

# Thomas Antretter

## List of Publications by Year in descending order

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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	Towards electro-thermo-mechanical lifetime assessment for arbitrary power electronics. Microelectronics Reliability, 2022, 133, 114537.	1.7	2
2	Analysis of shape, orientation and interface properties of Mo $\langle$ 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
3	Electro-Thermo-Mechanical Reliability Assessment of Arbitrary Power Electronics. , 2021, , .		0
4	Prediction of Curing Induced Residual Stresses in Polymeric Encapsulation Materials for Microelectronics. , 2021, , .		2
5	Machine learning assisted calibration of a ductile fracture locus model. Materials and Design, 2021, 203, 109604.	7.0	7
6	Ductile failure modelling in pre-cracked solids using coupled fracture locus theory. Engineering Fracture Mechanics, 2021, 252, 107845.	4.3	2
7	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
8	Liquid Metal Embrittlement of Advanced High Strength Steel: Experiments and Damage Modeling. Materials, 2021, 14, 5451.	2.9	6
9	Coupled damage variable based on fracture locus: Modelling and calibration. International Journal of Plasticity, 2020, 126, 102623.	8.8	31
10	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
11	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
12	Model-Based Residual Stress Design in Multiphase Seamless Steel Tubes. Materials, 2020, 13, 439.	2.9	4
13	Numerical analysis of a MEMS sensor's deformation behavior considering dynamic moisture conditions. , 2020, , .		0
14	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
15	Thermodynamic and mechanical stability of Ni3X-type intermetallic compounds. Intermetallics, 2019, 114, 106604.	3.9	33
16	A Sequential Finite Volume Method / Finite Element Analysis of a Power Electronic Semiconductor Chip. , 2019, , .		1
17	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
18	Numerical Analysis of the Influence of Polymeric Materials on a MEMS Package Performance Under Humidity and Temperature Loads. , 2019, , .		3

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19	Cyclic heat-up and damage-relevant substrate plastification of single- and bilayer coated milling inserts evaluated numerically. <i>Surface and Coatings Technology</i> , 2019, 360, 39-49.	4.8	26
20	Residual stress and microstructure evolution in steel tubes for different cooling conditions – Simulation and verification. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 747, 73-79.	5.6	14
21	Deformation-induced phase transformation in a Co-Cr-W-Mo alloy studied by high-energy X-ray diffraction during in-situ compression tests. <i>Acta Materialia</i> , 2019, 164, 272-282.	7.9	20
22	Model free kinetics coupled with finite element method for curing simulation of thermosetting epoxy resins. <i>Journal of Applied Polymer Science</i> , 2018, 135, 46408.	2.6	10
23	Evaluation of Digital Image Correlation Techniques for the Determination of Coefficients of Thermal Expansion for Thin Reinforced Polymers.. , 2018, , .		2
24	Influence of environmental factors like temperature and humidity on MEMS packaging materials. , 2018, , .		3
25	Crack arrest in thin metallic film stacks due to material- and residual stress inhomogeneities. <i>Thin Solid Films</i> , 2018, 668, 14-22.	1.8	16
26	An Energy Approach to Determine the Martensite Morphology in Nanocrystalline NiTi. <i>Advanced Engineering Materials</i> , 2017, 19, 1600684.	3.5	9
27	Experimental and computational approach to evaluate the effect of leveling on the change of tensile properties of heavy steel plates. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	0
28	Numerical study of the influence of irradiation parameters on the microwave-induced stresses in granite. <i>Minerals Engineering</i> , 2017, 103-104, 78-92.	4.3	64
29	Modeling of manufacturing induced residual stresses of viscoelastic epoxy mold compound encapsulations. , 2017, , .		5
30	Transformation strains for bainitic variant evolution in steel. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2017, 17, 587-588.	0.2	0
31	Finite element analysis of arbitrarily complex electronic devices. , 2016, , .		7
32	Experimental and theoretical evidence of displacive martensite in an intermetallic Mo-containing $\beta$ -TiAl based alloy. <i>Acta Materialia</i> , 2016, 115, 242-249.	7.9	55
33	Free edges at bilayered compounds – a short analytical and numerical reconsideration. <i>Archive of Applied Mechanics</i> , 2016, 86, 2053-2061.	2.2	2
34	Fracture and material behavior of thin film composites. , 2016, , .		0
35	Stress relaxation by power-law creep during growth of a misfitting precipitate. <i>International Journal of Solids and Structures</i> , 2016, 96, 74-80.	2.7	2
36	Numerical simulation of the electrical performance of printed circuit boards under cyclic thermal loads. <i>Microelectronics Reliability</i> , 2016, 62, 148-155.	1.7	5

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37	3D numerical study on microwave induced stresses in inhomogeneous hard rocks. Minerals Engineering, 2016, 90, 29-42.	4.3	65
38	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
39	Thermo-physical properties of selected hard rocks and their relation to microwave-assisted comminution. Minerals Engineering, 2016, 91, 34-41.	4.3	219
40	Calculation of crack driving forces of surface cracks subjected to rolling/sliding contact. Engineering Fracture Mechanics, 2016, 152, 10-25.	4.3	13
41	Fracture mechanics of thin film systems on the sub-micron scale. , 2015, , .		2
42	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
43	Stress and Deflection Development During Die Embedding into Printed Circuit Boards. Materials Today: Proceedings, 2015, 2, 4196-4205.	1.8	5
44	An Inverse Finite Element Approach to Calculate Full-Field Forming Strains. Key Engineering Materials, 2015, 651-653, 363-368.	0.4	2
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	Microwave propagation and absorption and its thermo-mechanical consequences in heterogeneous rocks. International Journal of Mineral Processing, 2015, 135, 40-51.	2.6	72
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	Relaxation of a precipitate misfit stress state by creep in the matrix. International Journal of Plasticity, 2015, 64, 164-176.	8.8	16
49	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
50	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
51	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
52	A fast passive-heating setup to investigate die-attach delamination in packaged devices. , 2014, , .		0
53	Characterization and modeling of the AuCuSn thin solder joint under thermal cycling. , 2014, , .		0
54	The role of phase interface energy in martensitic transformations: A lattice Monte-Carlo simulation. Mechanics Research Communications, 2014, 56, 37-41.	1.8	3

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55	Simulation of stress distribution in assembled silicon dies and deflection of printed circuit boards. , 2014, , .		3
56	Determination of cyclic mechanical properties of thin copper layers for PCB applications. , 2014, , .		8
57	Evaluation of the residual stress distribution in thin films by means of the ion beam layer removal method. , 2014, , .		2
58	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
59	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
60	Multi-physics simulation of the component attachment within embedding process. , 2013, , .		4
61	Transformation hardening and kinetics for stress assisted and temperature driven martensitic transformation in steels. Mechanics Research Communications, 2013, 47, 84-88.	1.8	2
62	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
63	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
64	Micromechanical modeling of bainitic phase transformation. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 341-342.	0.2	0
65	Finite Element Modeling of the Cyclic Wetting Mechanism in the Active Part of Wheat Awns. Biointerphases, 2012, 7, 42.	1.6	5
66	Solution of a time-dependent heat conduction problem by an integral-equation approach. Computational Materials Science, 2012, 52, 178-181.	3.0	0
67	Crystal orientation changes: A comparison between a crystal plasticity finite element study and experimental results. Acta Materialia, 2012, 60, 2379-2386.	7.9	29
68	Damage of basalt induced by microwave irradiation. Minerals Engineering, 2012, 31, 82-89.	4.3	86
69	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
70	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
71	Modelling Transformation Induced Plasticity â€“ an Application to Heavy Steel Plates. Steel Research International, 2010, 81, 675-680.	1.8	12
72	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

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73	Phase Transformations of Nanocrystalline Martensitic Materials. MRS Bulletin, 2009, 34, 814-821.	3.5	128
74	Macro modelling and homogenization for transformation induced plasticity of a low-alloy steel. International Journal of Plasticity, 2009, 25, 183-204.	8.8	89
75	Deformation, stress state and thermodynamic force for a growing void in an elastic-plastic material. International Journal of Plasticity, 2009, 25, 1819-1832.	8.8	33
76	Mechanics of sheared bands – Applications to faults, twins and variants. Mechanics of Materials, 2008, 40, 195-205.	3.2	11
77	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
78	Size effects on martensitic phase transformations in nanocrystalline NiTi shape memory alloys. Materials Science and Technology, 2008, 24, 934-940.	1.6	139
79	Measurement of all Six Components of X-Ray Elastic Factors. Materials Science Forum, 2008, 571-572, 225-229.	0.3	3
80	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
81	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
82	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
83	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
84	Effect of back stress evolution due to martensitic transformation on iso-volume fraction lines in a Cr-Ni-Mo-Al-Ti maraging steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 341, 189-196.	5.6	18
85	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
86	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
87	Theory, experiments and numerical modelling of phase transformations with emphasis on TRIP. Steel Research = Archiv für Das Eisenhüttenwesen, 2002, 73, 225-235.	0.3	11
88	Diffusional phase transformation and deformation in steels. Computational Materials Science, 2002, 25, 92-99.	3.0	23
89	Back stress evolution and iso-volume fraction lines in a Cr-Ni-Mo-Al-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
90	The Susceptibility to Failure of the Constituents of Particulate Two-Phase Composites. International Journal of Damage Mechanics, 2001, 10, 56-72.	4.2	2

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91	Mechanical properties of a Cr-Ni-Mo-Al-Ti maraging steel in the process of martensitic transformation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 308, 25-37.	5.6	48
92	A new view on transformation induced plasticity (TRIP). <i>International Journal of Plasticity</i> , 2000, 16, 723-748.	8.8	470
93	Deformation Behavior of Elastic-Plastic Materials Containing Instantly Transforming Inclusions. <i>Key Engineering Materials</i> , 2000, 177-180, 431-436.	0.4	6
94	Hierarchical models for simulating the mechanical behavior of heterogeneous materials: an approach to high speed tool steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 259, 73-84.	5.6	6
95	Particle cleavage and ductile crack growth in a two-phase composite on a microscale. <i>Computational Materials Science</i> , 1998, 13, 1-7.	3.0	10
96	The stress state around two spatially arranged ellipsoidal inclusions – A case study for high-speed tool steel. <i>Computational Materials Science</i> , 1996, 7, 247-252.	3.0	16
97	Interaction of Heat Checks in Aluminum Pressure Casting Dies and their Effect on Fatigue Life. <i>Key Engineering Materials</i> , 0, 488-489, 626-629.	0.4	2
98	Thermo-Mechanical Behaviour of Dual-Phase Steels in Various Structural Morphologies: Experiments and Modelling. <i>Materials Science Forum</i> , 0, 706-709, 2072-2077.	0.3	0
99	An Efficient Algorithm for Modeling the Thermo-Mechanical Material Response of Heavy Steel Plates during Accelerated Cooling. <i>Key Engineering Materials</i> , 0, 554-557, 749-763.	0.4	0
100	On the Selection of Active Slip Systems in Rate Independent Crystal Plasticity. <i>Key Engineering Materials</i> , 0, 554-557, 1147-1156.	0.4	0
101	Calibration and Validation of an Elasto-Viscoplastic Material Model for a Hot Work Tool Steel Used in Pressure Casting Dies. <i>Key Engineering Materials</i> , 0, , 685-688.	0.4	2