

Michael B Prime

List of Publications by Year in descending order

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68
papers

3,298
citations

236612

25
h-index

155451

55
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77
all docs

77
docs citations

77
times ranked

1546
citing authors

#	ARTICLE	IF	CITATIONS
1	Cross-Sectional Mapping of Residual Stresses by Measuring the Surface Contour After a Cut. Journal of Engineering Materials and Technology, Transactions of the ASME, 2001, 123, 162-168.	0.8	535
2	Residual Stress Measurement by Successive Extension of a Slot: The Crack Compliance Method. Applied Mechanics Reviews, 1999, 52, 75-96.	4.5	335
3	Residual stress, stress relief, and inhomogeneity in aluminum plate. Scripta Materialia, 2002, 46, 77-82.	2.6	226
4	Residual stresses in LENSÂ® components using neutron diffraction and contour method. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 399, 72-83.	2.6	193
5	Use of Inverse Solutions for Residual Stress Measurements. Journal of Engineering Materials and Technology, Transactions of the ASME, 2006, 128, 375.	0.8	181
6	Microstructure, texture and residual stress in a friction-stir-processed AZ31B magnesium alloy. Acta Materialia, 2008, 56, 1701-1711.	3.8	174
7	Laser surface-contouring and spline data-smoothing for residual stress measurement. Experimental Mechanics, 2004, 44, 176-184.	1.1	157
8	Measuring Multiple Residual-Stress Components using the Contour Method and Multiple Cuts. Experimental Mechanics, 2010, 50, 187-194.	1.1	124
9	Uncertainty, Model Error, and Order Selection for Series-Expanded, Residual-Stress Inverse Solutions. Journal of Engineering Materials and Technology, Transactions of the ASME, 2006, 128, 175-185.	0.8	106
10	Measuring Inaccessible Residual Stresses Using Multiple Methods and Superposition. Experimental Mechanics, 2011, 51, 1123-1134.	1.1	98
11	The Measurement of Residual Stress in Railway Rails by Diffraction and other Methods *. Journal of Neutron Research, 2003, 11, 187-193.	0.4	75
12	Directional and oscillating residual stress on the mesoscale in additively manufactured Ti-6Al-4V. Acta Materialia, 2019, 168, 299-308.	3.8	62
13	Critical comparison of two independent measurements of residual stress in an electron-beam welded uranium cylinder: Neutron diffraction and the contour method. Acta Materialia, 2011, 59, 864-873.	3.8	58
14	Measurement of Near Surface Residual Stresses Using Electric Discharge Wire Machining. Journal of Engineering Materials and Technology, Transactions of the ASME, 1994, 116, 1-7.	0.8	54
15	Estimation of Uncertainty for Contour Method Residual Stress Measurements. Experimental Mechanics, 2015, 55, 577-585.	1.1	53
16	Comparison of residual strains measured by X-ray and neutron diffraction in a titanium (Ti-6Al-4V) matrix composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 259, 209-219.	2.6	52
17	Modeling and measurement of residual stresses in a bulk metallic glass plate. Journal of Non-Crystalline Solids, 2003, 316, 82-95.	1.5	50
18	Quenching and Cold-Work Residual Stresses in Aluminum Hand Forgings: Contour Method Measurement and FEM Prediction. Materials Science Forum, 2003, 426-432, 435-440.	0.3	46

#	ARTICLE	IF	CITATIONS
19	Plasticity effects in incremental slitting measurement of residual stresses. <i>Engineering Fracture Mechanics</i> , 2010, 77, 1552-1566.	2.0	43
20	Jet formation in cerium metal to examine material strength. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	41
21	Residual Stress Solution Extrapolation for the Slitting Method Using Equilibrium Constraints. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2007, 129, 227-232.	0.8	40
22	Estimation of Metal Strength at Very High Rates Using Free-Surface Richtmyer-Meshkov Instabilities. <i>Journal of Dynamic Behavior of Materials</i> , 2017, 3, 189-202.	1.1	39
23	Measurement of Fiber-scale Residual Stress Variation in a Metal-matrix Composite. <i>Journal of Composite Materials</i> , 2004, 38, 2079-2095.	1.2	37
24	The Contour Method Cutting Assumption: Error Minimization and Correction. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2011, , 233-250.	0.3	33
25	The Compliance Method for Measurement of Near Surface Residual Stresses—Analytical Background. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 1994, 116, 550-555.	0.8	26
26	Penetration of HSLA-100 steel with tungsten carbide spheres at striking velocities between 0.8 and 2.5km/s. <i>International Journal of Impact Engineering</i> , 2004, 30, 505-520.	2.4	26
27	Residual Stress Measurement and Prediction in a Hardened Steel Ring. <i>Materials Science Forum</i> , 2000, 347-349, 223-228.	0.3	25
28	Tantalum strength at extreme strain rates from impact-driven Richtmyer-Meshkov instabilities. <i>Physical Review E</i> , 2019, 100, 053002.	0.8	25
29	Known Residual Stress Specimens Using Opposed Indentation. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2009, 131, .	0.8	24
30	Mitigating cutting-induced plasticity in the contour method. Part 2: Numerical analysis. <i>International Journal of Solids and Structures</i> , 2016, 94-95, 254-262.	1.3	22
31	Forensic determination of residual stresses and KI from fracture surface mismatch. <i>Engineering Fracture Mechanics</i> , 2014, 116, 158-171.	2.0	17
32	Experimental evaluation of shear modulus scaling of dynamic strength at extreme pressures. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	17
33	Mapping Residual Stresses after Foreign Object Damage Using the Contour Method. <i>Materials Science Forum</i> , 2002, 404-407, 521-526.	0.3	16
34	Three-Dimensional Constraint Effects on the Slitting Method for Measuring Residual Stress. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2013, 135, .	0.8	16
35	A broad study of tantalum strength from ambient to extreme conditions. <i>Acta Materialia</i> , 2022, 231, 117875.	3.8	16
36	Using growth and arrest of Richtmyer-Meshkov instabilities and Lagrangian simulations to study high-rate material strength. <i>Journal of Physics: Conference Series</i> , 2014, 500, 112051.	0.3	14

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37	Amplified effect of mild plastic anisotropy on residual stress and strain anisotropy. International Journal of Solids and Structures, 2017, 118-119, 70-77.	1.3	14
38	Slitting Method Measurement of Residual Stress Profiles, Including Stress Discontinuities, in Layered Specimens. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 93-102.	0.3	13
39	Laser surface-contouring and spline data-smoothing for residual stress measurement. , 2004, 44, 176.		13
40	Residual Stress Characterization in a Dissimilar Metal Weld Nuclear Reactor Piping System Mock Up. Journal of Pressure Vessel Technology, Transactions of the ASME, 2013, 135, .	0.4	12
41	Contour Method Advanced Applications: Hoop Stresses in Cylinders and Discontinuities. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 13-28.	0.3	11
42	Evaluation of a self-equilibrium cutting strategy for the contour method of residual stress measurement. International Journal of Pressure Vessels and Piping, 2018, 164, 22-31.	1.2	10
43	Estimates of Ta strength at ultrahigh pressures and strain rates using thin-film graded-density impactors. Physical Review B, 2019, 99, .	1.1	10
44	Characterization of shocked beryllium. EPJ Web of Conferences, 2012, 26, 01009.	0.1	9
45	Assessment of Corrosion-Based Failure in Stainless Steel Containers Used for the Long-Term Storage of Plutonium-Based Salts. Corrosion, 2009, 65, 175-186.	0.5	8
46	Complementary Measurements of Residual Stresses Before and After Base Plate Removal in an Intricate Additively-Manufactured Stainless-Steel Valve Housing. Additive Manufacturing, 2020, 36, 101555.	1.7	7
47	Residual stresses in continuous-tungsten-fibre-reinforced Kanthal-matrix composites. Philosophical Magazine, 2003, 83, 2267-2292.	0.7	6
48	Surface Strains Due to Face Loading of a Slot in a Layered Half-Space. Journal of Engineering Materials and Technology, Transactions of the ASME, 1996, 118, 410-418.	0.8	5
49	Yield strength of Cu and a CuPb alloy (1% Pb). AIP Conference Proceedings, 2017, , .	0.3	4
50	Saver: A Peak Velocity Extraction Program for Advanced Photonic Doppler Velocimetry Analysis. Journal of Dynamic Behavior of Materials, 2021, 7, 510-517.	1.1	4
51	Using Richtmyerâ€“Meshkov Instabilities to Estimate Metal Strength at Very High Rates. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 191-197.	0.3	4
52	Beyond the Streetlight Effect: A United Future for Relaxation and Diffraction Methods for Residual Stress Measurement. Advanced Materials Research, 0, 996, 234-242.	0.3	3
53	Interlaboratory Reproducibility of Contour Method Data Analysis and Residual Stress Calculation. Experimental Mechanics, 2020, 60, 833-845.	1.1	3
54	Interlaboratory Reproducibility of Contour Method Data in a High Strength Aluminum Alloy. Experimental Mechanics, 2022, 62, 1319-1331.	1.1	3

#	ARTICLE	IF	CITATIONS
55	Assessment of Residual Stress in Fracture Mechanics Coupons. , 2011, , .		2
56	Validation Specimen for Contour Method Extension to Multiple Residual Stress Components. , 2007, , 635-636.		2
57	Erratum to "Laser Surface-contouring and Spline Data-smoothing for Residual Stress Measurement". Experimental Mechanics, 2004, 44, 541-541.	1.1	2
58	Erratum to "Laser surface-contouring and spline data-smoothing for residual stress measurement". Experimental Mechanics, 2004, 44, 541-541.	1.1	1
59	Advanced plasticity models applied to recent shock data on beryllium. , 2012, , .		1
60	Contour Method Residual Stress Measurement Uncertainty in a Quenched Aluminum Bar and a Stainless Steel Welded Plate. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 303-312.	0.3	1
61	Strain Rate Sensitivity of Richtmyer-Meshkov Instability Experiments for Metal Strength. Conference Proceedings of the Society for Experimental Mechanics, 2018, , 13-16.	0.3	1
62	Residual Stress Measurement of Full-Scale Jet-Engine Bearing Elements Using the Contour Method. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 69-81.	0.3	1
63	Editorial for special issue on residual stress in fatigue & fracture. Fatigue and Fracture of Engineering Materials and Structures, 2007, 30, 172-172.	1.7	0
64	The Eighth International Conference on Residual Stresses. Powder Diffraction, 2009, 24, S1-S2.	0.4	0
65	Characterization of a Plate Specimen From Phase I of the NRC/EPRI Weld Residual Stress Program. , 2011, , .		0
66	Improved Richtmyer-Meshkov Instability Experiments for Very-High-Rate Strength and Application to Tantalum. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 101-104.	0.3	0
67	Measurements of Residual Stress in Fracture Mechanics Coupons. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 251-257.	0.3	0
68	Residual Stress Measurements in Extreme Environments for Hazardous, Layered Specimens. Experimental Mechanics, 0, , 1.	1.1	0