

Eann A Patterson

List of Publications by Year in descending order

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112
papers

2,545
citations

201674

27
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233421

45
g-index

115
all docs

115
docs citations

115
times ranked

1449
citing authors

#	ARTICLE	IF	CITATIONS
1	Validation of a structural model of an aircraft cockpit panel: An industrial case study. Journal of Strain Analysis for Engineering Design, 2022, 57, 714-723.	1.8	4
2	A Unified Approach to Digital Twin Architectureâ€”Proof-of-Concept Activity in the Nuclear Sector. IEEE Access, 2022, 10, 44691-44709.	4.2	8
3	Using everyday engineering examples to engage learners on a massive open online course. International Journal of Mechanical Engineering Education, 2021, 49, 3-24.	1.0	6
4	The validation of a full-field deformation analysis of an aircraft panel: A case study. Journal of Strain Analysis for Engineering Design, 2021, 56, 265-272.	1.8	3
5	The role of validation in establishing the scientific credibility of predictive toxicology approaches intended for regulatory application. Computational Toxicology, 2021, 17, 100144.	3.3	22
6	Uncertainty Quantification for DIC Displacement Measurements in Industrial Environments. Experimental Techniques, 2021, 45, 685-694.	1.5	12
7	Transformation of measurement uncertainties into low-dimensional feature vector space. Royal Society Open Science, 2021, 8, 201086.	2.4	0
8	Comparing full-field data from structural components with complicated geometries. Royal Society Open Science, 2021, 8, 210916.	2.4	2
9	Limitations of Nanoparticles Size Characterization by Asymmetric Flow Fieldâ€”Fractionation Coupled with Online Dynamic Light Scattering. Chromatographia, 2021, 84, 199-206.	1.3	5
10	Settling dynamics of nanoparticles in simple and biological media. Royal Society Open Science, 2021, 8, 210068.	2.4	5
11	Dynamic Response of a Thermally Stressed Plate with Reinforced Edges. Experimental Mechanics, 2020, 60, 81-92.	2.0	5
12	Real-time quantification of damage in structural materials during mechanical testing. Royal Society Open Science, 2020, 7, 191407.	2.4	4
13	Detection and tracking of cracks based on thermoelastic stress analysis. Royal Society Open Science, 2020, 7, 200823.	2.4	6
14	Detecting and Monitoring Cracks in Aerospace Materials Using Post-Processing of TSA and AE Data. Metals, 2019, 9, 748.	2.3	10
15	Observations of fatigue crack behaviour in protonâ€”irradiated 304 stainless steel. Fatigue and Fracture of Engineering Materials and Structures, 2019, 42, 2120-2132.	3.4	3
16	The influence of inter-particle forces on diffusion at the nanoscale. Scientific Reports, 2019, 9, 12689.	3.3	35
17	On the validation of variable fidelity multi-physics simulations. Journal of Sound and Vibration, 2019, 448, 247-258.	3.9	1
18	An integrated digital framework for the design, build and operation of fusion power plants. Royal Society Open Science, 2019, 6, 181847.	2.4	8

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19	Next generation physiologically based kinetic (NG-PBK) models in support of regulatory decision making. <i>Computational Toxicology</i> , 2019, 9, 61-72.	3.3	91
20	Towards Automated Tracking of Initiation and Propagation of Cracks in Aluminium Alloy Coupons Using Thermoelastic Stress Analysis. <i>Journal of Nondestructive Evaluation</i> , 2019, 38, 1.	2.4	12
21	The use of charge-coupled device cameras for characterizing the mean deflected shape of an aerospace panel during broadband excitation. <i>Journal of Strain Analysis for Engineering Design</i> , 2019, 54, 13-23.	1.8	4
22	Experimental study of mode shifting in an asymmetrically heated rectangular plate. <i>Journal of Sound and Vibration</i> , 2019, 439, 241-250.	3.9	16
23	A probabilistic metric for the validation of computational models. <i>Royal Society Open Science</i> , 2018, 5, 180687.	2.4	12
24	An experimental study on the manufacture and characterization of in-plane fibre-waviness defects in composites. <i>Royal Society Open Science</i> , 2018, 5, 180082.	2.4	19
25	Steps towards Industrial Validation Experiments. <i>Proceedings (mdpi)</i> , 2018, 2, 391.	0.2	1
26	Characterization of metal fatigue by optical second harmonic generation. <i>Applied Physics Letters</i> , 2017, 111, 131901.	3.3	1
27	The interaction of fatigue cracks with a residual stress field using thermoelastic stress analysis and synchrotron X-ray diffraction experiments. <i>Royal Society Open Science</i> , 2017, 4, 171100.	2.4	8
28	Robust Empirical Predictions of Residual Performance of Damaged Composites with Quantified Uncertainties. <i>Journal of Nondestructive Evaluation</i> , 2017, 36, 1.	2.4	5
29	A framework to establish credibility of computational models in biology. <i>Progress in Biophysics and Molecular Biology</i> , 2017, 129, 13-19.	2.9	46
30	Transition from fractional to classical Stokes-Einstein behaviour in simple fluids. <i>Royal Society Open Science</i> , 2017, 4, 170507.	2.4	23
31	Assessment of crack tip plastic zone size and shape and its influence on crack tip shielding. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2016, 39, 969-981.	3.4	77
32	High Temperature Vibratory Response of Hastelloy-X: Stereo-DIC Measurements and Image Decomposition Analysis. <i>Experimental Mechanics</i> , 2016, 56, 231-243.	2.0	27
33	Exploiting measurement-based validation for a high-fidelity model of dynamic indentation of a hyperelastic material. <i>International Journal of Solids and Structures</i> , 2016, 97-98, 520-529.	2.7	10
34	Experimental investigation on surface deformation of soft half plane indented by rigid wedge. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2016, 37, 1349-1360.	3.6	3
35	A comparison of split sleeve cold expansion in thick and thin plates. <i>Journal of Strain Analysis for Engineering Design</i> , 2016, 51, 375-386.	1.8	6
36	Buckling and delamination growth behaviour of delaminated composite panels subject to four-point bending. <i>Composite Structures</i> , 2016, 138, 122-133.	5.8	25

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37	An evaluation of a protocol for the validation of computational solid mechanics models. Journal of Strain Analysis for Engineering Design, 2016, 51, 5-13.	1.8	11
38	A framework for an integrated nuclear digital environment. Progress in Nuclear Energy, 2016, 87, 97-103.	2.9	39
39	On the credibility of engineering models and meta-models. Journal of Strain Analysis for Engineering Design, 2015, 50, 218-220.	1.8	5
40	A reference material for establishing uncertainties in full-field displacement measurements. Measurement Science and Technology, 2015, 26, 075004.	2.6	32
41	An experimental study of the behaviour of delaminations in composite panels subjected to bending. Composite Structures, 2015, 123, 9-18.	5.8	36
42	An experimental study of the contact of a rounded rigid indenter with a soft material block. Journal of Strain Analysis for Engineering Design, 2014, 49, 112-121.	1.8	9
43	Analysis of displacement fields from a high-speed impact using shape descriptors. Journal of Strain Analysis for Engineering Design, 2014, 49, 212-223.	1.8	15
44	Integrating fringe projection and digital image correlation for high-quality measurements of shape changes. Optical Engineering, 2014, 53, 044106.	1.0	24
45	A comparison of the effect of riveting and cold expansion on the strain distribution and fatigue performance of fiber metal laminates. Journal of Strain Analysis for Engineering Design, 2014, 49, 141-153.	1.8	6
46	On the integration of validation, quality assurance and non-destructive evaluation. Journal of Strain Analysis for Engineering Design, 2013, 48, 48-58.	1.8	13
47	An approach to the validation of computational solid mechanics models for strain analysis. Journal of Strain Analysis for Engineering Design, 2013, 48, 36-47.	1.8	46
48	Damage assessment of fibre reinforced composites using shape descriptors. Journal of Strain Analysis for Engineering Design, 2012, 47, 244-253.	1.8	8
49	Quantitative measurement of plastic strain field at a fatigue crack tip. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 2399-2415.	2.1	11
50	Effect of Cold Working on Crack Growth from Holes in Fiber Metal Laminates. Experimental Mechanics, 2012, 52, 1033-1045.	2.0	7
51	Decomposing Strain Maps Using Fourier-Zernike Shape Descriptors. Experimental Mechanics, 2012, 52, 1137-1149.	2.0	19
52	The effect of context on student engagement in engineering. European Journal of Engineering Education, 2011, 36, 211-224.	2.3	25
53	Shape features and finite element model updating from full-field strain data. International Journal of Solids and Structures, 2011, 48, 1644-1657.	2.7	64
54	Evaluation Using Digital Image Correlation of Stress Intensity Factors in an Aerospace Panel. Experimental Mechanics, 2011, 51, 45-57.	2.0	27

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55	Deconstructing Engineering Education Programmes: The DEEP Project to reform the mechanical engineering curriculum. <i>European Journal of Engineering Education</i> , 2011, 36, 269-283.	2.3	6
56	A Novel Experimental Approach for Calculating Stress Intensity Factors from Isochromatic Data. <i>Experimental Mechanics</i> , 2010, 50, 273-281.	2.0	5
57	On crack tip shielding due to plasticity-induced closure during an overload. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2010, 33, 766-777.	3.4	23
58	Thermoelastic stress analysis of fatigue cracks subject to overloads. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2010, 33, 809-821.	3.4	28
59	Analysis of the effects of cold expansion of holes using thermoelasticity and image correlation. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2010, 33, 859-870.	3.4	25
60	Embedding Enterprise in Engineering. <i>International Journal of Mechanical Engineering Education</i> , 2009, 37, 263-274.	1.0	5
61	Assessment of effective stress intensity factors using thermoelastic stress analysis. <i>Journal of Strain Analysis for Engineering Design</i> , 2009, 44, 621-632.	1.8	11
62	Study of a Crack at a Fastener Hole by Digital Image Correlation. <i>Experimental Mechanics</i> , 2009, 49, 551-559.	2.0	53
63	Some experimental observations on crack closure and crack tip plasticity. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2009, 32, 418-429.	3.4	63
64	Optical Signatures of Small Nanoparticles in a Conventional Microscope. <i>Small</i> , 2008, 4, 1703-1706.	10.0	11
65	Calibration of a Speckle Interferometry Full-Field Strain Measurement System. <i>Strain</i> , 2008, 44, 180-190.	2.4	25
66	The stress intensity of mixed mode cracks determined by digital image correlation. <i>Journal of Strain Analysis for Engineering Design</i> , 2008, 43, 769-780.	1.8	111
67	Determining individual stresses thermoelastically. <i>Journal of Strain Analysis for Engineering Design</i> , 2008, 43, 519-527.	1.8	5
68	The use of digital image correlation in a parametric study on the effect of edge distance and thickness on residual strains after hole cold expansion. <i>Journal of Strain Analysis for Engineering Design</i> , 2008, 43, 781-789.	1.8	20
69	Tracking nanoparticles in an optical microscope using caustics. <i>Nanotechnology</i> , 2008, 19, 105502.	2.6	15
70	Thermoelastic Stress Analysis. <i>Springer Handbooks</i> , 2008, , 743-768.	0.6	55
71	Some applications of combined thermoelastic-photoelastic stress analysis. <i>Journal of Strain Analysis for Engineering Design</i> , 2007, 42, 173-182.	1.8	11
72	Towards a new model of crack tip stress fields. <i>International Journal of Fracture</i> , 2007, 148, 361-371.	2.2	92

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73	Calibration and evaluation of optical systems for full-field strain measurement. Optics and Lasers in Engineering, 2007, 45, 550-564.	3.8	64
74	PL-1 Raising Standards in Experimental Mechanics?. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2007, 2007.6, _PL-1-1-_PL-1-8_.	0.0	0
75	OS1-1-1 SPOTS standard for calibrating and evaluating strain measurement systems. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2007, 2007.6, _OS1-1-1-1-_OS1-1-1-6.	0.0	0
76	An Integrated Approach to the Separation of Principal Surface Stresses Using Combined Thermo-Photo-Elasticity. Experimental Mechanics, 2006, 46, 19-29.	2.0	20
77	Location and shape measurement using a portable fringe projection system. Experimental Mechanics, 2005, 45, 197-204.	2.0	32
78	A robust approach to demodulating and unwrapping phase-stepped photoelastic data. Experimental Mechanics, 2005, 45, 278-289.	2.0	45
79	A new photoelastic model for studying fatigue crack closure. Experimental Mechanics, 2005, 45, 42-52.	2.0	36
80	A Robust Approach to Demodulating and Unwrapping Phase-stepped Photoelastic Data. Experimental Mechanics, 2005, 45, 278-289.	2.0	1
81	Optical analysis of crack tip stress fields: a comparative study. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 623-635.	3.4	24
82	Measuring stress intensity factors during fatigue crack growth using thermoelasticity. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 571-583.	3.4	122
83	Synchrotron diffraction investigation of the distribution and influence of residual stresses in fatigue. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 609-622.	3.4	32
84	Design and evaluation of the poleidoscope: A novel digital polariscope. Experimental Mechanics, 2004, 44, 128-135.	2.0	37
85	Path dependency in thermoelastic stress analysis. Experimental Mechanics, 2004, 44, 567-573.	2.0	4
86	Design and Evaluation of the Poleidoscope: A Novel Digital Polariscope. Experimental Mechanics, 2004, 44, 128-135.	2.0	5
87	On the use of stereolithography for the manufacture of photoelastic models. Experimental Mechanics, 2003, 43, 148-162.	2.0	20
88	On the Industrial Applications of Moiré and Fringe Projection Techniques. Strain, 2003, 39, 95-100.	2.4	22
89	Deformation Data from Thermal Marking. Strain, 2003, 39, 149-152.	2.4	0
90	Investigation into the Effect of the Nut Thread Run-Out on the Stress Distribution in a Bolt Using the Finite Element Method. Journal of Mechanical Design, Transactions of the ASME, 2003, 125, 527-532.	2.9	15

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91	On the Use of Stereolithography for the Manufacture of Photoelastic Models. <i>Experimental Mechanics</i> , 2003, 43, 148-161.	2.0	2
92	OS03W0354 Hybrid thermal methods in experimental stress analysis. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _OS03W0354-_OS03W0354.	0.0	0
93	OS3(1)-1(OS03W0354) Hybrid Thermal Methods in Experimental Stress Analysis. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003, 43.	0.0	0
94	The use of phase-stepping for the measurement of characteristic parameters in integrated photoelasticity. <i>Experimental Mechanics</i> , 2002, 42, 43-50.	2.0	25
95	Digital Photoelasticity: Principles, Practice and Potential. <i>Strain</i> , 2002, 38, 27-39.	2.4	94
96	The development of simultaneous thermo- and photo-elasticity for principal stress analyses. <i>Strain</i> , 1999, 35, 57-65.	2.4	13
97	The application of evolutionary and maximum entropy algorithms to photoelastic spectral analysis. <i>Experimental Mechanics</i> , 1999, 39, 265-273.	2.0	9
98	The effects of surface topography on the method of caustics. <i>Experimental Mechanics</i> , 1999, 39, 335-342.	2.0	7
99	Simulation of errors in automated photoelasticity. <i>Experimental Mechanics</i> , 1998, 38, 132-139.	2.0	35
100	ON DETERMINING STRESS INTENSITY FACTORS FOR MIXED MODE CRACKS FROM THERMOELASTIC DATA. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1997, 20, 217-226.	3.4	50
101	A STUDY OF RESIDUAL CAUSTICS GENERATED FROM FATIGUE CRACKS. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1997, 20, 1467-1479.	3.4	5
102	A photoelastic study of contact between a cylinder and a half-space. <i>Experimental Mechanics</i> , 1997, 37, 314-323.	2.0	32
103	Automated photoelastic analysis. <i>Strain</i> , 1988, 24, 15-20.	2.4	34
104	Stress analysis of some nut-bolt connections with modifications to the external shape of the nut. <i>Journal of Strain Analysis for Engineering Design</i> , 1987, 22, 187-193.	1.8	21
105	A modification to the theory for the load distribution in conventional nuts and bolts. <i>Journal of Strain Analysis for Engineering Design</i> , 1986, 21, 17-23.	1.8	27
106	The optimisation of the design of nuts with partly tapered threads. <i>Journal of Strain Analysis for Engineering Design</i> , 1986, 21, 77-84.	1.8	15
107	Stress analysis of some nut-bolt connections with modifications to the nut thread form. <i>Journal of Strain Analysis for Engineering Design</i> , 1985, 20, 35-40.	1.8	14
108	The use of a microdensitometer in photoelastic analyses. <i>Strain</i> , 1985, 21, 13-18.	2.4	2

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109	A Mathematical Model for Perched Block Formation. <i>Journal of Glaciology</i> , 1984, 30, 296-301.	2.2	2
110	A Mathematical Model for Perched Block Formation. <i>Journal of Glaciology</i> , 1984, 30, 296-301.	2.2	2
111	Construction of Shape Features for the Representation of Full-Field Displacement/Strain Data. <i>Applied Mechanics and Materials</i> , 0, 24-25, 365-370.	0.2	7
112	Comparison of Numerical and Experimental Strain Measurements of a Composite Panel Using Image Decomposition. <i>Applied Mechanics and Materials</i> , 0, 70, 63-68.	0.2	16