# Paul A Shade

List of Publications by Year
in descending order



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|---|---|---|---|
| 43 papers | 1,935 citations | 331670 21 h-index | 265206 42 g-index |
| 45 all docs | 45 docs citations | 45 times ranked | 1628 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Plasticity of Micrometer-Scale Single Crystals in Compression. Annual Review of Materials Research, 2009, 39, 361-386. | 9.3 | 677 |
| 2 | New opportunities for quantitative tracking of polycrystal responses in three dimensions. Current Opinion in Solid State and Materials Science, 2015, 19, 235-244. | 11.5 | 102 |
| 3 | Modeling slip system strength evolution in Ti-7Al informed by in-situ grain stress measurements. Acta Materialia, 2017, 128, 406-417. | 7.9 | 97 |
| 4 | A rotational and axial motion system load frame insert for in situ high energy x-ray studies. Review of Scientific Instruments, 2015, 86, 093902. | 1.3 | 96 |
| 5 | Investigation of fatigue crack initiation from a non-metallic inclusion via high energy x-ray diffraction microscopy. Acta Materialia, 2017, 137, 71-84. | 7.9 | 92 |
| 6 | Application of micro-sample testing to study fundamental aspects of plastic flow. Scripta Materialia, 2006, 54, 759-764. | 5.2 | 79 |
| 7 | Micro-compression testing of fcc metals: A selected overview of experiments and simulations. Jom, 2009, 61, 36-41. | 1.9 | 60 |
| 8 | Pre-straining effects on the power-law scaling of size-dependent strengthening in Ni single crystals. Scripta Materialia, 2013, 68, 207-210. | 5.2 | 54 |
| 9 | Measuring Ti-7Al slip system strengths at elevated temperature using high-energy X-ray diffraction. Scripta Materialia, 2018, 142, 96-100. | 5.2 | 54 |
| 10 | Crystal Plasticity Model Validation Using Combined High-Energy Diffraction Microscopy Data for a Ti-7Al Specimen. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 627-647. | 2.2 | 53 |
| 11 | Validation of micro-mechanical FFT-based simulations using High Energy Diffraction Microscopy on Ti-7Al. Acta Materialia, 2018, 154, 273-283. | 7.9 | 50 |
| 12 | Characterization of fatigue crack growth behavior in LENS fabricated Ti-6Al-4V using high-energy synchrotron x-ray microtomography. Additive Manufacturing, 2016, 12, 132-141. | 3.0 | 39 |
| 13 | An apparatus for performing microtensile tests at elevated temperatures inside a scanning electron microscope. Acta Materialia, 2013, 61, 7500-7510. | 7.9 | 32 |
| 14 | X-ray characterization of the micromechanical response ahead of a propagating small fatigue crack in a Ni-based superalloy. Acta Materialia, 2019, 179, 342-359. | 7.9 | 32 |
| 15 | Exploring new links between crystal plasticity models and high-energy X-ray diffraction microscopy. Current Opinion in Solid State and Materials Science, 2019, 23, 100763. | 11.5 | 32 |
| 16 | Elastic interaction between twins during tensile deformation of austenitic stainless steel. Scripta Materialia, 2016, 120, 1-4. | 5.2 | 30 |
| 17 | Quantifying microscale drivers for fatigue failure via coupled synchrotron X-ray characterization and simulations. Nature Communications, 2020, 11, 3189. | 12.8 | 30 |
| 18 | A complete grain-level assessment of the stress-strain evolution and associated deformation response in polycrystalline alloys. Acta Materialia, 2020, 201, 36-54. | 7.9 | 27 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Fiducial marker application method for position alignment of in situ multimodal X-ray experiments and reconstructions. Journal of Applied Crystallography, 2016, 49, 700-704. | 4.5 | 26 |
| 20 | Measured resolved shear stresses and Bishop-Hill stress states in individual grains of austenitic stainless steel. Acta Materialia, 2017, 141, 388-404. | 7.9 | 26 |
| 21 | High frequency in situ fatigue response of Ni-base superalloy RenÃ©-N5 microcrystals. Acta Materialia, 2018, 144, 154-163. | 7.9 | 26 |
| 22 | Crystal Plasticity Finite Element Method Simulations for a Polycrystalline Ni Micro-Specimen Deformed in Tension. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 6352-6359. | 2.2 | 22 |
| 23 | Combined near- and far-field high-energy diffraction microscopy dataset for Ti-7Al tensile specimen elastically loaded in situ. Integrating Materials and Manufacturing Innovation, 2016, 5, 94-102. | 2.6 | 20 |
| 24 | Experimental measurement of surface strains and local lattice rotations combined with 3D microstructure reconstruction from deformed polycrystalline ensembles at the micro-scale. Integrating Materials and Manufacturing Innovation, 2013, 2, 100-113. | 2.6 | 19 |
| 25 | Study of Structure and Deformation Pathways in Ti-7Al Using Atomistic Simulations, Experiments, and Characterization. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 2222-2236. | 2.2 | 19 |
| 26 | AFRL Additive Manufacturing Modeling Series: Challenge 4, 3D Reconstruction of an IN625 High-Energy Diffraction Microscopy Sample Using Multi-modal Serial Sectioning. Integrating Materials and Manufacturing Innovation, 2021, 10, 129-141. | 2.6 | 18 |
| 27 | Stencil mask methodology for the parallelized production of microscale mechanical test samples. Review of Scientific Instruments, 2012, 83, 053903. | 1.3 | 14 |
| 28 | AFRL Additive Manufacturing Modeling Series: Challenge 4, In Situ Mechanical Test of an IN625 Sample with Concurrent High-Energy Diffraction Microscopy Characterization. Integrating Materials and Manufacturing Innovation, 2021, 10, 338-347. | 2.6 | 12 |
| 29 | Deep learning approaches to semantic segmentation of fatigue cracking within cyclically loaded nickel superalloy. Computational Materials Science, 2021, 198, 110683. | 3.0 | 11 |
| 30 | The mechanical response of additively manufactured IN625 thin-walled structures. Scripta Materialia, 2021, 205, 114188. | 5.2 | 11 |
| 31 | Correlation of Thermally Induced Pores with Microstructural Features Using High Energy X-rays. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5580-5588. | 2.2 | 9 |
| 32 | Dynamic recovery observed in distinct grains within a polycrystalline nickel-based superalloy during cyclic high temperature fatigue via high energy X-ray diffraction microscopy. Scripta Materialia, 2021, 192, 37-42. | 5.2 | 8 |
| 33 | Statistical aspects of grain-level strain evolution and reorientation during the heating and elastic-plastic loading of a Ni-base superalloy at elevated temperature. Materialia, 2021, 16, 101063. | 2.7 | 8 |
| 34 | In situ characterization of residual stress evolution during heat treatment of SiC/SiC ceramic matrix composites using highâ€energy Xâ€ray diffraction. Journal of the American Ceramic Society, 2021, 104, 1424-1435. | 3.8 | 7 |
| 35 | Interpretation of intragranular strain fields in high-energy synchrotron X-ray experiments via finite element simulations and analysis of incompatible deformation. Materials and Design, 2021, 210, 110053. | 7.0 | 7 |
| 36 | Effect of stress-relief heat treatments on the microstructure and mechanical response of additively manufactured IN625 thin-walled elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 846, 143288. | 5.6 | 6 |

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|---|---|---|---|
| 37 | The potential link between high angle grain boundary morphology and grain boundary deformation in a nickel-based superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 640, 280-286. | 5.6 | 5 |
| 38 | 3D Reconstruction of an Additive Manufactured IN625 Tensile Sample Using Serial Sectioning and Multi-Modal Characterization. Microscopy and Microanalysis, 2019, 25, 342-343. | 0.4 | 5 |
| 39 | High-precision orientation mapping from spherical harmonic transform indexing of electron backscatter diffraction patterns. Ultramicroscopy, 2021, 222, 113187. | 1.9 | 5 |
| 40 | Grain-resolved temperature-dependent anisotropy in hexagonal Ti-7Al revealed by synchrotron X-ray diffraction. Materials Characterization, 2021, 174, 110943. | 4.4 | 5 |
| 41 | Grain reorientation and stress-state evolution during cyclic loading of an <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e541" altimg="si1.svg"><mml:mi>Î±</mml:mi></mml:math>-Ti alloy below the elastic limit. International Journal of Fatigue, 2022, 156, 106614. | 5.7 | 5 |
| 42 | AFRL Additive Manufacturing Modeling Series: Challenge 1, Characterization of Residual Strain Distribution in Additively-Manufactured Metal Parts Using Energy-Dispersive Diffraction. Integrating Materials and Manufacturing Innovation, 2021, 10, 525. | 2.6 | 2 |
| 43 | Microscale Testing and Characterization Techniques for Benchmarking Crystal Plasticity Models at Microstructural Length Scales. , 2020, , 91-125. | | 1 |