Thomas Antretter

List of Publications by Year
in descending order

101 papers	2,586 citations	304743 22 h-index	197818 49 g-index
101 all docs	101 docs citations	101 times ranked	2203 citing authors

#	Article	IF	Citations
1	A new view on transformation induced plasticity (TRIP). International Journal of Plasticity, 2000, 16, 723-748.	8.8	470
2	Size effects on the martensitic phase transformation of NiTi nanograins. Journal of the Mechanics and Physics of Solids, 2007, 55, 419-444.	4.8	267
3	Thermo-physical properties of selected hard rocks and their relation to microwave-assisted comminution. Minerals Engineering, 2016, 91, 34-41.	4.3	219
4	Size effects on martensitic phase transformations in nanocrystalline NiTi shape memory alloys. Materials Science and Technology, 2008, 24, 934-940.	1.6	139
5	Phase Transformations of Nanocrystalline Martensitic Materials. MRS Bulletin, 2009, 34, 814-821.	3.5	128
6	Macro modelling and homogenization for transformation induced plasticity of a low-alloy steel. International Journal of Plasticity, 2009, 25, 183-204.	8.8	89
7	Damage of basalt induced by microwave irradiation. Minerals Engineering, 2012, 31, 82-89.	4.3	86
8	Finite element simulation of the effect of surface roughness on nanoindentation of thin films with spherical indenters. Surface and Coatings Technology, 2007, 202, 1103-1107.	4.8	79
9	Microwave propagation and absorption and its thermo-mechanical consequences in heterogeneous rocks. International Journal of Mineral Processing, 2015, 135, 40-51.	2.6	72
10	3D numerical study on microwave induced stresses in inhomogeneous hard rocks. Minerals Engineering, 2016, 90, 29-42.	4.3	65
11	Numerical study of the influence of irradiation parameters on the microwave-induced stresses in granite. Minerals Engineering, 2017, 103-104, 78-92.	4.3	64
12	Experimental and theoretical evidence of displacive martensite in an intermetallic Mo-containing Î³-TiAl based alloy. Acta Materialia, 2016, 115, 242-249.	7.9	55
13	Critical assessment of the determination of residual stress profiles in thin films by means of the ion beam layer removal method. Thin Solid Films, 2014, 564, 321-330.	1.8	51
14	Mechanical properties of a Crâ€“Niâ€“Moâ€“Alâ€“Ti maraging steel in the process of martensitic transformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 308, 25-37.	5.6	48
15	A mean-field model for transformation induced plasticity including backstress effects for non-proportional loadings. International Journal of Plasticity, 2012, 37, 53-71.	8.8	45
16	Fracture of austenitic steel subject to a wide range of stress triaxiality ratios and crack deformation modes. Engineering Fracture Mechanics, 2008, 75, 223-235.	4.3	41
17	Deformation, stress state and thermodynamic force for a growing void in an elasticâ€“plastic material. International Journal of Plasticity, 2009, 25, 1819-1832.	8.8	33
18	Thermodynamic and mechanical stability of Ni3X-type intermetallic compounds. Intermetallics, 2019, 114, 106604.	3.9	33

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19	Coupled damage variable based on fracture locus: Modelling and calibration. International Journal of Plasticity, 2020, 126, 102623.	8.8	31
20	Crystal orientation changes: A comparison between a crystal plasticity finite element study and experimental results. Acta Materialia, 2012, 60, 2379-2386.	7.9	29
21	Study of nanometer-scaled lamellar microstructure in a Tiâ€“45Alâ€“7.5Nb alloy â€“ Experiments and modeling. Intermetallics, 2010, 18, 509-517.	3.9	26
22	Cyclic heat-up and damage-relevant substrate plastification of single- and bilayer coated milling inserts evaluated numerically. Surface and Coatings Technology, 2019, 360, 39-49.	4.8	26
23	Diffusional phase transformation and deformation in steels. Computational Materials Science, 2002, 25, 92-99.	3.0	23
24	A methodology to study crystal plasticity inside a compression test sample based on image correlation and EBSD. Materials Characterization, 2011, 62, 793-800.	4.4	21
25	Deformation-induced phase transformation in a Co-Cr-W-Mo alloy studied by high-energy X-ray diffraction during in-situ compression tests. Acta Materialia, 2019, 164, 272-282.	7.9	20
26	Multi-scale modeling of bainitic phase transformation in multi-variant polycrystalline low alloy steels. International Journal of Solids and Structures, 2015, 54, 156-171.	2.7	19
27	Effect of back stress evolution due to martensitic transformation on iso-volume fraction lines in a Crâ€“Niâ€“Moâ€“Alâ€“Ti maraging steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 341, 189-196.	5.6	18
28	Shot peening-induced plastic deformation of individual phases within a coated WC-Co hard metal composite material including stress-strain curves for WC as a function of temperature. Surface and Coatings Technology, 2019, 380, 125026.	4.8	18
29	Experimental characterization and modelling of triaxial residual stresses in straightened railway rails. Journal of Strain Analysis for Engineering Design, 2015, 50, 190-198.	1.8	17
30	The stress state around two spatially arranged ellipsoidal inclusions â€” A case study for high-speed tool steel. Computational Materials Science, 1996, 7, 247-252.	3.0	16
31	Relaxation of a precipitate misfit stress state by creep in the matrix. International Journal of Plasticity, 2015, 64, 164-176.	8.8	16
32	Crack arrest in thin metallic film stacks due to material- and residual stress inhomogeneities. Thin Solid Films, 2018, 668, 14-22.	1.8	16
33	Unification of the non-linear geometric transformation theory of martensite and crystal plasticity - Application to dislocated lath martensite in steels. International Journal of Plasticity, 2019, 119, 140-155.	8.8	15
34	Back stress evolution and iso-volume fraction lines in a Crâ€“Niâ€“Moâ€“Alâ€“Ti maraging steel in the process of martensitic transformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 336, 30-38.	5.6	14
35	Residual stress and microstructure evolution in steel tubes for different cooling conditions â€“ Simulation and verification. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 747, 73-79.	5.6	14
36	Calculation of crack driving forces of surface cracks subjected to rolling/sliding contact. Engineering Fracture Mechanics, 2016, 152, 10-25.	4.3	13

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37	Modelling Transformation Induced Plasticity â€“ an Application to Heavy Steel Plates. Steel Research International, 2010, 81, 675-680.	1.8	12
38	Simulation of the Roller Straightening Process with Respect to Residual Stresses and the Curvature Trend. Materials Science Forum, 2013, 768-769, 456-463.	0.3	12
39	Theory, experiments and numerical modelling of phase transformations with emphasis on TRIP. Steel Research = Archiv FÃ¼r Das EisenhÃ¼ttenwesen, 2002, 73, 225-235.	0.3	11
40	Mechanics of sheared bands â€“ Applications to faults, twins and variants. Mechanics of Materials, 2008, 40, 195-205.	3.2	11
41	Particle cleavage and ductile crack growth in a two-phase composite on a microscale. Computational Materials Science, 1998, 13, 1-7.	3.0	10
42	Model free kinetics coupled with finite element method for curing simulation of thermosetting epoxy resins. Journal of Applied Polymer Science, 2018, 135, 46408.	2.6	10
43	An Energy Approach to Determine the Martensite Morphology in Nanocrystalline NiTi. Advanced Engineering Materials, 2017, 19, 1600684.	3.5	9
44	Determination of cyclic mechanical properties of thin copper layers for PCB applications. , 2014, , .		8
45	Size Effects in Residual Stress Formation during Quenching of Cylinders Made of Hot-Work Tool Steel. Advances in Materials Science and Engineering, 2015, 2015, 1-7.	1.8	8
46	Analysis of shape, orientation and interface properties of Mo<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si15.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>C precipitates in Fe using ab-initio and finite element method calculations. Acta Materialia, 2021, 204, 116478.	7.9	8
47	Numerical calibration of a yield limit function for rock materials by means of the Brazilian test and the uniaxial compression test. International Journal of Rock Mechanics and Minings Sciences, 2015, 74, 24-29.	5.8	7
48	Finite element analysis of arbitrarily complex electronic devices. , 2016, , .		7
49	Coupled damage variable based on fracture locus: Prediction of ductile failure in a complex structure. International Journal of Solids and Structures, 2020, 207, 132-144.	2.7	7
50	Machine learning assisted calibration of a ductile fracture locus model. Materials and Design, 2021, 203, 109604.	7.0	7
51	Validated Multi-Physical Finite Element Modelling of the Spot Welding Process of the Advanced High Strength Steel DP1200HD. Materials, 2021, 14, 5411.	2.9	7
52	Hierarchical models for simulating the mechanical behavior of heterogeneous materials: an approach to high speed tool steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 259, 73-84.	5.6	6
53	Deformation Behavior of Elastic-Plastic Materials Containing Instantly Transforming Inclusions. Key Engineering Materials, 2000, 177-180, 431-436.	0.4	6
54	Liquid Metal Embrittlement of Advanced High Strength Steel: Experiments and Damage Modeling. Materials, 2021, 14, 5451.	2.9	6

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55	Comparison of Different Methods for Stress and Deflection Analysis in Embedded Die Packages During the Assembly Process. Journal of Microelectronics and Electronic Packaging, 2015, 12, 80-85.	0.7	6
56	On the Algorithmic Implementation of a Material Model Accounting for the Effects of Martensitic Transformation. Steel Research International, 2006, 77, 733-740.	1.8	5
57	Finite Element Modeling of the Cyclic Wetting Mechanism in the Active Part of Wheat Awns. Biointerphases, 2012, 7, 42.	1.6	5
58	Stress and Deflection Development During Die Embedding into Printed Circuit Boards. Materials Today: Proceedings, 2015, 2, 4196-4205.	1.8	5
59	Numerical simulation of the electrical performance of printed circuit boards under cyclic thermal loads. Microelectronics Reliability, 2016, 62, 148-155.	1.7	5
60	Cyclic mechanical behavior of thin layers of copper: A theoretical and numerical study. Journal of Strain Analysis for Engineering Design, 2016, 51, 161-169.	1.8	5
61	Modeling of manufacturing induced residual stresses of viscoelastic epoxy mold compound encapsulations. , 2017, , .		5
62	Simulation of the Damping of a Shape Memory Alloy Rod by Using the Likhachev Model. Journal of Intelligent Material Systems and Structures, 2002, 13, 817-823.	2.5	4
63	Multi-physics simulation of the component attachment within embedding process. , 2013, , .		4
64	Model-Based Residual Stress Design in Multiphase Seamless Steel Tubes. Materials, 2020, 13, 439.	2.9	4
65	The Thermo-Mechanical Response to a General Loading Path of a Martensitically Transforming Steel. Journal of Intelligent Material Systems and Structures, 2002, 13, 811-815.	2.5	3
66	Measurement of all Six Components of X-Ray Elastic Factors. Materials Science Forum, 2008, 571-572, 225-229.	0.3	3
67	The role of phase interface energy in martensitic transformations: A lattice Monte-Carlo simulation. Mechanics Research Communications, 2014, 56, 37-41.	1.8	3
68	Simulation of stress distribution in assembled silicon dies and deflection of printed circuit boards. , 2014, , .		3
69	Influence of environmental factors like temperature and humidity on MEMS packaging materials. , 2018, , .		3
70	Numerical Analysis of the Influence of Polymeric Materials on a MEMS Package Performance Under Humidity and Temperature Loads. , 2019, , .		3
71	The Susceptibility to Failure of the Constituents of Particulate Two-Phase Composites. International Journal of Damage Mechanics, 2001, 10, 56-72.	4.2	2
72	Calibration and Validation of an Elasto-Viscoplastic Material Model for a Hot Work Tool Steel Used in Pressure Casting Dies. Key Engineering Materials, 2007, 345-346, 685-688.	0.4	2

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73	Interaction of Heat Checks in Aluminum Pressure Casting Dies and their Effect on Fatigue Life. Key Engineering Materials, 0, 488-489, 626-629.	0.4	2
74	Transformation hardening and kinetics for stress assisted and temperature driven martensitic transformation in steels. Mechanics Research Communications, 2013, 47, 84-88.	1.8	2
75	Evaluation of the residual stress distribution in thin films by means of the ion beam layer removal method. , 2014, , .		2
76	Fracture mechanics of thin film systems on the sub-micron scale. , 2015, , .		2
77	An Inverse Finite Element Approach to Calculate Full-Field Forming Strains. Key Engineering Materials, 2015, 651-653, 363-368.	0.4	2
78	Free edges at bilayered compoundsâ€"a short analytical and numerical reconsideration. Archive of Applied Mechanics, 2016, 86, 2053-2061.	2.2	2
79	Stress relaxation by power-law creep during growth of a misfitting precipitate. International Journal of Solids and Structures, 2016, 96, 74-80.	2.7	2
80	Evaluation of Digital Image Correlation Techniques for the Determination of Coefficients of Thermal Expansion for Thin Reinforced Polymers.. , 2018, , .		2
81	Prediction of Curing Induced Residual Stresses in Polymeric Encapsulation Materials for Microelectronics. , 2021, , .		2
82	Ductile failure modelling in pre-cracked solids using coupled fracture locus theory. Engineering Fracture Mechanics, 2021, 252, 107845.	4.3	2
83	Calibration and Validation of an Elasto-Viscoplastic Material Model for a Hot Work Tool Steel Used in Pressure Casting Dies. Key Engineering Materials, 0, , 685-688.	0.4	2
84	Towards electro-thermo-mechanical lifetime assessment for arbitrary power electronics. Microelectronics Reliability, 2022, 133, 114537.	1.7	2
85	The cyclic elasto-viscoplastic behavior of a high-speed steel under forging conditions - experiments and simulations. Procedia Engineering, 2011, 10, 1991-1996.	1.2	1
86	Special cases of martensite compatibility: A near single-variant habit-plane and the martensite of nanocrystalline NiTi. MATEC Web of Conferences, 2015, 33, 03015.	0.2	1
87	A Sequential Finite Volume Method / Finite Element Analysis of a Power Electronic Semiconductor Chip. , 2019, , .		1
88	Concepts for E-Assessments in STEM on the Example of Engineering Mechanics. International Journal of Emerging Technologies in Learning, 2020, 15, 136.	1.3	1
89	Micromechanical modeling of bainitic phase transformation. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 341-342.	0.2	0
90	Thermo-Mechanical Behaviour of Dual-Phase Steels in Various Structural Morphologies: Experiments and Modelling. Materials Science Forum, 0, 706-709, 2072-2077.	0.3	0

#	ARTICLE	IF	CITATIONS
91	Solution of a time-dependent heat conduction problem by an integral-equation approach. Computational Materials Science, 2012, 52, 178-181.	3.0	0
92	Some Examples for Advanced Numerical Solutions Pushing the Limits of Commercial Software. BHM-Zeitschrift Fuer Rohstoffe Geotechnik Metallurgie Werkstoffe Maschinen-Und Anlagentechnik, 2013, 158, 211-214.	1.0	0
93	An Efficient Algorithm for Modeling the Thermo-Mechanical Material Response of Heavy Steel Plates during Accelerated Cooling. Key Engineering Materials, 0, 554-557, 749-763.	0.4	0
94	On the Selection of Active Slip Systems in Rate Independent Crystal Plasticity. Key Engineering Materials, 0, 554-557, 1147-1156.	0.4	0
95	A fast passive-heating setup to investigate die-attach delamination in packaged devices. , 2014, , .		0
96	Characterization and modeling of the AuCuSn thin solder joint under thermal cycling. , 2014, , .		0
97	Fracture and material behavior of thin film composites. , 2016, , .		0
98	Experimental and computational approach to evaluate the effect of leveling on the change of tensile properites of heavy steel plates. AIP Conference Proceedings, 2017, , .	0.4	0
99	Transformation strains for bainitic variant evolution in steel. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 587-588.	0.2	0
100	Electro-Thermo-Mechanical Reliability Assessment of Arbitrary Power Electronics. , 2021, , .		0
101	Numerical analysis of a MEMS sensor's deformation behavior considering dynamic moisture conditions. , 2020, , .		0