# David S Wilkinson

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/1350220/publications.pdf

Version: 2024-02-01

| | | | |
|---|---|---|---|
| 120 papers | 4,962 citations | 94433 37 h-index | 95266 68 g-index |
| 123 all docs | 123 docs citations | 123 times ranked | 3067 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A novel approach to producing architectured ultra-high strength dual phase steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 833, 142582. | 5.6 | 7 |
| 2 | 4D X-ray tomography characterization of void nucleation and growth during deformation of strontium-added AZ31 alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 797, 140081. | 5.6 | 9 |
| 3 | Microstructural Evolution During Deformation of a QP980 Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4524-4539. | 2.2 | 22 |
| 4 | Microstructural design for damage tolerance in high strength steels. Materials Letters, 2020, 269, 127664. | 2.6 | 12 |
| 5 | In-situ X-ray tomography analysis of the evolution of pores during deformation of a Cu-Sn alloy fabricated by selective laser melting. Additive Manufacturing, 2020, 34, 101196. | 3.0 | 6 |
| 6 | Multi-scale morphological characterization of Ni foams with directional pores. Materials Characterization, 2019, 158, 109939. | 4.4 | 14 |
| 7 | The role of microstructure on edge cracks in dual phase and quench and partitioning steels subject to severe cold rolling. Scripta Materialia, 2019, 173, 86-90. | 5.2 | 19 |
| 8 | Microstructural analysis of ductility and fracture in fine-grained and ultrafine-grained vanadium-added DP1300 steels. International Journal of Plasticity, 2019, 117, 58-70. | 8.8 | 43 |
| 9 | Effective approaches towards microstructural strain mapping of AZ31B Mg sheet material using digital image correlation. Optics and Lasers in Engineering, 2018, 102, 17-25. | 3.8 | 10 |
| 10 | VALIDATION OF THE DUAL-PHASE STEEL FAILURE MODEL AT THE MICROSCALE. International Journal for Multiscale Computational Engineering, 2017, 15, 443-458. | 1.2 | 1 |
| 11 | 2D and 3D characterization of pore defects in die cast AM60. Materials Characterization, 2016, 114, 254-262. | 4.4 | 21 |
| 12 | Impact of microstructure on void growth and linkage in pure magnesium. International Journal of Fracture, 2016, 200, 31-47. | 2.2 | 15 |
| 13 | Effects of void fraction on void growth and linkage in commercially pure magnesium. Acta Materialia, 2016, 113, 68-80. | 7.9 | 44 |
| 14 | On the damage and fracture of commercially pure magnesium using x-ray microtomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 676, 146-155. | 5.6 | 37 |
| 15 | Effects of void band orientation and crystallographic anisotropy on void growth and coalescence. Journal of the Mechanics and Physics of Solids, 2016, 95, 270-283. | 4.8 | 35 |
| 16 | The Effect of Porosity on Fatigue of Die Cast AM60. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3464-3472. | 2.2 | 11 |
| 17 | Effect of adhesive on fatigue property of Aural2 to AA5754 dissimilar aluminum alloy resistance spot welds. Engineering Failure Analysis, 2016, 69, 57-65. | 4.0 | 20 |
| 18 | The effect of microstructure on damage and fracture in AZ31B and ZEK100 magnesium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 658, 33-41. | 5.6 | 46 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Characterization of Pore Defects and Fatigue Cracks in Die Cast AM60 Using 3D X-ray Computed Tomography. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 1576-1585. | 2.1 | 17 |
| 20 | Fatigue Behavior of Dissimilar Aluminum Alloy Spot Welds. Procedia Engineering, 2015, 114, 149-156. | 1.2 | 14 |
| 21 | Fuel cap stamping simulation of AA5754 sheets using a microstructure based macro-micro multi-scale approach. Computational Materials Science, 2015, 98, 354-365. | 3.0 | 6 |
| 22 | Characterization of Damage in Magnesium Using Digital Image Correlation and Electron Backscattered Diffraction Patterning. , 2014, , 111-114. | | 0 |
| 23 | Microstructural Aspects of Damage and Fracture in AZ31 Sheet Materials. Journal of Materials Engineering and Performance, 2013, 22, 1386-1395. | 2.5 | 12 |
| 24 | Effect of inhomogeneous deformation on anisotropy of AZ31 magnesium sheet. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 567, 101-109. | 5.6 | 33 |
| 25 | Onset of void coalescence in uniaxial tension studied by continuous X-ray tomography. Acta Materialia, 2013, 61, 1021-1036. | 7.9 | 49 |
| 26 | Void growth and coalescence in model materials investigated by high-resolution X-ray microtomography. International Journal of Fracture, 2013, 181, 51-66. | 2.2 | 17 |
| 27 | Effect of Mg content on Portevinâ€“Le Chatelier band strain in Alâ€“Mg sheet alloys. Philosophical Magazine Letters, 2012, 92, 647-655. | 1.2 | 17 |
| 28 | Effect of triaxiality on void growth and coalescence in model materials investigated by X-ray tomography. Acta Materialia, 2012, 60, 2829-2839. | 7.9 | 38 |
| 29 | Strain localization and damage development during bending of Alâ€“Mg alloy sheets. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 550, 395-407. | 5.6 | 49 |
| 30 | Deformation inhomogeneity in large-grained AA5754 sheets. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4187-4198. | 5.6 | 14 |
| 31 | OS05-2-2 Influences of stress triaxiality and work hardening on void growth and coalescence studied by X-ray tomography. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2011, 2011.10, _OS05-2-2-. | 0.0 | 0 |
| 32 | A parametric finite element study and an analytical model of particle distributions on post-necking deformation and failure mode in AA5754 aluminum alloy sheets. International Journal of Fracture, 2010, 164, 167-183. | 2.2 | 19 |
| 33 | Anelastic Behavior Modeling of SiC Whiskerâ€Reinforced Al<sub>2</sub>O<sub>3</sub>. Journal of the American Ceramic Society, 2010, 93, 857-864. | 3.8 | 5 |
| 34 | Effect of martensite distribution on damage behaviour in DP600 dual phase steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 516, 7-16. | 5.6 | 274 |
| 35 | The influence of particle shape, volume fraction and distribution on post-necking deformation and fracture in uniaxial tension of AA5754 sheet materials. International Journal of Solids and Structures, 2009, 46, 2650-2658. | 2.7 | 20 |
| 36 | Laser drilling of high aspect ratio holes in copper with femtosecond, picosecond and nanosecond pulses. Applied Physics A: Materials Science and Processing, 2008, 90, 537-543. | 2.3 | 119 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | On the Calculation of Volume Fraction of Texture Components in AA5754 Sheet Materials. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 2007-2013. | 2.2 | 5 |
| 38 | Shear Localization and Damage in AA5754 Aluminum Alloy Sheets. Journal of Materials Engineering and Performance, 2008, 17, 395-401. | 2.5 | 18 |
| 39 | Experimental investigation of void coalescence in metallic sheets containing laser drilled holes. Acta Materialia, 2008, 56, 1774-1784. | 7.9 | 147 |
| 40 | High-density three-dimensional mapping of internal strain by tracking microstructural features. Acta Materialia, 2008, 56, 2167-2181. | 7.9 | 117 |
| 41 | Visualization by X-ray tomography of void growth and coalescence leading to fracture in model materials. Acta Materialia, 2008, 56, 2919-2928. | 7.9 | 149 |
| 42 | Constitutive Behavior of AA5754 Sheet Materials at Large Strains. Journal of Engineering Materials and Technology, Transactions of the ASME, 2008, 130, . | 1.4 | 47 |
| 43 | Modeling Strain Localization Using a Plane Stress Two-Particle Model and the Influence of Grain Level Matrix Inhomogeneity. Journal of Engineering Materials and Technology, Transactions of the ASME, 2008, 130, . | 1.4 | 12 |
| 44 | Failure Modes of Perforated Material Under Finite Deformation. Journal of Pressure Vessel Technology, Transactions of the ASME, 2008, 130, . | 0.6 | 2 |
| 45 | Formability of an Automotive Aluminum Alloy-AA5754 CC. , 2008, , . | | 0 |
| 46 | In-situ measurement of local strain partitioning in a commercial dual-phase steel. International Journal of Materials Research, 2007, 98, 664-673. | 0.3 | 49 |
| 47 | A Unified Finite Element Approach for the Study of Postyielding Deformation Behavior of Formable Sheet Materials. Journal of Pressure Vessel Technology, Transactions of the ASME, 2007, 129, 689-697. | 0.6 | 6 |
| 48 | Three-Dimensional Measurement of Local Strain Distribution by Tracking Microstructural Features in High-Resolution SR-CT Image. Key Engineering Materials, 2007, 345-346, 1153-1156. | 0.4 | 1 |
| 49 | 3-D High-Density Strain Mapping Procedure Based on High-Resolution CT. Materials Science Forum, 2007, 539-543, 2377-2382. | 0.3 | 2 |
| 50 | Measurement of 3-D Strain Distribution by means of High-Resolution X-ray CT Image and Tracking of Microstructural Features. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2007, 71, 181-186. | 0.4 | 5 |
| 51 | Modeling the influence of grain-level matrix inhomogeneity on strain localization in the presence of hard particles. Modelling and Simulation in Materials Science and Engineering, 2007, 15, 893-909. | 2.0 | 13 |
| 52 | Three-Dimensional Structure of Portevin-Le Chatelier Bands and Shear Bands in Strip Cast AA5754 Sheets Using Digital Image Correlation. , 2007, , . | | 0 |
| 53 | Creep-driven nitride scale growth in Î³-TiAl. Acta Materialia, 2007, 55, 251-260. | 7.9 | 7 |
| 54 | Modeling the interaction between creep deformation and scale growth process. Acta Materialia, 2007, 55, 189-201. | 7.9 | 23 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | The Portevinâ€“Le Chatelier (PLC) effect and shear band formation in an AA5754 alloy. Acta Materialia, 2007, 55, 4151-4160. | 7.9 | 235 |
| 56 | Effect of processing route on the spatial distributions of constituent particles and their role in the fracture process in AA5754 alloy sheet materials. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 456, 85-92. | 5.6 | 23 |
| 57 | Digital image correlation studies for microscopic strain distribution and damage in dual phase steels. Scripta Materialia, 2007, 56, 999-1002. | 5.2 | 277 |
| 58 | Numerical simulations of void linkage in model materials using a nonlocal ductile damage approximation. International Journal of Fracture, 2007, 148, 205-219. | 2.2 | 16 |
| 59 | OS3-1-2 Measurement of 3-D strain distribution based on tracking of microstructural features in high-resolution SR-CT image. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2007, 2007.6, _OS3-1-2-1-_OS3-1-2-6. | 0.0 | 0 |
| 60 | Heterogeneity in Plastic Deformation. Materials Science Forum, 2006, 519-521, 85-92. | 0.3 | 2 |
| 61 | On the sequence of inhomogeneous deformation processes occurring during tensile deformation of strip cast AA5754. Acta Materialia, 2006, 54, 209-218. | 7.9 | 118 |
| 62 | A model for the effect of creep deformation and intrinsic growth stress on oxide/nitride scale growth rates with application to the nitridation of Î³-TiAl. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 415, 94-103. | 5.6 | 11 |
| 63 | Development of a heterogeneous microstructurally based finite element model for the prediction of forming limit diagram for sheet material. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 3489-3501. | 2.2 | 20 |
| 64 | Elastic-Plastic Limit Analysis for Perforated Plates With Triangular Array of Circular Holes. , 2006, , 379. | | 1 |
| 65 | Modeling the Role of Microstructure on Shear Instability with Reference to the Formability of Automotive Aluminium Alloys. Materials Science Forum, 2006, 519-521, 183-190. | 0.3 | 5 |
| 66 | Investigation on Mechanism of Ductile Fracture of AA5754 Sheet. Materials Science Forum, 2006, 519-521, 985-990. | 0.3 | 3 |
| 67 | Effect of substrate pre-coating on adhesion of sintered nickel plaques for electrode application in rechargeable batteries. Journal of Power Sources, 2005, 142, 370-381. | 7.8 | 14 |
| 68 | Investigation of Anelastic Creep Recovery in SiC Whisker-Reinforced Alumina Composites. Journal of the American Ceramic Society, 2005, 88, 3104-3109. | 3.8 | 3 |
| 69 | Effect of type-B Portevinâ€“Le Chatelier bands on the onset of necking in uniaxial tension of strip cast AA5754 sheets. Scripta Materialia, 2005, 53, 499-503. | 5.2 | 46 |
| 70 | Effect of asymmetric rolling on the texture and mechanical properties of AA6111-aluminum sheet. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 3141-3149. | 2.2 | 83 |
| 71 | Experimental and Numerical Study of Intense Shear Banding for Al-Alloy under Uniaxial Tension. Advanced Materials Research, 2005, 6-8, 737-744. | 0.3 | 4 |
| 72 | Plastic Limit Analysis of Perforated Material Under Finite Deformation. , 2005, , . | | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Tensile properties and bendability of T4 treated AA6111 aluminum alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 369, 258-266. | 5.6 | 92 |
| 74 | Effect of thermomechanical processing on grain structure development in a twin-belt strip cast automotive aluminum alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 949-952. | 2.2 | 7 |
| 75 | CVD Technique for Inco Nickel Foam Production. Advanced Engineering Materials, 2004, 6, 454-459. | 3.5 | 115 |
| 76 | A model for damage coalescence in heterogeneous multi-phase materials. Acta Materialia, 2004, 52, 5255-5263. | 7.9 | 39 |
| 77 | Strength and ductility of as-plated and sintered CVD nickel foams. Composites Science and Technology, 2003, 63, 2317-2329. | 7.8 | 41 |
| 78 | Modeling the mechanical behaviour of heterogeneous multi-phase materials. Progress in Materials Science, 2001, 46, 379-405. | 32.8 | 60 |
| 79 | Sintering and Microstructure Modification of Mullite/Zirconia Composites Derived from Silica-Coated Alumina Powders. Journal of the American Ceramic Society, 2001, 84, 850-858. | 3.8 | 13 |
| 80 | Thickness Alteration of Grainâ€Boundary Amorphous Films during Creep of a Multiphase Silicon Nitride Ceramic. Journal of the American Ceramic Society, 2001, 84, 1296-1300. | 3.8 | 9 |
| 81 | Stress Development Due to Capillary Condensation in Powder Compacts: A Twoâ€Dimensional Model Study. Journal of the American Ceramic Society, 2000, 83, 1333-1340. | 3.8 | 9 |
| 82 | A model for the mechanical behaviour of highly concentrated composites. Scripta Materialia, 2000, 42, 313-318. | 5.2 | 1 |
| 83 | Characterization of Bendability in Automotive Aluminum Alloy Sheets. Materials Science Forum, 2000, 331-337, 583-588. | 0.3 | 18 |
| 84 | Highâ€Resolution Electron Microscopy Investigation of Viscous Flow Creep in a Highâ€Purity Silicon Nitride. Journal of the American Ceramic Society, 1999, 82, 1492-1496. | 3.8 | 24 |
| 85 | Creep Mechanisms in Multiphase Ceramic Materials. Journal of the American Ceramic Society, 1998, 81, 275-299. | 3.8 | 90 |
| 86 | Redistribution of a Grainâ€Boundary Glass Phase during Creep of Silicon Nitride Ceramics. Journal of the American Ceramic Society, 1997, 80, 685-691. | 3.8 | 25 |
| 87 | Plastic flow and fracture of a particulate metal matrix composite. Acta Materialia, 1996, 44, 3465-3476. | 7.9 | 198 |
| 88 | Structural Characterization of SiC Platelet-Reinforced Al<sub>2</sub>O<sub>3</sub> Matrix Composites before and after Creep Deformation. Materials Science Forum, 1996, 207-209, 177-180. | 0.3 | 0 |
| 89 | Effects of Porosity on the Superplastic Properties of Submicronic Alumina-Zirconia Composites. Materials Science Forum, 1996, 243-245, 411-416. | 0.3 | 3 |
| 90 | High Resolution Transmission Electron Microscope Investigations of Phases, Domains and Interfaces in Ti<sub>50.5</sub>Al<sub>46.5</sub>Cr<sub>3</sub>/TiB<sub>2</sub> Composites. Materials Science Forum, 1996, 207-209, 313-316. | 0.3 | 1 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | The Role of Platelet Orientation on the Creep Behaviour of Al<sub>2</sub>O<sub>3</sub>/SiC Composites. Key Engineering Materials, 1996, 127-131, 885-888. | 0.4 | 0 |
| 92 | Modelling of Damage in Particulate Metal Matrix Composites. Key Engineering Materials, 1996, 127-131, 1167-1174. | 0.4 | 2 |
| 93 | Microstructural Inhomogeneity and the Strength of Particulate Metal Matrix Composites. Solid Mechanics and Its Applications, 1996, , 347-354. | 0.2 | 5 |
| 94 | Synthesis and processing of hydroxyapatite ceramic tapes with controlled porosity. Journal of Materials Science: Materials in Medicine, 1995, 6, 19-23. | 3.6 | 90 |
| 95 | Processing and Properties of Alumina-Graphite Platelet Composites. Journal of the American Ceramic Society, 1995, 78, 1198-1200. | 3.8 | 3 |
| 96 | Strength of Tape Cast and Laminated Ceramics. Journal of the American Ceramic Society, 1995, 78, 1580-1584. | 3.8 | 16 |
| 97 | MoSi2-Based Sandwich Composite Made by Tape Casting. Journal of the American Ceramic Society, 1995, 78, 2967-2972. | 3.8 | 13 |
| 98 | Chemistry and sintering behaviour of thin hydroxyapatite ceramics with controlled porosity. Biomaterials, 1995, 16, 403-408. | 11.4 | 75 |
| 99 | Creep Mechanisms in Multiphase Ceramics. , 1995, , 359-368. | | 1 |
| 100 | Microstructural characterization of a microwave-sintered silicon nitride based ceramic. Journal of Materials Research, 1995, 10, 1387-1396. | 2.6 | 15 |
| 101 | Processing of Tape-Cast Laminates Prepared from Fine Alumina/Zirconia Powders. Journal of the American Ceramic Society, 1994, 77, 2145-2153. | 3.8 | 57 |
| 102 | The influence of particle distribution on the mechanical response of a particulate metal matrix composite. Acta Metallurgica Et Materialia, 1994, 42, 1311-1318. | 1.8 | 139 |
| 103 | Creep Mechanisms in Silicon Nitride Ceramics. , 1994, , 327-338. | | 8 |
| 104 | Microstructural Evolution in Annealed and Crept Silicon Nitride. Journal of the American Ceramic Society, 1993, 76, 376-384. | 3.8 | 20 |
| 105 | Creep Behavior of a Sintered Silicon Nitride. Journal of the American Ceramic Society, 1993, 76, 385-396. | 3.8 | 60 |
| 106 | Microstructural Characterisation of Microwave Sintered Silicon Nitride Ceramics. Materials Research Society Symposia Proceedings, 1992, 287, 289. | 0.1 | 4 |
| 107 | Transient Viscous Phase Reaction Sintered (Tvprs) Silicon Oxynitride Ceramics.. Materials Research Society Symposia Proceedings, 1992, 287, 381. | 0.1 | 0 |
| 108 | Crystallization of Yttria-Alumina-Silica Glasses. Journal of the American Ceramic Society, 1992, 75, 3315-3320. | 3.8 | 63 |

| # | Article | IF | Citations |
|---|---|---|---|
| 109 | Creep Due to a Non-Newtonian Grain Boundary Phase. Journal of the American Ceramic Society, 1992, 75, 2327-2334. | 3.8 | 54 |
| 110 | Tape Casting Using Fine Ceramic Powders. Materials Research Society Symposia Proceedings, 1991, 249, 305. | 0.1 | 0 |
| 111 | Creep and Creep Fracture in Hot-Pressed Alumina. Journal of the American Ceramic Society, 1991, 74, 915-921. | 3.8 | 81 |
| 112 | Damage and Fracture Mechanisms During High-Temperature Creep in Hot-Pressed Alumina. Journal of the American Ceramic Society, 1991, 74, 922-933. | 3.8 | 36 |
| 113 | Creep deformation due to a viscous grain boundary phase. Acta Metallurgica, 1989, 37, 2007-2015. | 2.1 | 122 |
| 114 | Characterization of Interfaces in SiC Particulate-Reinforced Al Alloys by AEM. Materials Research Society Symposia Proceedings, 1989, 170, 105. | 0.1 | 1 |
| 115 | Effect of Devitrification on Creep Deformation in Glass-Containing Ceramics. Journal of the American Ceramic Society, 1988, 71, 562-565. | 3.8 | 20 |
| 116 | Threshold stresses for dislocation climb over hard particles: The effect of an attractive interaction. Acta Metallurgica, 1986, 34, 1893-1898. | 2.1 | 375 |
| 117 | On the mechanism of strain-enhanced grain growth during superplastic deformation. Acta Metallurgica, 1984, 32, 1335-1345. | 2.1 | 179 |
| 118 | Large strain behaviour of a superplastic copper alloyâ€"I. Deformation. Acta Metallurgica, 1984, 32, 415-422. | 2.1 | 113 |
| 119 | Mechanisms of hot-isostatic pressing. Acta Metallurgica, 1983, 31, 1829-1840. | 2.1 | 119 |
| 120 | Tape Cast Al2O3/ZrO2 Composite Laminates. Ceramic Engineering and Science Proceedings, 0, , 873-880. | 0.1 | 5 |