# Joseph D Robson

List of Publications by Year
in descending order



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|---|---|---|---|
| 103 papers | 6,959 citations | 61984 43 h-index | 58581 82 g-index |
| 105 all docs | 105 docs citations | 105 times ranked | 3822 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Simulating intergranular hydrogen enhanced decohesion in aluminium using density functional theory. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 035009. | 2.0 | 3 |
| 2 | Modelling of friction stir welded AA2139 aluminium alloy panels in tension and blast. International Journal of Impact Engineering, 2022, 163, 104163. | 5.0 | 1 |
| 3 | Making sustainable aluminum by recycling scrap: The science of â€œdirtyâ€•alloys. Progress in Materials Science, 2022, 128, 100947. | 32.8 | 134 |
| 4 | Modelling the Effect of Deformation on Discontinuous Precipitation in Magnesiumâ€”Aluminium Alloy. , 2022, 1, 54-69. | | 1 |
| 5 | Modelling dynamic precipitation in pre-aged aluminium alloys under warm forming conditions. Acta Materialia, 2022, 234, 118036. | 7.9 | 17 |
| 6 | Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Progress in Materials Science, 2021, 117, 100752. | 32.8 | 436 |
| 7 | Microstructure and properties of aluminium alloy 6082 formed by the Hot Form Quench process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 804, 140751. | 5.6 | 9 |
| 8 | Preageing of magnesium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 809, 141002. | 5.6 | 6 |
| 9 | Modelling precipitate amorphization in Zircaloys. Journal of Nuclear Materials, 2021, 551, 152944. | 2.7 | 4 |
| 10 | Microstructural Evolution of Cold-Rolled AA7075 Sheet during Solution Treatment. Materials, 2020, 13, 2734. | 2.9 | 19 |
| 11 | Emerging Hot Topics and Research Questions in Wrought Magnesium Alloy Development. Jom, 2020, 72, 2561-2567. | 1.9 | 17 |
| 12 | On the interaction of precipitates and tensile twins in magnesium alloys. Acta Materialia, 2019, 178, 146-162. | 7.9 | 80 |
| 13 | Assessment of annealing parameter approximations in zirconium alloys. Journal of Nuclear Materials, 2019, 527, 151814. | 2.7 | 4 |
| 14 | Interfacial Segregation of Alloying Elements During Dissimilar Ultrasonic Welding of AA6111 Aluminum and Ti6Al4V Titanium. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 5143-5152. | 2.2 | 46 |
| 15 | Dispersoid composition in zirconium containing Al-Zn-Mg-Cu (AA7010) aluminium alloy. Acta Materialia, 2019, 169, 135-146. | 7.9 | 51 |
| 16 | Effect of Dispersoids on the Microstructure Evolution in Alâ€“Mgâ€“Si Alloys. Advanced Engineering Materials, 2019, 21, 1800494. | 3.5 | 17 |
| 17 | The Effect of Precipitates on Twinning in Magnesium Alloys. Advanced Engineering Materials, 2019, 21, 1800460. | 3.5 | 44 |
| 18 | Reducing yield asymmetry and anisotropy in wrought magnesium alloys â€“ A comparative study. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 744, 525-537. | 5.6 | 34 |

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|---|---|---|---|
| 19 | Understanding precipitate evolution during friction stir welding of Al-Zn-Mg-Cu alloy through in-situ measurement coupled with simulation. Acta Materialia, 2018, 148, 163-172. | 7.9 | 64 |
| 20 | The Influence of Grain Structure on Intermetallic Compound Layer Growth Rates in Fe-Al Dissimilar Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 515-526. | 2.2 | 24 |
| 21 | Influence of Precipitation on Twinning in a Mg-Al-Zn Alloy. Materials Science Forum, 2018, 941, 1041-1046. | 0.3 | 0 |
| 22 | Numerical simulation of grain boundary carbides evolution in 316H stainless steel. Journal of Nuclear Materials, 2018, 508, 299-309. | 2.7 | 19 |
| 23 | The effect of multiple precipitate types and texture on yield asymmetry in Mg-Sn-Zn(-Al-Na-Ca) alloys. Acta Materialia, 2018, 158, 1-12. | 7.9 | 31 |
| 24 | Characterising precipitate evolution in multi-component cast aluminium alloys using small-angle X-ray scattering. Journal of Alloys and Compounds, 2017, 703, 344-353. | 5.5 | 12 |
| 25 | How magnesium accommodates local deformation incompatibility: A high-resolution digital image correlation study. Acta Materialia, 2017, 133, 367-379. | 7.9 | 134 |
| 26 | Effect of hydrogen on the mechanical properties of alloy 945X (UNS N09945) and influence of microstructural features. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 684, 423-434. | 5.6 | 26 |
| 27 | Precipitation strengthening and reversed yield stress asymmetry in Mg alloys containing rare-earth elements: A quantitative study. Acta Materialia, 2017, 124, 456-467. | 7.9 | 148 |
| 28 | Process Optimization of Dual-Laser Beam Welding of Advanced Al-Li Alloys Through Hot Cracking Susceptibility Modeling. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3533-3544. | 2.2 | 30 |
| 29 | Modeling precipitate evolution in zirconium alloys during irradiation. Journal of Nuclear Materials, 2016, 476, 123-131. | 2.7 | 6 |
| 30 | The effect of internal stresses due to precipitates on twin growth in magnesium. Acta Materialia, 2016, 121, 277-287. | 7.9 | 69 |
| 31 | Strain evolution during hydride precipitation in Zircaloy-4 observed with synchrotron X-ray diffraction. Journal of Nuclear Materials, 2016, 474, 45-61. | 2.7 | 24 |
| 32 | Dissimilar ultrasonic spot welding of aerospace aluminum alloy AA2139 to titanium alloy TiAl6V4. Journal of Materials Processing Technology, 2016, 231, 382-388. | 6.3 | 90 |
| 33 | Grain Boundary Segregation of Rare-Earth Elements in Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 522-530. | 2.2 | 105 |
| 34 | Zirconium hydride precipitation kinetics in Zircaloy-4 observed with synchrotron X-ray diffraction. Journal of Nuclear Materials, 2015, 464, 160-169. | 2.7 | 41 |
| 35 | Critical Assessment 9: Wrought magnesium alloys. Materials Science and Technology, 2015, 31, 257-264. | 1.6 | 42 |
| 36 | Characterisation and modelling of defect formation in direct-chill cast AZ80 alloy. Materials Characterization, 2015, 104, 116-123. | 4.4 | 14 |

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|---|---|---|---|
| 37 | Heterogeneous Zr solute segregation and Al3Zr dispersoid distributions in Alâ€“Cuâ€“Li alloys. Acta Materialia, 2015, 93, 73-86. | 7.9 | 100 |
| 38 | Modeling of Intermetallic Compounds Growth Between Dissimilar Metals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 4106-4114. | 2.2 | 37 |
| 39 | The interaction of grain refinement and ageing in magnesiumâ€“zincâ€“zirconium (ZK) alloys. Acta Materialia, 2015, 95, 10-19. | 7.9 | 124 |
| 40 | Effect of traces of silicon on the formation of Fe-rich particles in pure magnesium and the corrosion susceptibility of magnesium. Journal of Alloys and Compounds, 2015, 619, 396-400. | 5.5 | 53 |
| 41 | Coating Design for Controlling Î² Phase IMC Formation in Dissimilar Al-Mg Metal Welding. , 2015, , 171-179. | | 0 |
| 42 | Effect of Rare-Earth Additions on the Texture of Wrought Magnesium Alloys: The Role of Grain Boundary Segregation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3205-3212. | 2.2 | 171 |
| 43 | Microstructural characterization and mechanical properties of high power ultrasonic spot welded aluminum alloy AA6111â€“TiAl6V4 dissimilar joints. Materials Characterization, 2014, 97, 83-91. | 4.4 | 70 |
| 44 | Influence of orientation on twin nucleation and growth at low strains in a magnesium alloy. Acta Materialia, 2014, 80, 380-391. | 7.9 | 89 |
| 45 | Anisotropy and Asymmetry of Yield in Magnesium Alloys at Room Temperature. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 5226-5235. | 2.2 | 25 |
| 46 | Contribution of Twinning to Low Strain Deformation in a Mg Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3213-3221. | 2.2 | 11 |
| 47 | Texture Evolution During Wire Drawing of Mg-RE Alloy. , 2014, , 251-256. | | 0 |
| 48 | Effect of Precipitate Shape and Habit on Mechanical Asymmetry in Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 2984-2995. | 2.2 | 91 |
| 49 | Modeling competitive continuous and discontinuous precipitation. Acta Materialia, 2013, 61, 7781-7790. | 7.9 | 77 |
| 50 | The Effectiveness of Surface Coatings on Preventing Interfacial Reaction During Ultrasonic Welding of Aluminum to Magnesium. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 5773-5781. | 2.2 | 47 |
| 51 | Modelling intermetallic phase formation in dissimilar metal ultrasonic welding of aluminium and magnesium alloys. Science and Technology of Welding and Joining, 2012, 17, 447-453. | 3.1 | 55 |
| 52 | Interactions between zirconium and manganese dispersoid-forming elements on their combined addition in Alâ€“Cuâ€“Li alloys. Acta Materialia, 2012, 60, 5245-5259. | 7.9 | 74 |
| 53 | The effect of high strain rate deformation on intermetallic reaction during ultrasonic welding aluminium to magnesium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 556, 31-42. | 5.6 | 167 |
| 54 | Influence of Lead on the Microstructure and Corrosion Behavior of Melt-Conditioned, Twin-Roll-Cast AZ91D Magnesium Alloy. Corrosion, 2012, 68, 548-556. | 1.1 | 5 |

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| 55 | Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. , 2012, , 150-175. | | 0 |
| 56 | Application of X-ray microtomography to analysis of cavitation in AZ61 magnesium alloy during hot deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 2610-2619. | 5.6 | 7 |
| 57 | Microstructure simulation and ballistic behaviour of weld zones in friction stir welds in high strength aluminium 7xxx plate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3409-3422. | 5.6 | 30 |
| 58 | Effect of extrusion conditions on microstructure, texture, and yield asymmetry in Mgâ€“6Yâ€“7Gdâ€“0.5wt%Zr alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7247-7256. | 5.6 | 124 |
| 59 | Effect of precipitate shape on slip and twinning in magnesium alloys. Acta Materialia, 2011, 59, 1945-1956. | 7.9 | 344 |
| 60 | Particle effects on recrystallization in magnesiumâ€“manganese alloys: Particle pinning. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4239-4247. | 5.6 | 167 |
| 61 | Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. , 2011, , 150-175. | | 0 |
| 62 | Room temperature instability of an Al-4%Cu super saturated solid solution in a nano-crystalline alloy produced by SPD. Journal of Materials Science, 2010, 45, 4851-4857. | 3.7 | 4 |
| 63 | Effect of particles in promoting twin nucleation in a Mgâ€“5wt.% Zn alloy. Scripta Materialia, 2010, 63, 823-826. | 5.2 | 128 |
| 64 | A model relating tool torque and its associated power and specific energy to rotation and forward speeds during friction stir welding/processing. International Journal of Machine Tools and Manufacture, 2010, 50, 1023-1030. | 13.4 | 64 |
| 65 | Incipient melting during friction stir processing of AZ91 magnesium castings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 7299-7304. | 5.6 | 23 |
| 66 | The formation of nanograin structures and accelerated room-temperature theta precipitation in a severely deformed Alâ€“4 wt.% Cu alloy. Acta Materialia, 2010, 58, 1643-1657. | 7.9 | 143 |
| 67 | Microstructural Evolution during Friction Stir Processing of Magnesium Alloy Castings. Materials Science Forum, 2010, 654-656, 751-754. | 0.3 | 1 |
| 68 | Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. Journal of ASTM International, 2010, 7, 1-16. | 0.2 | 7 |
| 69 | Particle effects on recrystallization in magnesiumâ€“manganese alloys: Particle-stimulated nucleation. Acta Materialia, 2009, 57, 2739-2747. | 7.9 | 660 |
| 70 | Dynamic recrystallization of Mg and Mgâ€“Y alloys: Crystallographic texture development. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 485, 375-382. | 5.6 | 209 |
| 71 | Characterisation and modelling of toughness in 6013-T6 aerospace aluminium alloy friction stir welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 490, 328-334. | 5.6 | 32 |
| 72 | Modelling precipitation in zirconium niobium alloys. Journal of Nuclear Materials, 2008, 377, 415-422. | 2.7 | 15 |

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|---|---|---|---|
| 73 | Microstructural properties of friction stir welded and post-weld heat-treated 7449 aluminium alloy thick plate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 478, 351-360. | 5.6 | 118 |
| 74 | Review on Research and Development of Magnesium Alloys. Acta Metallurgica Sinica (English Letters), 2008, 21, 313-328. | 2.9 | 354 |
| 75 | Modelling the Precipitation of Al<sub>3</sub>X Dispersoids in Aluminium Alloys and their Effect on Recrystallization. Materials Science Forum, 2007, 550, 45-54. | 0.3 | 0 |
| 76 | Microstructural Modelling for Friction Stir Welding of Aluminium Alloys. Materials and Manufacturing Processes, 2007, 22, 450-456. | 4.7 | 25 |
| 77 | Modelling of friction stir welding of 7xxx aluminium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 466, 246-255. | 5.6 | 65 |
| 78 | Simulation and control of dispersoids and dispersoid-free zones during homogenizing an AlMgSi alloy. Scripta Materialia, 2007, 57, 603-606. | 5.2 | 14 |
| 79 | Coherency Loss of Al<sub>3</sub>Sc Precipitates during Ageing of Dilute Al-Sc Alloys. Materials Science Forum, 2006, 519-521, 473-478. | 0.3 | 7 |
| 80 | Modelling of heterogeneous precipitate distribution evolution during friction stir welding process. Acta Materialia, 2006, 54, 2003-2014. | 7.9 | 98 |
| 81 | Modelling Precipitate Evolution during Friction Stir Welding of Aerospace Aluminium Alloys. Materials Science Forum, 2006, 519-521, 1101-1106. | 0.3 | 1 |
| 82 | Microstructural Evolution in AA7449 Plate Subject to Friction Stir Welding and Post Weld Heat Treatment. Materials Science Forum, 2006, 519-521, 1181-1186. | 0.3 | 6 |
| 83 | Microstructural evolution in aluminium alloy 7050 during processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 382, 112-121. | 5.6 | 176 |
| 84 | A new model for prediction of dispersoid precipitation in aluminium alloys containing zirconium and scandium. Acta Materialia, 2004, 52, 1409-1421. | 7.9 | 153 |
| 85 | Modelling the overlap of nucleation, growth and coarsening during precipitation. Acta Materialia, 2004, 52, 4669-4676. | 7.9 | 150 |
| 86 | Modelling Al3Zr dispersoid precipitation in multicomponent aluminium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 352, 240-250. | 5.6 | 116 |
| 87 | Extension of the N-model to predict competing homogeneous and heterogeneous precipitation in Al-Sc alloys. Acta Materialia, 2003, 51, 1453-1468. | 7.9 | 127 |
| 88 | Predicting recrystallised volume fraction in aluminium alloy 7050 hot rolled plate. Materials Science and Technology, 2002, 18, 607-614. | 1.6 | 57 |
| 89 | The Effect of Small Scandium Additions to AA7050 on the As-Cast and Homogenized Microstructure. Materials Science Forum, 2002, 396-402, 757-762. | 0.3 | 26 |
| 90 | Optimizing the homogenization of zirconium containing commercial aluminium alloys using a novel process model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 338, 219-229. | 5.6 | 109 |

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| 91 | Optimisation of a multiphase intermetallic metalâ€“metal composite material. Materials Science and Technology, 2001, 17, 333-337. | 1.6 | 2 |
| 92 | Dispersoid precipitation and process modelling in zirconium containing commercial aluminium alloys. Acta Materialia, 2001, 49, 599-613. | 7.9 | 282 |
| 93 | Short communicationRefinement and characterisation of a thermodynamically stableÎ²-[Ni(Al,Ti)]â€“Î²â€²-[Ni<sub>2</sub>AlTi]â€“Î³â€²-[Ni<sub>3</sub>(Al,Ti)] metalâ€“metal composite. Materials Science and Technology, 2000, 16, 349-351. | 1.6 | 2 |
| 94 | Theoretical design of ferritic creep resistant steels using neural network, kinetic, and thermodynamic models. Materials Science and Technology, 1999, 15, 547-554. | 1.6 | 45 |
| 95 | Kinetics of precipitation in power plant steels. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1996, 20, 447-460. | 1.6 | 44 |
| 96 | Material Constitutive Behaviour and Microstructure Study on Aluminium Alloys for Friction Stir Welding. Advanced Materials Research, 0, 89-91, 615-620. | 0.3 | 5 |
| 97 | Microstructural Modelling for Friction Stir Welding of High Strength Aluminum Alloys. Materials Science Forum, 0, 706-709, 1008-1013. | 0.3 | 1 |
| 98 | Effect of Strain and Strain Rate on the Evolution of Dispersoid Particles in Al-Mn-Fe-Si Alloy during Hot Deformation. Materials Science Forum, 0, 765, 398-402. | 0.3 | 0 |
| 99 | Reducing Mechanical Asymmetry in Wrought Magnesium Alloys. Materials Science Forum, 0, 765, 580-584. | 0.3 | 2 |
| 100 | Constituent Particles and Dispersoids in an Al-Mn-Fe-Si Alloy Studied in Three-Dimensions by Serial Sectioning. Materials Science Forum, 0, 765, 451-455. | 0.3 | 2 |
| 101 | A New Model for Discontinuous and Continuous Precipitation in AZ91 Magnesium Alloy. Materials Science Forum, 0, 783-786, 461-466. | 0.3 | 2 |
| 102 | Controlling Interfacial Reaction during Dissimilar Metal Welding of Aluminium Alloys. Materials Science Forum, 0, 794-796, 416-421. | 0.3 | 4 |
| 103 | The Effect of Hot Deformation on Dispersoid Evolution in a Model 3xxx Alloy. Materials Science Forum, 0, 794-796, 697-703. | 0.3 | 10 |