, 2019, 12, 758.	1.3	28
31	Molecular Approaches for Multifield Continua: origins and current developments. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2014, , 211-278.	0.3	25
32	Torsional Characteristics of Carbon Nanotubes: Micropolar Elasticity Models and Molecular Dynamics Simulation. Nanomaterials, 2021, 11, 453.	1.9	25
33	Material Symmetries in Homogenized Hexagonal-Shaped Composites as Cosserat Continua. Symmetry, 2020, 12, 441.	1.1	24
34	Micromodels for the in-plane failure analysis of masonry walls: Limit Analysis, FEM and FEM/DEM approaches. Frattura Ed Integrita Strutturale, 2020, 14, 504-516.	0.5	23
35	MULTISCALE ANALYSIS OF ANISOTROPIC MATERIALS WITH HEXAGONAL MICROSTRUCTURE AS MICROPOLAR CONTINUA. International Journal for Multiscale Computational Engineering, 2020, 18, 265-284.	0.8	19
36	Stress distribution around an elliptic hole in a plate with â€˜implicitâ€™ and â€˜explicitâ€™ non-local models. Composite Structures, 2021, 256, 113003.	3.1	18

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37	Dynamical properties of a composite microcracked bar based on a generalized continuum formulation. Continuum Mechanics and Thermodynamics, 2019, 31, 1627-1644.	1.4	16
38	A Statistically-Based Homogenization Approach for Particle Random Composites as Micropolar Continua. Advanced Structured Materials, 2016, , 425-441.	0.3	14
39	A Numerical Investigation of Structure-Property Relations in Fiber Composite Materials. International Journal for Multiscale Computational Engineering, 2007, 5, 141-152.	0.8	12
40	Statistical Assessment of In-Plane Masonry Panels Using Limit Analysis with Sliding Mechanism. Journal of Engineering Mechanics - ASCE, 2022, 148, .	1.6	12
41	A multiphysics and multiscale approach for modeling microcracked thermo-elastic materials. Computational Materials Science, 2016, 116, 22-31.	1.4	11
42	New insights on homogenization for hexagonal-shaped composites as Cosserat continua. Meccanica, 0, , 1.	1.2	11
43	Dynamic Characterization of Microstructured Materials Made of Hexagonal-Shape Particles with Elastic Interfaces. Nanomaterials, 2021, 11, 1781.	1.9	9
44	MULTIFIELD CONTINUUM SIMULATIONS FOR DAMAGED MATERIALS: A BAR WITH VOIDS. International Journal for Multiscale Computational Engineering, 2011, 9, 599-608.	0.8	9
45	Bending characteristics of carbon nanotubes: Micropolar elasticity models and molecular dynamics simulations. Mechanics of Advanced Materials and Structures, 2023, 30, 189-206.	1.5	9
46	MULTISCALE MECHANICAL MODELLING OF COMPLEX MATERIALS AND ENGINEERING APPLICATIONS 2. International Journal for Multiscale Computational Engineering, 2011, 9, vii-ix.	0.8	8
47	Rotation and sliding collapse mechanisms for in plane masonry pointed arches: statistical parametric assessment. Engineering Structures, 2022, 262, 114338.	2.6	8
48	Statistical homogenization of polycrystal composite materials with thin interfaces using virtual element method. Composite Structures, 2021, 264, 113741.	3.1	7
49	Mechanical characterization of composite materials with rectangular microstructure and voids. Archive of Applied Mechanics, 2023, 93, 389-404.	1.2	7
50	Multi-scale and multi-physics modelling for complex materials. Meccanica, 2014, 49, 2549-2550.	1.2	5
51	Micromodels for the In-Plane Failure Analysis of Masonry Walls with Friction: Limit Analysis and DEM-FEM/DEM Approaches. Lecture Notes in Mechanical Engineering, 2020, , 1883-1895.	0.3	5
52	Strain Rates of Micropolar Continua Equivalent to Discrete Systems. Meccanica, 1997, 32, 581-583.	1.2	4
53	A Multi-Scale Continuum for Damaged Fibre Composites. Materials Science Forum, 2003, 426-432, 2133-2138.	0.3	4
54	Homogenization of Random Porous Materials With Low-Order Virtual Elements. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering, 2019, 5, .	0.7	4

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55	â€˜Explicitâ€™ and â€˜Implicitâ€™ Non-local Continuum Descriptions: Plate with Circular Hole. Springer Tracts in Mechanical Engineering, 2021, , 311-338.	0.1	4
56	Limit analysis approach for the in-plane collapse of masonry arches. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2021, 174, 66-81.	0.4	4
57	A multifield continuum model for the description of the response of microporous/microcracked composite materials. Mechanics of Materials, 2021, 160, 103965.	1.7	4
58	Discrete to Scale-Dependent Continua for Complex Materials: A Generalized Voigt Approach Using the Virtual Power Equivalence. Springer Tracts in Mechanical Engineering, 2016, , 109-131.	0.1	4
59	Time-History Analysis of Composite Materials with Rectangular Microstructure under Shear Actions. Materials, 2021, 14, 6439.	1.3	4
60	Coupling Continuum and Discrete Models of Materials with Microstructure: A Multiscale Algorithm. Materials Science Forum, 2010, 638-642, 2755-2760.	0.3	3
61	Optimal Sensors Placement in Dynamic Damage Detection of Beams Using a Statistical Approach. Journal of Optimization Theory and Applications, 2020, 187, 758-775.	0.8	3
62	The effects of dilatancy in composite assemblies as micropolar continua. Composite Structures, 2021, 276, 114500.	3.1	3
63	A Multiscale Approach for Composite Materials as Multifield Continua. Materials Science Forum, 2007, 539-543, 2551-2556.	0.3	1
64	Microcracked Materials as Non-Simple Continua. Materials Science Forum, 2010, 638-642, 2749-2754.	0.3	1
65	Optimal Sensors Placement for Damage Detection of Beam Structures. Lecture Notes in Mechanical Engineering, 2020, , 1498-1511.	0.3	1
66	Multiscale Mechanical Modeling of Complex Materials and Engineering Applications: Foreword: Guest Editor Patrizia Trovalusci. International Journal for Multiscale Computational Engineering, 2007, , vii-ix.	0.8	1
67	STATISTICAL HOMOGENIZATION OF RANDOM POROUS MEDIA. , 2019, , .		1
68	Multiscale Analysis of Materials with Anisotropic Microstructure as Micropolar Continua. Lecture Notes in Mechanical Engineering, 2020, , 796-806.	0.3	1
69	Nineteenth century molecular models with a glance at modern discrete-continuum theories. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 709-710.	0.2	0
70	ECOSITING: A Sit Platform for Planning the Integrated Cycle of Urban Waste. Smart Innovation, Systems and Technologies, 2019, , 585-592.	0.5	0
71	Computational Optimization for Structural Engineering Applications. Journal of Optimization Theory and Applications, 2020, 187, 609-612.	0.8	0
72	PREFACE: MULTISCALE AND MULTIPHYSICS MODELING OF "COMPLEX" MATERIALS AND ENGINEERING APPLICATIONS. International Journal for Multiscale Computational Engineering, 2020, 18, v-ix.	0.8	0

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73	MULTISCALE MODELING OF THERMO-ELASTIC PROPERTIES OF MICROCRACKED MATERIAL. , 2016, , .		0