

NNL Publications

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Introduction

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¹ www.scopus.com

Books & Book Chapters

- [1] [Taylor R., "The chemical basis for separating recycling materials by hydro-processes", \(2021\) Encyclopedia of Nuclear Energy, pp 450-464](#)
- [2] [Miguirditchian M., Taylor R., "The adaptation of recycling processes to Pu-multi recycling", \(2021\) Encyclopedia of Nuclear Energy, pp 523-533](#)
- [3] [Griffiths M., Boothby R., "Radiation Effects in Nickel-Based Alloys", \(2020\) Comprehensive Nuclear Materials: Second Edition, pp 334-371](#)
- [4] [English C., Hyde J., "Radiation Damage of Reactor Pressure Vessel Steels", \(2020\) Comprehensive Nuclear Materials: Second Edition, pp 169-196](#)
- [5] [Hesketh K., Rossiter G., Largenton R., Puide M., "Burnable Poison-Doped Fuel", \(2020\) Comprehensive Nuclear Materials: Second Edition, pp 106-124](#)
- [6] [Hesketh K.W., Barron N.J., "Small modular reactors \(SMRs\): The case of the United Kingdom", \(2020\) Handbook of Small Modular Nuclear Reactors: Second Edition, pp 503-520](#)
- [7] [English C.A., Hyde J.M., Robert Odette G., Lucas G.E., Tan L., "Research tools: Microstructure, mechanical properties, and computational thermodynamics", \(2019\) Structural Alloys for Nuclear Energy Applications, pp 103-161](#)
- [8] [Edwards L., LeBlanc D., Rodenburg C., Uhlí J., Dai Z., Lauritzen B., Allibert M., Heuer D., Laureau A., Merle E., Brovchenko M., Delpech S., Rineiski A., Vijayan P.K., Dulera I.V., Rama Rao A., Sinha R.K., Waris A., Luzzi L., Cammi A., Yoshioka R., Kinoshita M., Lee D., Jeong Y., Kloosterman J.L., Disen E., Ponomarev L.I., Boyes W., Pázsit I., Krepel J., Nichenko S., Hombourger B., Pautz A., Prasser M., Erbay L.B., Scott I., Hodgson Z., Bakai A.S., Lackowski V., Kutsch J., Greaves E.D., Sajo-Bohus L., "Worldwide activities", \(2017\) Molten Salt Reactors and Thorium Energy, pp 635-774](#)
- [9] [Denecke M.A., Bryan N., Kalmykov S., Morris K., Quinto F., "Sources and Behaviour of Actinide Elements in the Environment", \(2016\) Experimental and Theoretical Approaches to Actinide Chemistry: From Fundamental Systems to Practical Applications, pp 378-444](#)
- [10] [Taylor R., "Reprocessing and Recycling of Spent Nuclear Fuel", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp 1-658](#)
- [11] [Lewin R.G., Harrison M.T., "International developments in electrorefining technologies for pyrochemical processing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp 373-413](#)
- [12] [Maher C.J., "Current headend technologies and future developments in the reprocessing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp 93-124](#)

- [13] [Sarsfield M.J., "The coprecipitation and conversion of mixed actinide oxalates for aqueous-based reprocessing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp 325-351](#)
- [14] [Hyde J.M., English C.A., "Microstructural characterisation techniques for the study of reactor pressure vessel \(RPV\) embrittlement", \(2015\) Irradiation Embrittlement of Reactor Pressure Vessels \(RPVs\) in Nuclear Power Plants, pp 211-294](#)
- [15] [Harrison H.M., Steele C.K., "The durability of simulated UK high level waste glass compositions based on recent vitrification campaigns", \(2014\) Ceramics for Environmental and Energy Applications II, pp 211-224](#)
- [16] [Swift P., Kinoshita H., Collier N.C., "The effect of supplementary pulverised fuel ash on calcium aluminate phosphate cement for intermediate-level waste encapsulation", \(2013\) Cement-Based Materials for Nuclear Waste Storage, pp 215-224](#)
- [17] [Stewart M.W.A., Moricca S.A., Vance E.R., Arthur Day R., Maddrell E.R., Scales C.R., Hobbs J., "Hot-isostatic pressing of chlorine-containing plutonium residues and wastes", \(2013\) TMS 2013 142nd Annual Meeting and Exhibition, Annual Meeting, pp 675-682](#)
- [18] [English C., Hyde J., "4.05 - Radiation Damage of Reactor Pressure Vessel Steels", \(2012\) Comprehensive Nuclear Materials: Volume 1-5, 1-5, pp 151-180](#)
- [19] [Boothby R.M., "4.04 - Radiation Effects in Nickel-Based Alloys", \(2012\) Comprehensive Nuclear Materials: Volume 1-5, 1-5, pp 123-150](#)
- [20] [Hesketh K., "2.16 - Burnable Poison-Doped Fuel", \(2012\) Comprehensive Nuclear Materials: Volume 1-5, 1-5, pp 423-438](#)
- [21] [Rossiter G., "Understanding and modelling fuel behaviour under irradiation", \(2012\) Nuclear Fuel Cycle Science and Engineering, pp 396-424](#)
- [22] [Squire J., Maddrell E.R., Hyatt N.C., Stennett M.C., "Developing the Plutonium Disposition Option: Ceramic Processing Concerns", \(2011\) Advances in Materials Science for Environmental and Nuclear Technology II, 227, pp 241-249](#)
- [23] [Whillock G.O.H., Worthington S.E., "Corrosion in nitric acid", \(2010\) Shreir's Corrosion, pp 1250-1269](#)
- [24] [Whillock G.O.H., "Corrosion in radiolysis induced environments", \(2010\) Shreir's Corrosion, pp 1330-1339](#)
- [25] [Burrows R., Harris S., "Electrochemical Corrosion Study of Magnox Al80 and Natural Uranium", \(2007\) Electrochemistry in Light Water Reactors: Reference Electrodes, Measurement, Corrosion and Tribocorrosion Issues, pp 156-163](#)

Journal & Review Articles - 2023

- [1] [Kuganathan N., Barron N.J., Grimes R.W., "Incorporation of volatile fission products in UN and PuN and comparison to oxides", \(2023\) Journal of Nuclear Materials, 576, art. no. 154267](#)
- [2] [Conrad J.K., Mezyk S.P., Isherwood L.H., Baidak A., Pilgrim C.D., Whittaker D., Orr R.M., Pimblott S.M., Horne G.P., "Gamma Radiation-Induced Degradation of Acetohydroxamic Acid \(AHA\) in Aqueous Nitrate and Nitric Acid Solutions Evaluated by Multiscale Modelling", \(2023\) ChemPhysChem, 24 \(5\), art. no. e202200749](#)
- [3] [Mirza M., Abdulaziz R., Maskell W.C., Wilcock S., Jones A.H., Woodall S., Jackson A., Shearing P.R., Brett D.J.L., "Electrochemical processing in molten salts - a nuclear perspective", \(2023\) Energy and Environmental Science, 16 \(3\), pp 952-982](#)
- [4] [Carrott M.J., Maher C.J., Mason C., Sarsfield M.J., Whittaker D., Taylor R.J., "Experimental Test of a Process Upset in the EURO-GANEX Process and Spectroscopic Study of the Product", \(2023\) Solvent Extraction and Ion Exchange, 41 \(1\), pp 88-117](#)
- [5] [Paul R.M., Contescu C.I., Gallego N.C., Smith R., Bass J., Kane J.J., Tzelepi A., Metcalfe M., "On the thermal oxidation of nuclear graphite relevant to high-temperature gas cooled reactors", \(2023\) Journal of Nuclear Materials, 573, art. no. 154103](#)
- [6] [Nelson S., Geddes D.A., Kearney S.A., Cockburn S., Hayes M., Angus M.J., Cann G., Provis J.L., "Hydrate assemblage stability of calcium sulfoaluminate-belite cements with varying sulfate content", \(2023\) Construction and Building Materials, 383, art. no. 131358](#)
- [7] [Barton D.N.T., Johnson T., Callow A., Carey T., Bibby S.E., Watson S., Engelberg D.L., Sharrad C.A., "A review of contamination of metallic surfaces within aqueous nuclear waste streams", \(2023\) Progress in Nuclear Energy, 159, art. no. 104637](#)
- [8] [Haynes T.A., Battistini A., Leide A.J., Liu D., Jones L., Shepherd D., Wenman M.R., "Peridynamic modelling of cracking in TRISO particles for high temperature reactors", \(2023\) Journal of Nuclear Materials, 576, art. no. 154283](#)
- [9] [Harding L.M., Lawrence Bright E., Laverock J., Goddard D.T., Springell R., "Epitaxial stabilisation of uranium silicide line compounds", \(2023\) Thin Solid Films, 768, art. no. 139690](#)
- [10] [Middleburgh S.C., Dumbill S., Qaisar A., Vatter I., Owen M., Vallely S., Goddard D., Eaves D., Puide M., Limbäck M., Lee W.E., "Enrichment of Chromium at Grain Boundaries in Chromia Doped UO₂", \(2023\) Journal of Nuclear Materials, 575, art. no. 154250](#)
- [11] [Lockwood A.P.G., Rumney J.R.L., Barnes M.G., Dodds J.M., Peakall J., Hunter T.N., "Approximation of hindered zonal settling rates for flocculated inorganic/organic composite suspensions in inertial flow conditions", \(2023\) Journal of Water Process Engineering, 51, art. no. 103459](#)

- [12] [Arcis H., Conrad J.K., Ferguson J.P., Erickson K.M., Tremaine P.R., "First Ionization Constant of Phosphoric Acid and of Acetic Acid in H₂O and D₂O from T = 373 K to 573 K at p = 11.5 and 20 MPa by AC Conductivity Methods", \(2023\) Journal of Solution Chemistry](#)
- [13] [Zagyva T., Kaufmann F.E.D., Shubeita S.D.M., Leay L., Harrison M., Taylor T., Harrison R.W., O'Driscoll B., "Microstructure and radiation tolerance of molybdenum-rich glass composite nuclear waste forms", \(2023\) Journal of Nuclear Materials, 585, art. no. 154635](#)
- [14] [Taylor R., Mathers G., Banford A., "The development of future options for aqueous recycling of spent nuclear fuels", \(2023\) Progress in Nuclear Energy, 164, art. no. 104837](#)
- [15] [Tsitsopoulos V., Holton D., Appleyard P., Thompson S., Baxter S., Niskanen M., "Thermal hydraulic and mechanical modelling of the full-scale in situ test \(FISST\)", \(2023\) Engineering Geology, 322, art. no. 107165](#)
- [16] [Peakman A., Lindley B., "A review of nuclear electric fission space reactor technologies for achieving high-power output and operating with HALEU fuel", \(2023\) Progress in Nuclear Energy, 163, art. no. 104815](#)
- [17] [Leide A.J., Haynes T.A., Tzelepi N., Payne J., Jordan M., Knol S., Vreeling J.A., Davies M., Goddard D.T., Pfeifenberger M.J., Alfreider M., Kiener D., Liu D., "Measurement of residual stresses in surrogate coated nuclear fuel particles using ring-core focussed ion beam digital image correlation", \(2023\) Nuclear Materials and Energy, 36, art. no. 101470](#)
- [18] [Yaghy G., Tonge A.S., Abouhakim H., Peeling R., Talford M., O'Brien L., Paksy A., Nevitt P., Muller F.L., Hanson B.C., Hunter T.N., "Opportunities for process intensification technologies in nuclear effluent treatment: A review of precipitators, adsorbers and separators", \(2023\) Chemical Engineering and Processing - Process Intensification, 191, art. no. 109441](#)
- [19] [Tzelepi A., McGladdery J., Lo I.-H., Copeland G., "Evolution of the microstructure of superfine grain graphites under thermal oxidation", \(2023\) Nuclear Engineering and Design, 411, art. no. 112421](#)
- [20] [Barton D.N.T., Grebennikova T., Denman A.E., Carey T., Engelberg D.L., Sharrad C.A., "Long-term aqueous contamination of stainless steel in simulant nuclear reprocessing environments", \(2023\) Journal of Nuclear Materials, 583, art. no. 154551](#)
- [21] [Kuganathan N., Barron N.J., Grimes R.W., "Initial stage of helium clustering in UN and PuN", \(2023\) Journal of Nuclear Materials, 583, art. no. 154503](#)
- [22] [Foster C., Shaw S., Neill T.S., Bryan N., Sherriff N., Harrison S., Natrajan L.S., Rigby B., Morris K., "Investigating the interactions between hydrotalcite and U\(IV\) nanoparticulates", \(2023\) Journal of Nuclear Materials, 582, art. no. 154482](#)
- [23] [Ayodeji A., Mohamed M., Li L., Di Buono A., Pierce I., Ahmed H., "Cyber security in the nuclear industry: A closer look at digital control systems, networks and human factors", \(2023\) Progress in Nuclear Energy, 161, art. no. 104738](#)

- [24] [Fryer-Kanssen I., Malcomson T., Austin J., Kerridge A., "The role of covalency in enhancing stability of Eu and Am complexes: a DFT comparison of BTP and BTPPhen", \(2023\) Physical Chemistry Chemical Physics, 25 \(29\), pp 19453-19461](#)
- [25] [Baker A., Fells A., Shaw T., Maher C.J., Hanson B.C., "Effect of Scale-Up on Residence Time and Uranium Extraction on Annular Centrifugal Contactors \(ACCs\)", \(2023\) Separations, 10 \(6\), art. no. 331](#)
- [26] [Arcis H., Lee C.A., Zimmerman G.H., Tremaine P.R., "Critical Review of Transport Properties of HCl, KOH, and NaOH in High Temperature Water and Correlations for Transport Properties of H₃O⁺ and OH⁻", \(2023\) Journal of Physical and Chemical Reference Data, 52 \(2\), art. no. 023103](#)
- [27] [Tonge S.M., Chen Z., Meek C., Mokhtarishirazabad M., Mostafavi M., "Quantifying combined effects of in-plane and out-of-plane constraint in an aluminium alloy", \(2023\) Theoretical and Applied Fracture Mechanics, 125, art. no. 103835](#)
- [28] [Mansfield J.T., Thorpe C.L., Corkhill C.L., Harrison M.T., Hand R.J., "Localised extended \("vermiform"\) features formed during glass dissolution", \(2023\) Journal of Non-Crystalline Solids, 608, art. no. 122230](#)
- [29] [Wilson J.A., Moore C., Goddard D.T., Middleburgh S.C., "Assessing the high concentration of vacancies in refractory high entropy alloys", \(2023\) Materialia, 28, art. no. 101764](#)
- [30] [Mossop R., Merk B., Patel M., Hino T., Peakman A., "Developing a Reactivity-Equivalent Physical Transformation to Simulate an Axially Heterogeneous Boiling Water Reactor", \(2023\) Energies, 16 \(8\), art. no. 3359](#)
- [31] [Dixon N.E.J., Monk S.D., Graham J., Cheneler D., "Compact Back-End Electronics with Temperature Compensation and Efficient Data Management for In Situ SiPM-Based Radiation Detection", \(2023\) Sensors, 23 \(8\), art. no. 4053](#)
- [32] [Holland E.I., Verbelen Y., Connor D.T., Martin T., Higginson M., Scott T.B., "An Introduction to Nuclear Industrial Archaeology", \(2023\) Sustainability \(Switzerland\), 15 \(7\), art. no. 6178](#)
- [33] [Purkis J.M., Burrell F., Brydie J.R., Graham J., Hopkinson L., Cundy A.B., "Electrokinetic generation of iron-rich barriers in soils: realising the potential for nuclear site management and decommissioning", \(2023\) Environmental Science: Advances, 2 \(4\), pp 652-662](#)
- [34] [Banford A.W., "Integrated waste management and R&D at the National Nuclear Laboratory", \(2023\) Nuovo Cimento della Societa Italiana di Fisica C, 46 \(2\), art. no. A26](#)
- [35] [Smith N.T., Merritt J.W., Phillips E.R., "High-resolution 3D geological modelling of heterogeneity in poorly exposed glacial deposits using sedimentary and glaciotectionic architectural element analysis: a case example from Sellafield in west Cumbria, UK", \(2023\) Quarterly Journal of Engineering Geology and Hydrogeology, 56 \(1\), art. no. gjeqh2022-022](#)

- [36] [Bridges K., Coleman J., Collins R., Dasari J., Holt G., Metelko C., Morgan A., Murdoch M., Schnellbach Y., Tsurin I., Mills R., Ryan M., Edwards G., Roberts A., "Cosmic muon tomography at the Wylfa reactor site utilising an anti-neutrino detector", \(2023\) Journal of Instrumentation, 18 \(2\), art. no. P02024](#)
- [37] [Houghton J.E., Nichols T.E., Griffiths J., Simon N., Utley J.E.P., Duller R.A., Worden R.H., "Automated Classification of Estuarine Sub-Depositional Environment Using Sediment Texture", \(2023\) Journal of Geophysical Research: Earth Surface, 128 \(2\), art. no. e2022JF006891](#)
- [38] [Woodbridge E., Connor D.T., Verbelen Y., Hine D., Richardson T., Scott T.B., "Airborne gamma-ray mapping using fixed-wing vertical take-off and landing \(VTOL\) uncrewed aerial vehicles", \(2023\) Frontiers in Robotics and AI, 10, art. no. 1137763](#)
- [39] [Connolly E.L., Connor D.T., Martin P.G., "Location and Activity Characterization of Gamma-Ray Point Sources Concealed in Shipping Containers Using Iterative Reconstruction and Modeling Cargo-Specific Attenuation", \(2023\) Nuclear Technology, 209 \(9\), pp 1382-1397](#)
- [40] [Winkler R., Heras L.A.D.L., Pancotti F., Banford A.W., Van den Dungen K., Szoke R., Poskas G., Bohnstedt A., Chaudhry M.J.E., "SHARE: Stakeholder based analysis of research for decommissioning", \(2023\) EPJ Nuclear Sciences and Technologies, 9, art. no. 10](#)
- [41] [Nearchou A., Chen T.-Y., Parsons D.S., O'Brien L., Hodge N.A., Abrahamsen-Mills L., Allan P.K., Hriliac J.A., "Doped umbite materials for selective abatement of cesium radionuclides from nuclear waste streams", \(2023\) APL Materials, 11 \(1\), art. no. 011105](#)
- [42] [Sharp E.H., Bernard R., Bolton G., Dixon S., "Pressure monitoring of Special Nuclear Material containment", \(2023\) NDT and E International, 133, art. no. 102760](#)
- [43] [Huang Y., Boxall C., Hambley D., Wilbraham R., "AGR fuel corrosion: SIMFUEL-based method development in preparation for electrochemical studies of real spent AGR nuclear fuel electrode", \(2023\) MRS Advances, 8 \(1\), pp 7-13](#)

Journal & Review Articles - 2022

- [1] [Guo Y., Burnett T.L., McDonald S.A., Daly M., Sherry A.H., Withers P.J., "4D imaging of void nucleation, growth, and coalescence from large and small inclusions in steel under tensile deformation", \(2022\) Journal of Materials Science and Technology, 123, pp 168-176](#)
- [2] [Lyseid Authen T., Adnet J.-M., Bourg S., Carrott M., Ekberg C., Galán H., Geist A., Guilbaud P., Miguiditchian M., Modolo G., Rhodes C., Wilden A., Taylor R., "An overview of solvent extraction processes developed in Europe for advanced nuclear fuel recycling, Part 2 — homogeneous recycling", \(2022\) Separation Science and Technology \(Philadelphia\), 57 \(11\), pp 1724-1744](#)
- [3] [Baker A., Fells A., Carrott M.J., Maher C.J., Hanson B.C., "Process intensification of element extraction using centrifugal contactors in the nuclear fuel cycle", \(2022\) Chemical Society Reviews](#)
- [4] [Taylor R., Bodel W., Stamford L., Butler G., "A Review of Environmental and Economic Implications of Closing the Nuclear Fuel Cycle—Part One: Wastes and Environmental Impacts", \(2022\) Energies, 15 \(4\), art. no. 1433](#)
- [5] [George K., Masters A.J., Livens F.R., Sarsfield M.J., Taylor R.J., Sharrad C.A., "A review of technetium and zirconium extraction into tributyl phosphate in the PUREX process", \(2022\) Hydrometallurgy, 211, art. no. 105892](#)
- [6] [Blackburn L.R., Townsend L.T., Lawson S.M., Mason A.R., Stennett M.C., Sun S.-K., Gardner L.J., Maddrell E.R., Corkhill C.L., Hyatt N.C., "Phase Evolution in the CaZrTi₂O₇-Dy₂Ti₂O₇ System: A Potential Host Phase for Minor Actinide Immobilization", \(2022\) Inorganic Chemistry, 61 \(15\), pp 5744-5756](#)
- [7] [Fridman E., Velarde F.A., Otero P.R., Tsige-Tamirat H., Carrascosa A.J., Herranz N.G., Bernard F., Gregg R., Davies U., Krepel J., Lindley B., Massara S., Pomerouly S., Girardi E., Mikityuk K., "Neutronic analysis of the European sodium fast reactor: Part II-burnup results", \(2022\) Journal of Nuclear Engineering and Radiation Science, 8 \(1\), art. no. 011302](#)
- [8] [Massey D., Masters A., Macdonald-Taylor J., Woodhead D., Taylor R., "Molecular Dynamics Study of the Aggregation Behavior of N, N, N', N'-Tetraoctyl Diglycolamide", \(2022\) Journal of Physical Chemistry B, 126 \(33\), pp 6290-6300](#)
- [9] [Degueldre C., Goddard D.T., Berhane G., Simpson A., Boxall C., "Simulation of uranium mononitride spent fuel: A crystallographic approach", \(2022\) Journal of Nuclear Materials, 562, art. no. 153612](#)
- [10] [Söderström P.-A., Açıksoz E., Balabanski D.L., Camera F., Capponi L., Ciocan G., Cuciuc M., Filipescu D.M., Gheorghe I., Glodariu T., Kaur J., Krzysiek M., Matei C., Roman T., Rotaru A., Șerban A.B., State A., Utsunomiya H., Vasilca V., "ELIGANT-GN — ELI Gamma Above Neutron Threshold: The Gamma-Neutron setup", \(2022\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1027, art. no. 166171](#)

- [11] [Fridman E., Velarde F.A., Otero P.R., Tsige-Tamirat H., Carrascosa A.J., Herranz N.G., Bernard F., Gregg R., Davies U., "Neutronic analysis of the European sodium fast reactor: Part I-fresh core results", \(2022\) Journal of Nuclear Engineering and Radiation Science, 8 \(1\), art. no. 011301](#)
- [12] [Castin N., Bonny G., Konstantinović M.J., Bakaev A., Bergner F., Courilleau C., Domain C., Gómez-Ferrer B., Hyde J.M., Messina L., Monnet G., Pascuet M.I., Radiguet B., Serrano M., Malerba L., "Multiscale modelling in nuclear ferritic steels: From nano-sized defects to embrittlement", \(2022\) Materials Today Physics, 27, art. no. 100802](#)
- [13] [Taylor R., Bodel W., Butler G., "A Review of Environmental and Economic Implications of Closing the Nuclear Fuel Cycle—Part Two: Economic Impacts", \(2022\) Energies, 15 \(7\), art. no. 2472](#)
- [14] [Jenkins B.M., Haley J., Moody M.P., Hyde J.M., Grovenor C.R.M., "APT and TEM study of behaviour of alloying elements in neutron-irradiated zirconium-based alloys", \(2022\) Scripta Materialia, 208, art. no. 114323](#)
- [15] [Chen H., Jobson M., Taylor R.J., Woodhead D.A., Masters A.J., Sharrad C.A., "Distribution Coefficient Model for Zirconium and Technetium Extraction from Nitric Acid Solution", \(2022\) Industrial and Engineering Chemistry Research, 61 \(1\), pp 786-804](#)
- [16] [Swan H., Styman P., Wilcox H., Bowden N., Ungar T., Connor L., Garner A., Cole-Baker A., Binks P., Smith C., Sikotra S., Hawes J., Ortner S., "Measurement of hydrogen trapping in cold-work dislocations using synchrotron X-ray diffraction", \(2022\) Journal of Nuclear Materials, 571, art. no. 154012](#)
- [17] [Arcis H., Plumridge J., Tremaine P.R., "Limiting Conductivities of Strong Acids and Bases in D2O and H2O: Deuterium Isotope Effects on Proton Hopping over a Wide Temperature Range", \(2022\) Journal of Physical Chemistry B, 126 \(43\), pp 8791-8803](#)
- [18] [Neill T.S., Morris K., Pearce C.I., Sherriff N.K., Bryan N., Rigby B., Shaw S., "Sorption of Strontium to Uraninite and Uranium\(IV\)-Silicate Nanoparticles", \(2022\) Langmuir, 38 \(10\), pp 3090-3097](#)
- [19] [Foster C., Shaw S., Neill T.S., Bryan N., Sherriff N., Natrajan L.S., Wilson H., Lopez-Odrizola L., Rigby B., Haigh S.J., Zou Y.-C., Harrison R., Morris K., "Hydrotalcite Colloidal Stability and Interactions with Uranium\(VI\) at Neutral to Alkaline pH", \(2022\) Langmuir, 38 \(8\), pp 2576-2589](#)
- [20] [Kearney S., Robshaw T.J., Turner J., Sharrad C.A., Walkley B., Ogden M.D., "Encapsulation of iodine-loaded metallated silica materials by a geopolymer matrix", \(2022\) MRS Advances, 7 \(5-6\), pp 105-109](#)
- [21] [Yang M., Yu L., Wong C., Mineo C., Yang E., Bomphray I., Huang R., "A cooperative mobile robot and manipulator system \(Co-MRMS\) for transport and lay-up of fibre plies in modern composite material manufacture", \(2022\) International Journal of Advanced Manufacturing Technology, 119 \(1-2\), pp 1249-1265](#)
- [22] [Baker U., Margulis M., Shwageraus E., Fridman E., Carrascosa A.J., Herranz N.G., Cabellos O., Gregg R., Krepel J., "Evaluation of the ESFR End of Equilibrium Cycle State: Spatial Distributions of Reactivity Coefficients", \(2022\) Journal of Nuclear Engineering and Radiation Science, 8 \(1\), art. no. 011316](#)

- [23] [Asmussen R.M., Turner J., Chong S., Riley B.J., "Review of recent developments in iodine wasteform production", \(2022\) Frontiers in Chemistry, 10, art. no. 1043653](#)
- [24] [Lawrence Bright E., Darnbrough J.E., Goddard D.T., Griffiths I., Cattelan M., Springell R., "Oxidation and passivation of the uranium nitride \(001\) surface", \(2022\) Corrosion Science, 209, art. no. 110705](#)
- [25] [Merk B., Detkina A., Litskevich D., Patel M., Noori-kalkhoran O., Cartland-Glover G., Efremova O., Bankhead M., Degueldre C., "A First Step towards Zero Nuclear Waste—Advanced Strategic Thinking in Light of iMAGINE", \(2022\) Energies, 15 \(19\), art. no. 7209](#)
- [26] [Foster E.A., Bernard R., Bolton G., Jackson-Camargo J.C., Gachagan A., Mohseni E., MacLeod C.N., "Inspection of nuclear assets with limited access using Feature Guided Waves", \(2022\) NDT and E International, 131, art. no. 102695](#)
- [27] [Jones M.E., London A.J., Breen A.J., Styman P.D., Sikotra S., Moody M.P., Haley D., "Improving the Quantification of Deuterium in Zirconium Alloy Atom Probe Tomography Data Using Existing Analysis Methods", \(2022\) Microscopy and Microanalysis, 28 \(4\), pp 1245-1254](#)
- [28] [Foster E.A., Bolton G., Bernard R., McInnes M., McKnight S., Nicolson E., Loukas C., Vasilev M., Lines D., Mohseni E., Gachagan A., Pierce G., Macleod C.N., "Automated Real-Time Eddy Current Array Inspection of Nuclear Assets", \(2022\) Sensors, 22 \(16\), art. no. 6036](#)
- [29] [Makurunje P., Woodhouse G., Goddard D.T., Middleburgh S.C., "Self-contained dual-scale composite architectures in spray dried zirconium diboride", \(2022\) Ceramics International, 48 \(12\), pp 17529-17538](#)
- [30] [West A., Knapp J., Lennox B., Walters S., Watts S., "Radiation tolerance of a small COTS single board computer for mobile robots", \(2022\) Nuclear Engineering and Technology, 54 \(6\), pp 2198-2203](#)
- [31] [Purkis J.M., Bardos R.P., Graham J., Cundy A.B., "Developing field-scale, gentle remediation options for nuclear sites contaminated with ¹³⁷Cs and ⁹⁰Sr: The role of Nature-Based Solutions", \(2022\) Journal of Environmental Management, 308, art. no. 114620](#)
- [32] [Zimmerman G.H., Staros D.J., Arcis H., "Critical Review of Transport and Equilibrium Properties of Potassium Chloride in High Temperature Water", \(2022\) Journal of Chemical and Engineering Data, 67 \(3\), pp 533-544](#)
- [33] [Shaw T.L., Jordan M.S.L., Wilkinson S., Ramsay P., Gravenor J.G., Brown M., Davies B., Tzelepi A., "The effect of radiolytic oxidation on the elastic properties of nuclear graphite measured by electronic speckle pattern interferometry", \(2022\) Journal of Nuclear Materials, 559, art. no. 153434](#)
- [34] [Muhammed D.D., Simon N., Utley J.E.P., Verhagen I.T.E., Duller R.A., Griffiths J., Wooldridge L.J., Worden R.H., "Geochemistry of Sub-Depositional Environments in Estuarine Sediments: Development of an Approach to Predict Palaeo-Environments from Holocene Cores", \(2022\) Geosciences \(Switzerland\), 12 \(1\), art. no. 23](#)

- [35] [Jiménez-Carrascosa A., Garcia-Herranz N., Krepel J., Margulis M., Baker U., Shwageraus E., Fridman E., Gregg R., "Decay heat characterization for the European sodium fast reactor", \(2022\) Journal of Nuclear Engineering and Radiation Science, 8 \(1\), art. no. 4051798](#)
- [36] [Stagg O., Morris K., Townsend L.T., Kvashnina K.O., Baker M.L., Dempsey R.L., Abrahamsen-Mills L., Shaw S., "Sulfidation and Reoxidation of U\(VI\)-Incorporated Goethite: Implications for U Retention during Sub-Surface Redox Cycling", \(2022\) Environmental Science and Technology, 56 \(24\), pp 17643-17652](#)
- [37] [Jones L.D., Haynes T.A., Rossiter G., Wenman M.R., "Application of Weibull fracture strength distributions to modelling crack initiation behaviour in nuclear fuel pellets using peridynamics", \(2022\) Journal of Nuclear Materials, 572, art. no. 154087](#)
- [38] [Wong C., Shackleford S., Potter D., Richardson J.-P., McDermott L., Nolan J., "Robotic Task Sequencing and Motion Coordination for Multiarm Systems", \(2022\) IEEE/ASME Transactions on Mechatronics, 27 \(6\), pp 5275-5286](#)
- [39] [Robshaw T.J., Turner J., Tuck O., Pyke C., Kearney S., Simoni M., Sharrad C.A., Walkley B., Ogden M.D., "Functionality screening to help design effective materials for radioiodine abatement", \(2022\) Frontiers in Chemistry, 10, art. no. 997147](#)
- [40] [Bridges K., Carroll J., Coleman J., Collins R., Dasari J., Holt G., Lockwood M., Metelko C., Morgan A., Murdoch M., Schnellbach Y., Tsurin I., Touramanis C., Mills R., Davies G., Roberts A., "VIDARR: monitoring reactor anti-neutrinos using a plastic scintillator detector in a mobile laboratory", \(2022\) Journal of Instrumentation, 17 \(10\), art. no. P10009](#)
- [41] [Robinson C., White-Pettigrew M., Shaw S., Morris K., Graham J., Lloyd J.R., "Bioremediation Options for Nuclear Sites a Review of an Emerging Technology", \(2022\) Journal of Nuclear Fuel Cycle and Waste Technology, 20 \(3\), pp 307-319](#)
- [42] [Worth R.N., Goddard D.T., Buckley J., Harrison R.W., Liu H., Paul J.I., Abram T.J., "Oxidation of U₃Si₂: The role of exothermic energy", \(2022\) Journal of Nuclear Materials, 568, art. no. 153874](#)
- [43] [Bailey D.J., Gardner L.J., Harrison M.T., McKendrick D., Hyatt N.C., "Development of monazite glass-ceramic wasteforms for the immobilisation of pyroprocessing wastes", \(2022\) MRS Advances, 7 \(5-6\), pp 81-85](#)
- [44] [Harrison M.T., McKendrick D., "Treatment of waste salt arising from the pyrochemical treatment of used nuclear fuel using precipitation methods", \(2022\) MRS Advances, 7 \(5-6\), pp 117-121](#)
- [45] [Harnett L., Stennett M., Maddrell E., Hyatt N., "Characterisation of glass ceramic wasteforms using quantitative image analysis of electron micrographs", \(2022\) MRS Advances, 7 \(5-6\), pp 86-89](#)
- [46] [Fisher A.J., Ding H., Rajbhandari P., Walkley B., Blackburn L.R., Stennett M.C., Hand R.J., Hyatt N.C., Harrison M.T., Corkhill C.L., "Chemical structure and dissolution behaviour of CaO and ZnO containing alkali-borosilicate glass", \(2022\) Materials Advances, 3 \(3\), pp 1747-1758](#)

- [47] [Townsend L.T., Smith K.F., Winstanley E.H., Morris K., Stagg O., Mosselmans J.F.W., Livens F.R., Abrahamsen-Mills L., Blackham R., Shaw S., "Neptunium and Uranium Interactions with Environmentally and Industrially Relevant Iron Minerals", \(2022\) Minerals, 12 \(2\), art. no. 165](#)
- [48] [Alique O., Aregbe Y., Bencardino R., Binner R., Burr T., Chapman J.A., Croft S., Fellerman A., Krieger T., Martin K., Mason P., Norman C., Prohaska T., Trivedi D., Walsh S., Wegrzynek D., Wright B., Wüster J., "Statistical error model-based and GUM-based analysis of measurement uncertainties in nuclear safeguards – a reconciliation", \(2022\) ESARDA Bulletin, 64 \(1\), pp 10-29](#)
- [49] [Pyke C.K., Hiller P.J., Koma Y., Ohki K., "Radioactive waste sampling for characterisation - A Bayesian upgrade: Bayesian Waste Characterisation", \(2022\) Nuclear Engineering and Technology, 54 \(1\), pp 414-422](#)
- [50] [Lavin J.J., Jones M.T., Long E.J., Tyrer J.R., Spencer J.T., Dodds J.M., Jones L.C.R., "Controlling nozzle and kerf gas dynamics to manage hazardous laser cutting fume", \(2022\) Journal of Laser Applications, 34 \(4\), art. no. 042016](#)
- [51] [Barker M.A., Adam M.S., Little P., Mills R., Morgan S., Woodman F.E., "Observations of high burnup structure in AGR fuel", \(2022\) Progress in Nuclear Energy, 153, art. no. 104433](#)
- [52] [Simpson A., Veron E., "Assessment of the market opportunities for hydrogen derived from high temperature reactor driven processes", \(2022\) Nuclear Engineering and Design, 398, art. no. 111961](#)
- [53] [Harrison R.W., Morgan J., Buckley J., Bostanchi S., Green C., White R., Pearmain D., Abram T., Goddard D.T., Barron N.J., "Development and comparison of field assisted sintering techniques to densify CeO₂ ceramics", \(2022\) Journal of the European Ceramic Society, 42 \(14\), pp 6599-6607](#)
- [54] [Roberts R., Orr R., Mein I., Paddon A., Cheesewright J., Edge R., "Reduction of Legionella pneumophila and Pseudomonas aeruginosa bacteria in water using gamma irradiation", \(2022\) Radiation Physics and Chemistry, 199, art. no. 110359](#)
- [55] [Wilkinson P.B., Chambers J.E., Meldrum P.I., Kuras O., Inauen C.M., Swift R.T., Curioni G., Uhlemann S., Graham J., Atherton N., "Windowed 4D inversion for near real-time geoelectrical monitoring applications", \(2022\) Frontiers in Earth Science, 10, art. no. 983603](#)
- [56] [Barker M.A., Adam M.S., Woodman F.E., "An evaluation of techniques for the measurement of fission gas in irradiated fuel rods", \(2022\) Progress in Nuclear Energy, 151, art. no. 104327](#)
- [57] [Wilbraham R.J., Howett E.A., Boxall C., Hambley D.I., Higgins J.K., "Simulated advanced gas-cooled reactor spent nuclear fuels: Determination of the O/U ratio - an XRD, XPS and Raman study", \(2022\) Journal of Nuclear Materials, 568, art. no. 153867](#)
- [58] [Klupś P., Haley D., London A.J., Gardner H., Famelton J., Jenkins B.M., Hyde J.M., Bagot P.A.J., Moody M.P., "PosgenPy: An Automated and Reproducible Approach to Assessing the Validity of Cluster Search Parameters in Atom Probe Tomography Datasets", \(2022\) Microscopy and Microanalysis, 28 \(4\), pp 1066-1075](#)

- [59] [Peakman A., Gregg R., Bennett T., Casamor M., Martinez-Quiroga V., Freixa J., Pericas R., Rossiter G., "Multi-physics framework for whole-core analysis of transient fuel performance after load following in a pressurised water reactor", \(2022\) Annals of Nuclear Energy, 173, art. no. 109086](#)
- [60] [Wilson J.A., Evitts L.J., Fraile A., Wilson R.E., Rushton M.J.D., Goddard D.T., Lee W.E., Middleburgh S.C., "Predicting the thermal expansion of body-centred cubic \(BCC\) high entropy alloys in the Mo-Nb-Ta-Ti-W system", \(2022\) JPhys Energy, 4 \(3\), art. no. 034002](#)
- [61] [Yankova M.S., Jivkov A.P., Patel R., Sherry A.H., "Capturing the Temperature Dependence of Cleavage Fracture Toughness in the Ductile-to-Brittle Transition Regime in Ferritic Steels Using an Improved Engineering Local Approach", \(2022\) Journal of Pressure Vessel Technology, Transactions of the ASME, 144 \(3\), art. no. 031503](#)
- [62] [Barton F., Shaw S., Morris K., Graham J., Lloyd J.R., "Impact and control of fouling in radioactive environments", \(2022\) Progress in Nuclear Energy, 148, art. no. 104215](#)
- [63] [Cummings R.B., Blackmur M.S., Grunwald M., Minty A., Styman P., MacLaren I., "Xenon bubbles formed by ion implantation in zirconium alloy films", \(2022\) Journal of Nuclear Materials, 560, art. no. 153497](#)
- [64] [Tompkins D.C., Stewart D.I., Graham J.T., Burke I.T., "In situ disposal of crushed concrete waste as void fill material at UK nuclear sites: Leaching behavior and effect of pH on trace element release", \(2022\) Journal of Hazardous Materials Advances, 5, art. no. 100043](#)
- [65] [Holt E., Oksa M., Nieminen M., Abdelouas A., Banford A., Fournier M., Mennecart T., Niederleithinger E., "Predisposal conditioning, treatment, and performance assessment of radioactive waste streams", \(2022\) EPJ Nuclear Sciences and Technologies, 8, art. no. 40](#)
- [66] [Ormai P., Nos B., Faltejsek J., Mikšová J., Železník N., Mele I., Fuzik K., Carbol P., Banford A., Holt E., "Development of guidance documents in the EURAD and PREDIS projects", \(2022\) EPJ Nuclear Sciences and Technologies, 8, art. no. 39](#)
- [67] [Sarsfield M.J., Carrott M.J., Maher C.J., Mason C., Sanderson R., Taylor R.J., Tinsley T.P., Whittaker D., Woodhead D.A., "An Alternative Solvent Extraction Flowsheet for Separating ²³⁷Np from ²³⁸Pu for Space Power Applications", \(2022\) Solvent Extraction and Ion Exchange, 40 \(4\), pp 349-365](#)

Journal & Review Articles - 2021

- [1] [Geist A., Adnet J.-M., Bourg S., Ekberg C., Galán H., Guilbaud P., Miguirditchian M., Modolo G., Rhodes C., Taylor R., "An overview of solvent extraction processes developed in Europe for advanced nuclear fuel recycling, part 1 — heterogeneous recycling", \(2021\) Separation Science and Technology \(Philadelphia\), 56 \(11\), pp 1866-1881](#)
- [2] [Guéneau C., Dupin N., Kjellqvist L., Geiger E., Kurata M., Gossé S., Corcoran E., Quaini A., Hania R., Smith A.L., Piro M.H.A., Besmann T., Turchi P.E.A., Dumas J.C., Welland M.J., Ogata T., Lee B.O., Kennedy J.R., Adkins C., Bankhead M., Costa D., "TAF-ID: An international thermodynamic database for nuclear fuels applications", \(2021\) Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 72, art. no. 102212](#)
- [3] [Purkis J.M., Warwick P.E., Graham J., Hemming S.D., Cundy A.B., "Towards the application of electrokinetic remediation for nuclear site decommissioning", \(2021\) Journal of Hazardous Materials, 413, art. no. 125274](#)
- [4] [Banos A., Burrows R., Scott T.B., "A review of the mechanisms, reaction products and parameters affecting uranium corrosion in water", \(2021\) Coordination Chemistry Reviews, 439, art. no. 213899](#)
- [5] [Paulillo A., Dodds J.M., Palethorpe S.J., Lettieri P., "Reprocessing vs direct disposal of used nuclear fuels: The environmental impacts of future scenarios for the UK", \(2021\) Sustainable Materials and Technologies, 28, art. no. e00278](#)
- [6] [Coffey P., Smith N., Lennox B., Kijne G., Bowen B., Davis-Johnston A., Martin P.A., "Robotic arm material characterisation using LIBS and Raman in a nuclear hot cell decommissioning environment", \(2021\) Journal of Hazardous Materials, 412, art. no. 125193](#)
- [7] [Blackburn L.R., Sun S.-K., Gardner L.J., Maddrell E.R., Stennett M.C., Corkhill C.L., Hyatt N.C., "Synthesis, structure, and characterization of the thorium zirconolite \$\text{CaZr}_{1-x}\text{Th}_x\text{Ti}_2\text{O}_7\$ system", \(2021\) Journal of the American Ceramic Society, 104 \(7\), pp 2937-2951](#)
- [8] [Kuipers G., Morris K., Townsend L.T., Bots P., Kvashnina K., Bryan N.D., Lloyd J.R., "Biomining of Uranium-Phosphates Fueled by Microbial Degradation of Isosaccharinic Acid \(ISA\)", \(2021\) Environmental Science and Technology, 55 \(8\), pp 4597-4606](#)
- [9] [Arregui-Mena J.D., Cullen D.A., Worth R.N., Venkatakrishnan S.V., Jordan M.S.L., Ward M., Parish C.M., Gallego N., Katoh Y., Edmondson P.D., Tzelepi N., "Electron tomography of unirradiated and irradiated nuclear graphite", \(2021\) Journal of Nuclear Materials, 545, art. no. 152649](#)
- [10] [Blackburn L.R., Crawford R., Walling S.A., Gardner L.J., Cole M.R., Sun S.-K., Gausse C., Mason A.R., Stennett M.C., Maddrell E.R., Hyatt N.C., Corkhill C.L., "Influence of accessory phases and surrogate type on accelerated leaching of zirconolite wasteforms", \(2021\) npj Materials Degradation, 5 \(1\), art. no. 24](#)

- [11] [Robshaw T.J., Turner J., Kearney S., Walkley B., Sharrad C.A., Ogden M.D., "Capture of aqueous radioiodine species by metallated adsorbents from wastestreams of the nuclear power industry: a review", \(2021\) SN Applied Sciences, 3 \(11\), art. no. 843](#)
- [12] [Stagg O., Morris K., Lam A., Navrotsky A., Velázquez J.M., Schacherl B., Vitova T., Rothe J., Galanzew J., Neumann A., Lythgoe P., Abrahamsen-Mills L., Shaw S., "Fe\(II\) Induced Reduction of Incorporated U\(VI\) to U\(V\) in Goethite", \(2021\) Environmental Science and Technology, 55 \(24\), pp 16445-16454](#)
- [13] [Wong C., Mineo C., Yang E., Yan X.-T., Gu D., "A Novel Clustering-Based Algorithm for Solving Spatially Constrained Robotic Task Sequencing Problems", \(2021\) IEEE/ASME Transactions on Mechatronics, 26 \(5\), pp 2294-2305](#)
- [14] [Bassil N.M., Small J.S., Lloyd J.R., "Enhanced microbial degradation of irradiated cellulose under hyperalkaline conditions", \(2021\) FEMS Microbiology Ecology, 96 \(7\), art. no. FIAA102](#)
- [15] [Dixon Wilkins M.C., Mottram L.M., Maddrell E.R., Stennett M.C., Corkhill C.L., Kvashnina K.O., Hyatt N.C., "Synthesis, Characterization, and Crystal Structure of Dominant Uranium\(V\) Brannerites in the UTi2- xAlxO6System", \(2021\) Inorganic Chemistry, 60 \(23\), pp 18112-18121](#)
- [16] [Moore S., Burrows R., Kumar D., Kloucek M.B., Warren A.D., Flewitt P.E.J., Picco L., Payton O.D., Martin T.L., "Observation of stress corrosion cracking using real-time in situ high-speed atomic force microscopy and correlative techniques", \(2021\) npj Materials Degradation, 5 \(1\), art. no. 3](#)
- [17] [Niederleithinger E., Gardner S., Kind T., Kaiser R., Grunwald M., Yang G., Redmer B., Waske A., Mielentz F., Effner U., Köpp C., Clarkson A., Thomson F., Ryan M., Mahon D., "Muon Tomography of the Interior of a Reinforced Concrete Block: First Experimental Proof of Concept", \(2021\) Journal of Nondestructive Evaluation, 40 \(3\), art. no. 65](#)
- [18] [Dungan K., Gregg R.W.H., Morris K., Livens F.R., Butler G., "Assessment of the disposability of radioactive waste inventories for a range of nuclear fuel cycles: Inventory and evolution over time", \(2021\) Energy, 221, art. no. 119826](#)
- [19] [Kumar D., Hargreaves J., Bharj A., Scorrer A., Harding L.M., Dominguez-Andrade H., Holmes R., Burrows R., Dawson H., Warren A.D., Flewitt P.E.J., Martin T.L., "The effects of fusion reactor thermal transients on the microstructure of Eurofer-97 steel", \(2021\) Journal of Nuclear Materials, 554, art. no. 153084](#)
- [20] [Cunliffe C.J., Dodds J.M., Dennis D.J.C., "Flow correlations and transport behaviour of turbulent slurries in partially filled pipes", \(2021\) Chemical Engineering Science, 235, art. no. 116465](#)
- [21] [Potts A., Butcher E., Cann G., Leay L., "Long term effects of gamma irradiation on in-service concrete structures", \(2021\) Journal of Nuclear Materials, 548, art. no. 152868](#)
- [22] [Tuck O.C.G., Pyke C.K., Underwood N.J., "A review of probabilistic creep assessment reporting relating to volume 2/3 of the R5 procedure", \(2021\) International Journal of Pressure Vessels and Piping, 190, art. no. 104295](#)

- [23] [Jenkins B.M., Styman P.D., Riddle N., Bagot P.A.J., Moody M.P., Smith G.D.W., Hyde J.M., "Observation of Mn-Ni-Si-rich features in thermally-aged model reactor pressure vessel steels", \(2021\) Scripta Materialia, 191, pp 126-130](#)
- [24] [Siberry A., Hambley D., Adamska A., Springell R., "A mathematical model to describe the alpha dose rate from a UO₂ surface", \(2021\) Radiation Physics and Chemistry, 182, art. no. 109359](#)
- [25] [Byrd N., Lloyd J.R., Small J.S., Taylor F., Bagshaw H., Boothman C., Morris K., "Microbial Degradation of Citric Acid in Low Level Radioactive Waste Disposal: Impact on Biomineralization Reactions", \(2021\) Frontiers in Microbiology, 12, art. no. 565855](#)
- [26] [Hadri M., Trovato V., Bialecki A., Merk B., Peakman A., "Assessment of high-electrification uk scenarios with varying levels of nuclear power and associated post-fault behaviour", \(2021\) Energies, 14 \(6\), art. no. 1780](#)
- [27] [Buckley J., Goddard D.T., Abram T.J., "Studies on the spark plasma sintering of U₃Si₂: Processing parameters and interactions", \(2021\) Journal of Nuclear Materials, 544, art. no. 152655](#)
- [28] [Harrison R.W., Morgan J., Buckley J., Abram T., Goddard D.T., Barron N.J., "Spark plasma sintering of \(U,Ce\)O₂ as a MO_x nuclear fuel surrogate", \(2021\) Journal of Nuclear Materials, 557, art. no. 153302](#)
- [29] [Peakman A., Owen H., Abram T., "Core design and fuel behaviour of a small modular pressurised water reactor using \(Th,U\)O₂ fuel for commercial marine propulsion", \(2021\) Progress in Nuclear Energy, 141, art. no. 103966](#)
- [30] [Fried T., Di Buono A., Cheneler D., Cockbain N., Dodds J.M., Green P.R., Lennox B., Taylor C.J., Monk S.D., "Radiation testing of low cost, commercial off the shelf microcontroller board", \(2021\) Nuclear Engineering and Technology, 53 \(10\), pp 3335-3343](#)
- [31] [Fisher A.J., Harrison M.T., Hyatt N.C., Hand R.J., Corkhill C.L., "The dissolution of simulant UK Ca/Zn-modified nuclear waste glass: the effect of increased waste loading", \(2021\) MRS Advances, 6 \(4-5\), pp 95-102](#)
- [32] [Bodel W., Hesketh K., McGlynn G., Matthews J., Butler G., "Generic feasibility assessment: Helping to choose the nuclear piece of the net zero jigsaw", \(2021\) Energies, 14 \(5\), art. no. 1229](#)
- [33] [Moore S., Warren A.D., Burrows R., Payton O.D., Picco L., Russell-Pavier F.S., Martin P.G., Martin T.L., "Sample preparation methods for optimal HS-AFM analysis: Duplex stainless steel", \(2021\) Ultramicroscopy, 222, art. no. 113210](#)
- [34] [Kissick L.E., Mather T.A., Tosca N.J., "Unravelling surface and subsurface carbon sinks within the early Martian crust", \(2021\) Earth and Planetary Science Letters, 557, art. no. 116663](#)
- [35] [Leay L., Baidak A., Anderson C., Chan C.M., Daubney A., Donocliot T., Draper G., Edge R., Hobbs J., Jones L., Mason N.J.S., Messer D., O'leary M., Orr R., Pimblott S.M., Shubeita S.M., Smith A.D., Steele H., Wady P., Currell F., "Resurgence of a nation's radiation science driven by its nuclear industry needs", \(2021\) Applied Sciences \(Switzerland\), 11 \(23\), art. no. 11081](#)

- [36] [Lee C.A., Van Veelen A., Morris K., Mosselmans J.F.W., Wogelius R.A., Burton N.A., "Uranium \(VI\) adsorbate structures on portlandite \[Ca\(OH\)₂\] type surfaces determined by computational modelling and X-ray absorption spectroscopy", \(2021\) Minerals, 11 \(11\), art. no. 1241](#)
- [37] [Siberry A., Hambley D., Adamska A.M., Springell R., "A geometrical model to describe the alpha dose rates from particulates of UO₂ in water", \(2021\) Radiation Physics and Chemistry, 188, art. no. 109677](#)
- [38] [Woodall S.D., Hambley M., Rawcliffe J., Willey D., Hambley D., "Characterisation of corrosion products from degraded uranium dioxide fuel", \(2021\) Journal of Nuclear Materials, 552, art. no. 152986](#)
- [39] [Wilcox H., Lewis B., Styman P., "Evaluation of the Mechanical Properties of Precipitation-Hardened Martensitic Steel 17-4PH using Small and Shear Punch Testing", \(2021\) Journal of Materials Engineering and Performance, 30 \(6\), pp 4206-4216](#)
- [40] [Griffiths T.L., Woodbury S.E., Brooks A., Pinon V., Giakoumaki A., Whitehouse A.I., "A study of the effects of gamma radiation on optical components used in specially constructed hot cell laser-induced breakdown spectroscopy \(LIBS\) instruments", \(2021\) Spectrochimica Acta - Part B Atomic Spectroscopy, 180, art. no. 106205](#)
- [41] [Blackburn L.R., Cole M.R., Gardner L.J., Bailey D.J., Kuman M., Mason A.R., Sun S.-K., Maddrell E.R., Stennett M.C., Corkhill C.L., Hyatt N.C., "Synthesis and characterisation of HIP Ca_{0.80}Ce_{0.20}ZrTi_{1.60}Cr_{0.40}O₇ zirconolite and observations of the ceramic-canister interface", \(2021\) MRS Advances, 6 \(4-5\), pp 112-118](#)
- [42] [Yankova M.S., Jivkov A.P., Patel R., "Incorporation of obstacle hardening into local approach to cleavage fracture to predict temperature effects in the ductile to brittle transition regime", \(2021\) Materials, 14 \(5\), art. no. 1224, pp 1-12](#)
- [43] [Baston G., Dickinson S., Roebuck H., Sims H.E., "Radiation chemistry of aqueous iodine at low concentrations", \(2021\) Radiation Physics and Chemistry, 180, art. no. 109099](#)
- [44] [Detkina A., Litskevitch D., Peakman A., Merk B., "Criticality analysis for BWR spent fuel based on the burnup credit evaluation from full core simulations", \(2021\) Applied Sciences \(Switzerland\), 11 \(4\), art. no. 1498, pp 1-20](#)
- [45] [Clark R.N., Humpage J., Burrows R., Godfrey H., Sagir M., Williams G., "A Study into the Localized Corrosion of Magnesium Alloy Magnox Al-80", \(2021\) Corrosion, 77 \(2\), pp 168-182](#)
- [46] [O'Leary M., Baidak A., Barnes M., Donocliot T., Emerson C., Figueira C., Fox O., Kleppe A., McCulloch A., Messer D., Orr R., Currell F., "First observation of radiolytic bubble formation in unstirred nano-powder sludges and a consistent model thereof", \(2021\) Scientific Reports, 11 \(1\), art. no. 22882](#)
- [47] [Lillington J.N.P., Goût T.L., Harrison M.T., Iwalewa T.M., Farnan I., "Assessing the effect of radioactive waste glass dissolution on early-stage radionuclide migration using simplified geological repository Monte Carlo transport models", \(2021\) MRS Advances, 6 \(4-5\), pp 73-79](#)

- [48] [Abrahamsen-Mills L., Wareing A., Fowler L., Jarvis R., Norris S., Banford A., "Development of a multi criteria decision analysis framework for the assessment of integrated waste management options for irradiated graphite", \(2021\) Nuclear Engineering and Technology, 53 \(4\), pp 1224-1235](#)
- [49] [Turkington G., Gamage K.A.A., Graham J., "The simulated characterization and suitability of semiconductor detectors for strontium 90 assay in groundwater", \(2021\) Sensors \(Switzerland\), 21 \(3\), art. no. 984, pp 1-12](#)
- [50] [Braysher E., Russell B., Collins S.M., van Es E.M., Shearman R., Molin F.D., Read D., Anagnostakis M., Arndt R., Bednár A., Bituh T., Bolivar J.P., Cobb J., Dehbi N., Di Pasquale S., Gascó C., Gilligan C., Jovanovič P., Lawton A., Lees A.M.J., Lencsés A., Mitchell L., Mitsios I., Petrínek B., Rawcliffe J., Shyti M., Suárez-Navarro J.A., Suursoo S., Tóth-Bodrogi E., Vaasma T., Verheyen L., Westmoreland J., de With G., "Development of a reference material for analysing naturally occurring radioactive material from the steel industry", \(2021\) Analytica Chimica Acta, 1141, pp 221-229](#)
- [51] [Stephens G.F., Than Y.R., Neilson W., Evitts L.J., Wenman M.R., Murphy S.T., Grimes R.W., Cole-Baker A., Ortnor S., Gotham N., Rushton M.J.D., Lee W.E., Middleburgh S.C., "The accommodation of lithium in bulk ZrO₂", \(2021\) Solid State Ionics, 373, art. no. 115813](#)
- [52] [Williamson A.J., Lloyd J.R., Boothman C., Law G.T.W., Shaw S., Small J.S., Vettese G.F., Williams H.A., Morris K., "Biogeochemical Cycling of ⁹⁹Tc in Alkaline Sediments", \(2021\) Environmental Science and Technology, 55 \(23\), pp 15862-15872](#)
- [53] [Turkington G., Gamage K.A.A., Graham J., "The simulation of in-situ groundwater detector response as a means of identifying beta emitting radionuclides by linear regression analysis", \(2021\) Sensors, 21 \(17\), art. no. 5732](#)
- [54] [Burrell F.M., Warwick P.E., Croudace I.W., Walters W.S., "Development of a numerical simulation method for modelling column breakthrough from extraction chromatography resins", \(2021\) Analyst, 146 \(12\), pp 4049-4065](#)
- [55] [Clark R.N., Chan C.M., Walters W.S., Engelberg D., Williams G., "Intergranular and Pitting Corrosion in Sensitized and Unsensitized 20Cr-25Ni-Nb Austenitic Stainless Steel", \(2021\) Corrosion, 77 \(5\), pp 550-561](#)
- [56] [Turkington G., Gamage K.A.A., Graham J., "Characterisation and suitability of a CdTe detector for strontium 90 assay in groundwater", \(2021\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 997, art. no. 165155](#)

Journal & Review Articles - 2020

- [1] [Plompen A.J.M., Cabellos O., De Saint Jean C., Fleming M., Algora A., Angelone M., Archier P., Bauge E., Bersillon O., Blokhin A., Cantargi F., Chebboubi A., Diez C., Duarte H., Dupont E., Dyrda J., Erasmus B., Fiorito L., Fischer U., Flammini D., Foligno D., Gilbert M.R., Granada J.R., Haeck W., Hamsch F.-J., Helgesson P., Hilaire S., Hill I., Hursin M., Ichou R., Jacqmin R., Jansky B., Jouanne C., Kellett M.A., Kim D.H., Kim H.I., Kodeli I., Koning A.J., Konobeyev A.Y., Kopecky S., Kos B., Krása A., Leal L.C., Leclaire N., Leconte P., Lee Y.O., Leeb H., Litaize O., Majerle M., Márquez Damián J.I., Michel-Sendis F., Mills R.W., Morillon B., Noguère G., Pecchia M., Pelloni S., Pereslavytsev P., Perry R.J., Rochman D., Röhrmoser A., Romain P., Romojaro P., Roubtsov D., Sauvan P., Schillebeeckx P., Schmidt K.H., Serot O., Simakov S., Sirakov I., Sjöstrand H., Stankovskiy A., Sublet J.C., Tamagno P., Trkov A., van der Marck S., Álvarez-Velarde F., Villari R., Ware T.C., Yokoyama K., Žerovnik G., "The joint evaluated fission and fusion nuclear data library, JEFF-3.3", \(2020\) European Physical Journal A, 56 \(7\), art. no. 181](#)
- [2] [Castin N., Bonny G., Bakaev A., Bergner F., Domain C., Hyde J.M., Messina L., Radiguet B., Malerba L., "The dominant mechanisms for the formation of solute-rich clusters in low-Cu steels under irradiation", \(2020\) Materials Today Energy, 17, art. no. 100472](#)
- [3] [Blackburn L.R., Sun S.-K., Lawson S.M., Gardner L.J., Ding H., Corkhill C.L., Maddrell E.R., Stennett M.C., Hyatt N.C., "Synthesis and characterisation of Ca_{1-x}Ce_xZrTi_{2-2x}Cr_{2x}O₇: Analogue zirconolite wastefrom for the immobilisation of stockpiled UK plutonium", \(2020\) Journal of the European Ceramic Society, 40 \(15\), pp 5909-5919](#)
- [4] [Tonge S.M., Simpson C.A., Reinhard C., Connolley T., Sherry A.H., Marrow T.J., Mostafavi M., "Unifying the effects of in and out-of-plane constraint on the fracture of ductile materials", \(2020\) Journal of the Mechanics and Physics of Solids, 141, art. no. 103956](#)
- [5] [Blackburn L.R., Sun S., Gardner L.J., Maddrell E.R., Stennett M.C., Hyatt N.C., "A systematic investigation of the phase assemblage and microstructure of the zirconolite CaZr_{1-x}Ce_xTi₂O₇ system", \(2020\) Journal of Nuclear Materials, 535, art. no. 152137](#)
- [6] [Connor D.T., Wood K., Martin P.G., Goren S., Megson-Smith D., Verbelen Y., Chyzhevskiy I., Kirieiev S., Smith N.T., Richardson T., Scott T.B., "Radiological Mapping of Post-Disaster Nuclear Environments Using Fixed-Wing Unmanned Aerial Systems: A Study From Chernobyl", \(2020\) Frontiers in Robotics and AI, 6, art. no. 149](#)
- [7] [Pardi T., Ortenzi V., Fairbairn C., Pipe T., Esfahani A.M.G., Stolkin R., "Planning Maximum-Manipulability Cutting Paths", \(2020\) IEEE Robotics and Automation Letters, 5 \(2\), art. no. 8978478, pp 1999-2006](#)
- [8] [Lillington J.N.P., Goût T.L., Harrison M.T., Farnan I., "Predicting radioactive waste glass dissolution with machine learning", \(2020\) Journal of Non-Crystalline Solids, 533, art. no. 119852](#)

- [9] [Clark R.N., Searle J., Martin T.L., Walters W.S., Williams G., "The role of niobium carbides in the localised corrosion initiation of 20Cr-25Ni-Nb advanced gas-cooled reactor fuel cladding", \(2020\) Corrosion Science, 165, art. no. 108365](#)
- [10] [Liu J., Li K., Sayers J., Aarholt T., He G., Hulme H., Garner A., Preuss M., Nordin H., Partezana J.M., Limbäck M., Lozano-Perez S., Ortner S., Grovenor C.R.M., "Characterisation of deuterium distributions in corroded zirconium alloys using high-resolution SIMS imaging", \(2020\) Acta Materialia, 200, pp 581-596](#)
- [11] [Foster L., Boothman C., Ruiz-Lopez S., Boshoff G., Jenkinson P., Sigee D., Pittman J.K., Morris K., Lloyd J.R., "Microbial bloom formation in a high pH spent nuclear fuel pond", \(2020\) Science of the Total Environment, 720, art. no. 137515](#)
- [12] [Jenkins B.M., Douglas J.O., Almirall N., Riddle N., Bagot P.A.J., Hyde J.M., Odette G.R., Moody M.P., "The effect of composition variations on the response of steels subjected to high fluence neutron irradiation", \(2020\) Materialia, 11, art. no. 100717](#)
- [13] [Peakman A., Merk B., Hesketh K., "The potential of pressurised water reactors to provide flexible response in future electricity grids", \(2020\) Energies, 13 \(4\), art. no. en13040941](#)
- [14] [Galvin T., Hyatt N.C., Rainforth W.M., Reaney I.M., Shepherd D., "Slipcasting of MAX phase tubes for nuclear fuel cladding applications", \(2020\) Nuclear Materials and Energy, 22, art. no. 100725](#)
- [15] [Wade-Zhu J., Krishna R., Bodey A.J., Davies M., Bourne N.K., Rau C., Davies B., Tzelepi A., Jones A.N., Marsden B.J., Mummery P.M., "4D synchrotron X-ray microtomography of fracture in nuclear graphite after neutron irradiation and radiolytic oxidation", \(2020\) Carbon, 168, pp 230-244](#)
- [16] [Dixon Wilkins M.C., Stennett M.C., Maddrell E., Hyatt N.C., "The formation of stoichiometric uranium brannerite \(UTi₂O₆\) glass-ceramic composites from the component oxides in a one-pot synthesis", \(2020\) Journal of Nuclear Materials, 542, art. no. 152516](#)
- [17] [Arcis H., Ferguson J.P., Cox J.S., Tremaine P.R., "The ionization constant of water at elevated temperatures and pressures: New data from direct conductivity measurements and revised formulations from T = 273 K to 674 K and p = 0.1 MPa to 31 MPa", \(2020\) Journal of Physical and Chemical Reference Data, 49 \(3\), art. no. 033103](#)
- [18] [Smith N.T., Shreeve J., Kuras O., "Multi-sensor core logging \(MSCL\) and X-ray computed tomography imaging of borehole core to aid 3D geological modelling of poorly exposed unconsolidated superficial sediments underlying complex industrial sites: An example from Sellafield nuclear site, UK", \(2020\) Journal of Applied Geophysics, 178, art. no. 104084](#)
- [19] [Detkina A., Peakman A., Litskevich D., Liang J.-H., Merk B., "Evaluation of BWR burnup calculations using deterministic lattice codes scale-6.2, WIMS-10A and CaSMO5", \(2020\) Energies, 13 \(10\), art. no. 2573](#)

- [20] [Lo I.-H., Yeh T.-K., Patterson E.A., Tzelepi A., "Comparison of oxidation behaviour of nuclear graphite grades at very high temperatures", \(2020\) Journal of Nuclear Materials, 532, art. no. 152054](#)
- [21] [Ray D., Leary P., Livens F., Gray N., Morris K., Law K.A., Fuller A.J., Abrahamsen-Mills L., Howe J., Tierney K., Muir G., Law G.T.W., "Controls on anthropogenic radionuclide distribution in the Sellafield-impacted Eastern Irish Sea", \(2020\) Science of the Total Environment, 743, art. no. 140765](#)
- [22] [Fisher A.J., Harrison M.T., Hyatt N.C., Hand R.J., Corkhill C.L., "The dissolution of simulant UK Ca/Zn-modified nuclear waste glass: Insight into Stage III behavior", \(2020\) MRS Advances, 5, pp 103-109](#)
- [23] [Jenkins B.M., London A.J., Riddle N., Hyde J.M., Bagot P.A.J., Moody M.P., "Using alpha hulls to automatically and reproducibly detect edge clusters in atom probe tomography datasets", \(2020\) Materials Characterization, 160, art. no. 110078](#)
- [24] [Haynes T.A., Shepherd D., Wenman M.R., "Preliminary modelling of crack nucleation and propagation in SiC/SiC accident-tolerant fuel during routine operational transients using peridynamics", \(2020\) Journal of Nuclear Materials, 540, art. no. 152369](#)
- [25] [Jenkins B.M., Douglas J.O., Gardner H.M., Tweddle D., Kareer A., Karamched P.S., Riddle N., Hyde J.M., Bagot P.A.J., Odette G.R., Moody M.P., "A more holistic characterisation of internal interfaces in a variety of materials via complementary use of transmission Kikuchi diffraction and Atom probe tomography", \(2020\) Applied Surface Science, 528, art. no. 147011](#)
- [26] [Paulillo A., Dodds J.M., Milliken A., Palethorpe S.J., Lettieri P., "The environmental impacts of reprocessing used nuclear fuels: A UK case study", \(2020\) Sustainable Materials and Technologies, 25, art. no. e00186](#)
- [27] [Peakman A., Gregg R., "The challenges of gas-cooled reactor technology for space propulsion and the development of the JANUS space reactor concept", \(2020\) Progress in Nuclear Energy, 125, art. no. 103340](#)
- [28] [Clark R.N., Burrows R., Patel R., Moore S., Hallam K.R., Flewitt P.E.J., "Nanometre to micrometre length-scale techniques for characterising environmentally-assisted cracking: An appraisal", \(2020\) Heliyon, 6 \(3\), art. no. e03448](#)
- [29] [Dodds J.M., Rawcliffe J., "Radionuclide distribution during ytterbium doped fibre laser cutting for nuclear decommissioning", \(2020\) Progress in Nuclear Energy, 118, art. no. 103122](#)
- [30] [Di Buono A., Cockbain N., Green P.R., Lennox B., "The effects of Total Ionizing Dose irradiation on supercapacitors deployed in nuclear decommissioning environments", \(2020\) Journal of Power Sources, 479, art. no. 228675](#)
- [31] [Dixon Wilkins M.C., Maddrell E.R., Stennett M.C., Hyatt N.C., "The Effect of Temperature on the Stability and Cerium Oxidation State of CeTi₂O₆ in Inert and Oxidizing Atmospheres", \(2020\) Inorganic Chemistry, 59 \(23\), pp 17364-17373](#)

- [32] [Lillington J.N.P., Goût T.L., Harrison M.T., Farnan I., "Assessing static glass leaching predictions from large datasets using machine learning", \(2020\) Journal of Non-Crystalline Solids, 546, art. no. 120276](#)
- [33] [Mills R.W., Slingsby B.M., Coleman J., Collins R., Holt G., Metelko C., Schnellbach Y., "A simple method for estimating the major nuclide fractional fission rates within light water and advanced gas cooled reactors", \(2020\) Nuclear Engineering and Technology, 52 \(9\), pp 2130-2137](#)
- [34] [Kearney S.A., McLuckie B., Webb K., Orr R., Vatter I.A., Yorkshire A.S., Corkhill C.L., Hayes M., Angus M.J., Provis J.L., "Effects of plutonium dioxide encapsulation on the physico-chemical development of Portland cement blended grouts", \(2020\) Journal of Nuclear Materials, 530, art. no. 151960](#)
- [35] [Weekes H.E., Ortner S., Qaisar A., Lozano-Perez S., Jurkschat K., "3D focused ion beam sectioning of zirconium oxides in Zircaloy-4 for the characterisation of cracking", \(2020\) Journal of Nuclear Materials, 539, art. no. 152155](#)
- [36] [Southworth J.S., Pimblott S.M., Orr R.M., Koehler S.P.K., "A novel method for measuring the radiolysis yields of water adsorbed on ZrO₂ nanoparticles", \(2020\) Radiation Physics and Chemistry, 174, art. no. 108924](#)
- [37] [Clark R.N., Chan C.M., Martin T.L., Walters W.S., Engelberg D., Burrows R., Williams G., "The effect of sodium hydroxide on niobium carbide precipitates in thermally sensitised 20Cr-25Ni-Nb austenitic stainless steel", \(2020\) Corrosion Science, 170, art. no. 108596](#)
- [38] [Paulillo A., Clift R., Dodds J.M., Milliken A., Palethorpe S.J., Lettieri P., "Radiological impacts in Life Cycle Assessment. Part I: General framework and two practical methodologies", \(2020\) Science of the Total Environment, 708, art. no. 135179](#)
- [39] [Joyce M.J., Sarwar R., Astromskas V., Chebboubi A., Croft S., Litaize O., Vogt R., Zimmerman C.H., "High-order angular correlation of californium-252 fission neutrons and the effect of detector cross-talk", \(2020\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 954, art. no. 161866](#)
- [40] [Peakman A., Gregg R., "The fuel cycle implications of nuclear process heat", \(2020\) Energies, 13 \(22\), art. no. 6073](#)
- [41] [Detkina A., Litskevitch D., Peakman A., Merk B., "Burnup credit evaluation for bwr spent fuel from full core calculations", \(2020\) Applied Sciences \(Switzerland\), 10 \(21\), art. no. 7549, pp 1-19](#)
- [42] [Smith A.D., Warren J., Harrison G., Blackmur M.S., Morse S., Wilford K., Preuss M., "Applying a combination of laboratory X-Ray diffraction and digital image correlation for recording uniaxial stress-strain curves in thin surface layers", \(2020\) International Journal of Mechanical Sciences, 183, art. no. 105731](#)
- [43] [Boylan A.A., Stewart D.I., Graham J.T., Burke I.T., "The Behavior of Low Molecular Weight Organic Carbon-14 Containing Compounds in Contaminated Groundwater During Denitrification and Iron-Reduction", \(2020\) Geomicrobiology Journal, 37 \(5\), pp 486-495](#)

- [44] [Paulillo A., Clift R., Dodds J., Milliken A., Palethorpe S., Lettieri P., "Radiological impacts in Life Cycle Assessment – Part II: Comparison of methodologies", \(2020\) Science of the Total Environment, 708, art. no. 134712](#)
- [45] [Simpson A., Clarkson A., Gardner S., Al Jebali R., Kaiser R., Mahon D., Roe J., Ryan M., Shearer C., Yang G., "Muon tomography for the analysis of in-container vitrified products", \(2020\) Applied Radiation and Isotopes, 157, art. no. 109033](#)
- [46] [Blackburn L.R., Sun S.K., Gardner L.J., Maddrell E.R., Stennett M.C., Hyatt N.C., "Influence of Transition Metal Charge Compensation Species on Phase Assemblage in Zirconolite Ceramics for Pu Immobilisation", \(2020\) MRS Advances, 5 \(1-2\), pp 93-101](#)
- [47] [Erlund M.C., Murfin A.S., Smith M.A.S., "Review of British Standard BS 4094-1:1966 part 1: Data on shielding from gamma radiation", \(2020\) Journal of Radiological Protection, 40 \(4\), pp 1154-1170](#)
- [48] [Tzelepi A., Dinsdale-Potter J., Wilkinson S., Shaw T.L., Davies B.C., Davies M.A., "Studies of irradiation creep on core graphite by thermal annealing", \(2020\) Journal of Nuclear Materials, 539, art. no. 152309](#)
- [49] [Tzelepi A., Metcalfe M.P., Dinsdale-Potter J.H., Wilkinson S., Copeland G., "Radiological characterisation of graphite components in Advanced Gas-cooled Reactor cores", \(2020\) Journal of Environmental Radioactivity, 220-221, art. no. 106296](#)
- [50] [Gamage K.A.A., Crompton A.J., Jenkins A., Bell S., Trivedi D., "Performance characteristics of a tungsten collimator and UVTRON flame sensor in the detection of alpha-induced radioluminescence", \(2020\) Radiation Physics and Chemistry, 177, art. no. 109197](#)
- [51] [Tzelepi A., Metcalfe M.P., Mills R.W., Dinsdale-Potter J.H., Copeland G., "Understanding the formation and behaviour of C-14 in irradiated Magnox graphite", \(2020\) Carbon, 165, pp 100-111](#)
- [52] [Whillock G.O.H., Summers K.A., Jackson A., "The effect of ruthenium on the corrosion of stainless steel in nitric acid liquors", \(2020\) Corrosion, 76 \(1\), pp 93-102](#)

Journal & Review Articles - 2019

- [1] [Cowie B.E., Purkis J.M., Austin J., Love J.B., Arnold P.L., "Thermal and Photochemical Reduction and Functionalization Chemistry of the Uranyl Dication, \[UVO₂\]²⁺", \(2019\) Chemical Reviews, 119 \(18\), pp 10595-10637](#)
- [2] [Baron P., Cornet S.M., Collins E.D., DeAngelis G., Del Cul G., Fedorov Y., Glatz J.P., Ignatiev V., Inoue T., Khaperskaya A., Kim I.T., Kormilitsyn M., Koyama T., Law J.D., Lee H.S., Minato K., Morita Y., Uhlř J., Warin D., Taylor R.J., "A review of separation processes proposed for advanced fuel cycles based on technology readiness level assessments", \(2019\) Progress in Nuclear Energy, 117, art. no. 103091](#)
- [3] [Van Uffelen P., Hales J., Li W., Rossiter G., Williamson R., "A review of fuel performance modelling", \(2019\) Journal of Nuclear Materials, 516, pp 373-412](#)
- [4] [Odette G.R., Yamamoto T., Williams T.J., Nanstad R.K., English C.A., "On the history and status of reactor pressure vessel steel ductile to brittle transition temperature shift prediction models", \(2019\) Journal of Nuclear Materials, 526, art. no. 151863](#)
- [5] [Ambrosi R.M., Williams H., Watkinson E.J., Barco A., Mesalam R., Crawford T., Bicknell C., Samara-Ratna P., Vernon D., Bannister N., Ross D., Sykes J., Perkinson M.-C., Burgess C., Stroud C., Gibson S., Godfrey A., Slater R.G., Reece M.J., Chen K., Simpson K., Tuley R., Sarsfield M., Tinsley T.P., Stephenson K., Freis D., Vigier J.-F., Konings R.J.M., Fongarland C., Libessart M., Merrifield J., Kramer D.P., Byrne J., Foxcroft B., "European Radioisotope Thermoelectric Generators \(RTGs\) and Radioisotope Heater Units \(RHUs\) for Space Science and Exploration", \(2019\) Space Science Reviews, 215 \(8\), art. no. 55](#)
- [6] [Malmbeck R., Magnusson D., Bourg S., Carrott M., Geist A., Hérès X., Miguiriditchian M., Modolo G., Müllich U., Sorel C., Taylor R., Wilden A., "Homogenous recycling of transuranium elements from irradiated fast reactor fuel by the EURO-GANEX solvent extraction process", \(2019\) Radiochimica Acta](#)
- [7] [Kaspar T.C., Ryan J.V., Pantano C.G., Rice J., Trivelpiece C., Hyatt N.C., Corkhill C.L., Mann C., Hand R.J., Kirkham M.A., Crawford C.L., Jantzen C.M., Du J., Lu X., Harrison M.T., Cushman C., Linford M.R., Smith N.J., "Physical and optical properties of the International Simple Glass", \(2019\) npj Materials Degradation, 3 \(1\), art. no. 15](#)
- [8] [Topping M., Harte A., Ungár T., Race C.P., Dumbill S., Frankel P., Preuss M., "The effect of irradiation temperature on damage structures in proton-irradiated zirconium alloys", \(2019\) Journal of Nuclear Materials, 514, pp 358-367](#)
- [9] [Winstanley E.H., Morris K., Abrahamsen-Mills L.G., Blackham R., Shaw S., "U\(VI\) sorption during ferrihydrite formation: Underpinning radioactive effluent treatment", \(2019\) Journal of Hazardous Materials, 366, pp 98-104](#)
- [10] [Arnold P.L., Purkis J.M., Rutkauskaitė R., Kovacs D., Love J.B., Austin J., "Controlled Photocatalytic Hydrocarbon Oxidation by Uranyl Complexes", \(2019\) ChemCatChem, 11 \(16\), pp 3786-3790](#)

- [11] [Woodhead D., McLachlan F., Taylor R., Müllich U., Geist A., Wilden A., Modolo G., "Nitric Acid Extraction into a TODGA Solvent Modified with 1-Octanol", \(2019\) Solvent Extraction and Ion Exchange, 37 \(2\), pp 173-190](#)
- [12] [Lawrence Bright E., Rennie S., Siberry A., Samani K., Clarke K., Goddard D.T., Springell R., "Comparing the corrosion of uranium nitride and uranium dioxide surfaces with H₂O₂", \(2019\) Journal of Nuclear Materials, 518, pp 202-207](#)
- [13] [Peakman A., Grove C., Fitzgerald K., Gregg R., "Development of an equilibrium loading pattern and whole-core fuel performance assessment in the Advanced Boiling Water Reactor \(ABWR\) with UO₂ and U₃Si₂ fuels", \(2019\) Progress in Nuclear Energy, 117, art. no. 103053](#)
- [14] [Prentice D.P., Walkley B., Bernal S.A., Bankhead M., Hayes M., Provis J.L., "Thermodynamic modelling of BFS-PC cements under temperature conditions relevant to the geological disposal of nuclear wastes", \(2019\) Cement and Concrete Research, 119, pp 21-35](#)
- [15] [Cleary A., Lloyd J.R., Newsome L., Shaw S., Boothman C., Boshoff G., Atherton N., Morris K., "Bioremediation of strontium and technetium contaminated groundwater using glycerol phosphate", \(2019\) Chemical Geology, 509, pp 213-222](#)
- [16] [Mahon D., Clarkson A., Gardner S., Ireland D., Jebali R., Kaiser R., Ryan M., Shearer C., Yang G., "First-of-a-kind muography for nuclear waste characterization", \(2019\) Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 377 \(2137\), art. no. 20180048](#)
- [17] [Maddrell E.R., Vance E.R., Grant C., Aly Z., Stopic A., Palmer T., Harrison J., Gregg D.J., "Silver iodide sodalite – Wasteform / Hip canister interactions and aqueous durability", \(2019\) Journal of Nuclear Materials, 517, pp 71-79](#)
- [18] [Barcellini C., Harrison R.W., Dumbill S., Donnelly S.E., Jimenez-Melero E., "Evolution of radiation-induced lattice defects in 20/25 Nb-stabilised austenitic stainless steel during in-situ proton irradiation", \(2019\) Journal of Nuclear Materials, 514, pp 90-100](#)
- [19] [Edwards S., Andrieux F., Boxall C., Sarsfield M.J., Taylor R.J., Woodhead D., "Neptunium\(iv\)-hydroxamate complexes: their speciation, and kinetics and mechanism of hydrolysis", \(2019\) Dalton Transactions, 48 \(2\), pp 673-687](#)
- [20] [Smith K.F., Morris K., Law G.T.W., Winstanley E.H., Livens F.R., Weatherill J.S., Abrahamsen-Mills L.G., Bryan N.D., Mosselmans J.F.W., Cibir G., Parry S., Blackham R., Law K.A., Shaw S., "Plutonium\(IV\) Sorption during Ferrihydrite Nanoparticle Formation", \(2019\) ACS Earth and Space Chemistry, 3 \(11\), pp 2437-2442](#)
- [21] [Merk B., Detkina A., Atkinson S., Litskevich D., Cartland-Glover G., "Evaluation of the breeding performance of a NaCl-UCl-Based reactor system", \(2019\) Energies, 12 \(20\), art. no. 3853](#)

- [22] [Yang G., Clarkson T., Gardner S., Ireland D., Kaiser R., Mahon D., Jebali R.A., Shearer C., Ryan M., "Novel muon imaging techniques", \(2019\) Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 377 \(2137\), art. no. 20180062](#)
- [23] [Harrington C., Baron-Wiechec A., Burrows R., Holmes R., Clark R., Walters S., Martin T.L., Springell R., Öijerholm J., Becker R., Gillén P., Torella R., Piccolo E.L., "Chemistry and corrosion research and development for the water cooling circuits of European DEMO", \(2019\) Fusion Engineering and Design, 146, pp 478-481](#)
- [24] [Goût T.L., Harrison M.T., Farnan I., "Impacts of lithium on Magnox waste glass dissolution", \(2019\) Journal of Non-Crystalline Solids, 517, pp 96-105](#)
- [25] [Brayshaw W.J., Cooper A.J., Sherry A.H., "Assessment of the micro-mechanical fracture processes within dissimilar metal welds", \(2019\) Engineering Failure Analysis, 97, pp 820-835](#)
- [26] [Jivkov A.P., Burgos D.S., Ruggieri C., Beswick J., Savioli R., James P., Sherry A., "Use of local approaches to calculate changes in cleavage fracture toughness due to pre-straining and constraint effects", \(2019\) Theoretical and Applied Fracture Mechanics, 104, art. no. 102380](#)
- [27] [Peakman A., Merk B., "The role of nuclear power in meeting current and future industrial process heat demands", \(2019\) Energies, 12 \(19\), art. no. 3664](#)
- [28] [Barcellini C., Harrison R.W., Dumbill S., Donnelly S.E., Jimenez-Melero E., "Local chemical instabilities in 20Cr–25Ni Nb-stabilised austenitic stainless steel induced by proton irradiation", \(2019\) Journal of Nuclear Materials, 518, pp 95-107](#)
- [29] [Wright T., Bennett S., Heinitz S., Köster U., Mills R., Soldner T., Steier P., Wallner A., Wieninger T., "Measurement of the \$^{13}\text{C}\(n, \gamma\)\$ thermal cross section via neutron irradiation and AMS", \(2019\) European Physical Journal A, 55 \(11\), art. no. 200](#)
- [30] [Sayers J., Lozano-Perez S., Ortner S.R., "The progress of SPP oxidation in zircaloy-4 and its relation to corrosion and hydrogen pickup", \(2019\) Corrosion Science, 158, art. no. 108072](#)
- [31] [Gasparrini C., Podor R., Fiquet O., Horlait D., May S., Wenman M.R., Lee W.E., "Uranium carbide oxidation from 873 K to 1173 K", \(2019\) Corrosion Science, 151, pp 44-56](#)
- [32] [Lynes O., Austin J., Kerridge A., "Ab initio molecular dynamics studies of hydroxide coordination of alkaline earth metals and uranyl", \(2019\) Physical Chemistry Chemical Physics, 21 \(25\), pp 13809-13820](#)
- [33] [Insulander Björk K., Kelly J.F., Vitanza C., Drera S.S., Holcombe S., Tverberg T., Tuomisto H., Wright J., Sarsfield M., Blench T., Yang J.H., Kim H.-G., Kim D.-J., Lau C.W., "Irradiation testing of enhanced uranium oxide fuels", \(2019\) Annals of Nuclear Energy, 125, pp 99-106](#)

- [34] [Neill T.S., Morris K., Pearce C.I., Abrahamsen-Mills L., Kovarik L., Kellet S., Rigby B., Vitova T., Schacherl B., Shaw S., "Silicate stabilisation of colloidal UO₂ produced by uranium metal corrosion", \(2019\) Journal of Nuclear Materials, 526, art. no. 151751](#)
- [35] [Kuipers G., Boothman C., Bagshaw H., Beard R., Bryan N.D., Lloyd J.R., "Microbial reduction of Fe\(III\) coupled to the biodegradation of isosaccharinic acid \(ISA\)", \(2019\) Applied Geochemistry, 109, art. no. 104399](#)
- [36] [Goût T.L., Harrison M.T., Farnan I., "Evaluating the temperature dependence of Magnox waste glass dissolution", \(2019\) Journal of Non-Crystalline Solids, 518, pp 75-84](#)
- [37] [Collier N.C., Heyes D.W., Butcher E.J., Borwick J., Milodowski A.E., Field L.P., Kemp S.J., Mounteney I., Bernal S.A., Corkhill C.L., Hyatt N.C., Provis J.L., Black L., "Gaseous carbonation of cementitious backfill for geological disposal of radioactive waste: Nirex Reference Vault Backfill", \(2019\) Applied Geochemistry, 106, pp 120-133](#)
- [38] [Galvin T., Hyatt N.C., Rainforth W.M., Reaney I.M., Shepherd D., "Laser sintering of electrophoretically deposited \(EPD\) Ti₃SiC₂ MAX phase coatings on titanium", \(2019\) Surface and Coatings Technology, 366, pp 199-203](#)
- [39] [Sutherland-Harper S., Livens F., Pearce C., Hobbs J., Orr R., Taylor R., Webb K., Kaltsoyannis N., "Interactions of HCl and H₂O with the surface of PuO₂", \(2019\) Journal of Nuclear Materials, 518, pp 256-264](#)
- [40] [Horsfall J.P.O., Trivedi D., Smith N.T., Martin P.A., Coffey P., Tournier S., Banford A., Li L., Whitehead D., Lang A., Law G.T.W., "A new analysis workflow for discrimination of nuclear grade graphite using laser-induced breakdown spectroscopy", \(2019\) Journal of Environmental Radioactivity, 199-200, pp 45-57](#)
- [41] [Chen H., Masters A.J., Taylor R., Jobson M., Woodhead D., "Application of SAFT-VRE in the Flowsheet Simulation of an Advanced PUREX Process", \(2019\) Industrial and Engineering Chemistry Research, 58 \(9\), pp 3822-3831](#)
- [42] [Sayers J., Lozano-Perez S., Nicholls R.J., Ortner S., "A high-resolution characterization of the oxide-metal interface in Zircaloy-4 and its relation to the oxidation and hydrogen pickup mechanisms", \(2019\) Journal of Nuclear Materials, 525, pp 72-82](#)
- [43] [Metcalf M.P., Tzelepi A., Copeland G., "The release of carbon-14 from irradiated PGA graphite by thermal treatment in air", \(2019\) Annals of Nuclear Energy, 133, pp 110-121](#)
- [44] [Nikoloski A.N., Gilligan R., Squire J., Maddrell E.R., "Chemical stability of zirconolite for proliferation resistance under conditions typically required for the leaching of highly refractory uranium minerals", \(2019\) Metals, 9 \(10\), art. no. 1070](#)
- [45] [Webb K., Taylor R., Campbell C., Carrott M., Gregson C., Hobbs J., Livens F., Maher C., Orr R., Sims H., Steele H., Sutherland-Harper S., "Thermal Processing of Chloride-Contaminated Plutonium Dioxide", \(2019\) ACS Omega, 4 \(7\), pp 12524-12536](#)
- [46] [Goût T.L., Harrison M.T., Farnan I., "Relating Magnox and international waste glasses", \(2019\) Journal of Non-Crystalline Solids, 524, art. no. 119647](#)

- [47] [Barcellini C., Dumbill S., Jimenez-Melero E., "Recrystallisation behaviour of a fully austenitic Nb-stabilised stainless steel", \(2019\) Journal of Microscopy, 274 \(1\), pp 3-12](#)
- [48] [Godfrey H., Hayes M., Anderson D., Rawlinson S., Borwick J., Clifford J., "Corrosion of 1050, 1085, and 5083 grade aluminium in the pore water of a GGBS/CEM I grout up to 777 d", \(2019\) Journal of Nuclear Materials, 515, pp 257-266](#)
- [49] [Law K.A., Parry S., Bryan N.D., Heath S.L., Heald S.M., Knight D., O'Brien L., Fuller A.J., Bower W.R., Law G.T.W., Livens F.R., "Plutonium migration during the leaching of cemented radioactive waste sludges", \(2019\) Geosciences \(Switzerland\), 9 \(1\), art. no. 31](#)
- [50] [Davidson E., Betzler B., Gregg R., Worrall A., "Modeling a fast spectrum molten salt reactor in a systems dynamics fuel cycles code", \(2019\) Annals of Nuclear Energy, 133, pp 409-424](#)
- [51] [Vikman M., Marjamaa K., Nykyri M., Small J.S., Miettinen H., Heikinheimo L., Haavisto T., Itävaara M., "The biogeochemistry of gas generation from low-level nuclear waste: Microbiological characterization during 18 years study under in situ conditions", \(2019\) Applied Geochemistry, 105, pp 55-67](#)
- [52] [Turkington G., Gamage K.A.A., Graham J., "Direct measurement of strontium 90 in groundwater: Geometry optimisation of a photodiode based detector", \(2019\) Journal of Instrumentation, 14 \(10\), art. no. P10018](#)
- [53] [Leay L., Harrison M.T., "Bubble formation in nuclear glasses: A review", \(2019\) Journal of Materials Research, 34 \(6\), pp 905-920](#)
- [54] [Weekes H.E., Dye D., Proctor J.E., Smith D., Simionescu C., Prior T.J., Wenman M.R., "The effect of pressure on hydrogen solubility in Zircaloy-4", \(2019\) Journal of Nuclear Materials, 524, pp 256-262](#)
- [55] [Goode J.B., Hambley D.I., Hanson B.C., "A benchtop comparison of drying methods relevant to failed spent nuclear fuel", \(2019\) Progress in Nuclear Energy, 115, pp 120-125](#)
- [56] [Botha J.A., Hunter T.N., Johannsmann D., Austin D., Hodges C.S., Mackay G.A., Woodbury S.E., Biggs S., Harbottle D., "Resonance properties of quartz crystal microbalance immersed in high solid content suspensions", \(2019\) Colloids and Surfaces A: Physicochemical and Engineering Aspects, 573, pp 230-236](#)
- [57] [Goode J.B., Hambley D.I., Hanson B.C., "End point determination for spent nuclear fuel drying operations", \(2019\) Progress in Nuclear Energy, 116, pp 108-114](#)
- [58] [Fried T., Cheneler D., Monk S.D., Taylor C.J., Dodds J.M., "Compact viscometer prototype for remote in situ analysis of sludge", \(2019\) Sensors \(Switzerland\), 19 \(15\), art. no. 3299](#)
- [59] [Dawson M., "A pragmatic approach for simulating the fluid flow and heat transfer within industrial evaporator vessels", \(2019\) International Journal of Heat and Mass Transfer, 135, pp 907-924](#)

[60] [Holmes R., Charnley-Parry I., Grundy C., Whitton J., Cormack M., "Developing a toolkit for public engagement on nuclear energy issues for application in Europe: A review of stakeholder responses from Finland, France and Germany", \(2019\) Nuclear Future, 15 \(3\), pp 51-53](#)

Journal & Review Articles - 2018

- [1] [Whittaker D., Geist A., Modolo G., Taylor R., Sarsfield M., Wilden A., "Applications of Diglycolamide Based Solvent Extraction Processes in Spent Nuclear Fuel Reprocessing, Part 1: TODGA", \(2018\) Solvent Extraction and Ion Exchange, 36 \(3\), pp 223-256](#)
- [2] [Galvin T., Hyatt N.C., Rainforth W.M., Reaney I.M., Shepherd D., "Molten salt synthesis of MAX phases in the Ti-Al-C system", \(2018\) Journal of the European Ceramic Society, 38 \(14\), pp 4585-4589](#)
- [3] [Lang A., Engelberg D., Smith N.T., Trivedi D., Horsfall O., Banford A., Martin P.A., Coffey P., Bower W.R., Walther C., Weiß M., Bosco H., Jenkins A., Law G.T.W., "Analysis of contaminated nuclear plant steel by laser-induced breakdown spectroscopy", \(2018\) Journal of Hazardous Materials, 345, pp 114-122](#)
- [4] [Fitzgerald K., Shepherd D., "Review of SiCf/SiCm corrosion, erosion and erosion-corrosion in high temperature helium relevant to GFR conditions", \(2018\) Journal of Nuclear Materials, 498, pp 476-494](#)
- [5] [Woodward G.L., Peacock C.L., Otero-Fariña A., Thompson O.R., Brown A.P., Burke I.T., "A universal uptake mechanism for cobalt\(II\) on soil constituents: Ferrihydrite, kaolinite, humic acid, and organo-mineral composites", \(2018\) Geochimica et Cosmochimica Acta, 238, pp 270-291](#)
- [6] [Peakman A., Hodgson Z., Merk B., "Advanced micro-reactor concepts", \(2018\) Progress in Nuclear Energy, 107, pp 61-70](#)
- [7] [Connor D.T., Martin P.G., Smith N.T., Payne L., Hutton C., Payton O.D., Yamashiki Y., Scott T.B., "Application of airborne photogrammetry for the visualisation and assessment of contamination migration arising from a Fukushima waste storage facility", \(2018\) Environmental Pollution, 234, pp 610-619](#)
- [8] [Dyer A., Hriliac J., Evans N., Stokes I., Rand P., Kellet S., Harjula R., Moller T., Maher Z., Heatlie-Branson R., Austin J., Williamson-Owens S., Higgins-Bos M., Smith K., O'Brien L., Smith N., Bryan N., "The use of columns of the zeolite clinoptilolite in the remediation of aqueous nuclear waste streams", \(2018\) Journal of Radioanalytical and Nuclear Chemistry, 318 \(3\), pp 2473-2491](#)
- [9] [Blackmur M.S., Dumbill S., MacLaren I., Hernandez-Maldonado D., Styman P.D., Gass M., Nicholls R.J., Hyde J.M., Ramasse Q.M., Annand K.J., Smith J.S., Gotham N., "The association of hydrogen with nanometre bubbles of helium implanted into zirconium", \(2018\) Scripta Materialia, 152, pp 102-106](#)
- [10] [Topping M., Ungár T., Race C.P., Harte A., Garner A., Baxter F., Dumbill S., Frankel P., Preuss M., "Investigating the thermal stability of irradiation-induced damage in a zirconium alloy with novel in situ techniques", \(2018\) Acta Materialia, 145, pp 255-263](#)
- [11] [Aitken J.M., Veres S.M., Shaukat A., Gao Y., Cucco E., Dennis L.A., Fisher M., Kuo J.A., Robinson T., Mort P.E., "Autonomous Nuclear Waste Management", \(2018\) IEEE Intelligent Systems, 33 \(6\), art. no. 8255794, pp 47-55](#)

- [12] [Neill T.S., Morris K., Pearce C.I., Sherriff N.K., Burke M.G., Chater P.A., Janssen A., Natrajan L., Shaw S., "Stability, Composition, and Core-Shell Particle Structure of Uranium\(IV\)-Silicate Colloids", \(2018\) Environmental Science and Technology, 52 \(16\), pp 9118-9127](#)
- [13] [Ng H.C.-H., Cregan H.L.F., Dodds J.M., Poole R.J., Dennis D.J.C., "Partially filled pipes: Experiments in laminar and turbulent flow", \(2018\) Journal of Fluid Mechanics, 848, pp 467-507](#)
- [14] [Cooper A.J., Brayshaw W.J., Sherry A.H., "Tensile Fracture Behavior of 316L Austenitic Stainless Steel Manufactured by Hot Isostatic Pressing", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(5\), pp 1579-1591](#)
- [15] [Moore S., Burrows R., Picco L., Martin T.L., Greenwell S.J., Scott T.B., Payton O.D., "A study of dynamic nanoscale corrosion initiation events using HS-AFM", \(2018\) Faraday Discussions, 210, pp 409-428](#)
- [16] [Styman P.D., Hyde J.M., Morley A., Wilford K., Riddle N., Smith G.D.W., "The effect of Ni on the microstructural evolution of high Cu reactor pressure vessel steel welds after thermal ageing for up to 100,000 h", \(2018\) Materials Science and Engineering: A, 736, pp 111-119](#)
- [17] [Lo I.-H., Tzelepi A., Patterson E.A., Yeh T.-K., "A study of the relationship between microstructure and oxidation effects in nuclear graphite at very high temperatures", \(2018\) Journal of Nuclear Materials, 501, pp 361-370](#)
- [18] [Dvurecenska K., Graham S., Patelli E., Patterson E.A., "A probabilistic metric for the validation of computational models", \(2018\) Royal Society Open Science, 5 \(11\), art. no. 180687](#)
- [19] [Prentice D.P., Bernal S.A., Bankhead M., Hayes M., Provis J.L., "Phase evolution of slag-rich cementitious grouts for immobilisation of nuclear wastes", \(2018\) Advances in Cement Research, 30 \(8\), pp 345-360](#)
- [20] [Brown J., Campbell C., Carrigan C., Carrott M., Greenough K., Maher C., McLuckie B., Mason C., Gregson C., Griffiths T., Holt J., Sarsfield M., Stephenson K., Taylor R., Tinsley T., "Americium and Plutonium Purification by Extraction \(the AMPPEX process\): Development of a new method to separate ²⁴¹Am from aged plutonium dioxide for use in space power systems", \(2018\) Progress in Nuclear Energy, 106, pp 396-416](#)
- [21] [Merk B., Litskevich D., Gregg R., Mount A.R., "Demand driven salt clean-up in a molten salt fast reactor – Defining a priority list", \(2018\) PLoS ONE, 13 \(3\), art. no. e0192020](#)
- [22] [Connor D.T., Martin P.G., Pullin H., Hallam K.R., Payton O.D., Yamashiki Y., Smith N.T., Scott T.B., "Radiological comparison of a FDNPP waste storage site during and after construction", \(2018\) Environmental Pollution, 243, pp 582-590](#)
- [23] [Lawrence Bright E., Rennie S., Cattelan M., Fox N.A., Goddard D.T., Springell R., "Epitaxial UN and \$\alpha\$ -U₂N₃ thin films", \(2018\) Thin Solid Films, 661, pp 71-77](#)

- [24] [Ashworth H., Abrahamsen-Mills L., Bryan N., Foster L., Lloyd J.R., Kellet S., Heath S., "Effect of humic acid & bacterial exudates on sorption-desorption interactions of 90Sr with brucite", \(2018\) Environmental Science: Processes and Impacts, 20 \(6\), pp 956-964](#)
- [25] [Hodkin D.J., Stewart D.I., Graham J.T., Cibin G., Burke I.T., "Enhanced Crystallographic Incorporation of Strontium\(II\) Ions into Calcite via Preferential Adsorption at Obtuse Growth Steps", \(2018\) Crystal Growth and Design, 18 \(5\), pp 2836-2843](#)
- [26] [Whillock G.O.H., Hands B.J., Majchrowski T.P., Hambley D.I., "Investigation of thermally sensitised stainless steels as analogues for spent AGR fuel cladding to test a corrosion inhibitor for intergranular stress corrosion cracking", \(2018\) Journal of Nuclear Materials, 498, pp 187-198](#)
- [27] [Rennie S., Lawrence Bright E., Sutcliffe J.E., Darnbrough J.E., Burrows R., Rawle J., Nicklin C., Lander G.H., Springell R., "The role of crystal orientation in the dissolution of UO₂ thin films", \(2018\) Corrosion Science, 145, pp 162-169](#)
- [28] [Kuipers G., Boothman C., Bagshaw H., Ward M., Beard R., Bryan N., Lloyd J.R., "The biogeochemical fate of nickel during microbial ISA degradation; Implications for nuclear waste disposal", \(2018\) Scientific Reports, 8 \(1\), art. no. 8753](#)
- [29] [Harrison M.T., Brown G.C., "Chemical durability of UK vitrified high level waste in Si-saturated solutions", \(2018\) Materials Letters, 221, pp 154-156](#)
- [30] [Crompton A.J., Gamage K.A.A., Bell S., Wilson A.P., Jenkins A.W., Trivedi D., "Gas flow to enhance the detection of alpha-induced air radioluminescence based on a UVTron flame sensor", \(2018\) Sensors \(Switzerland\), 18 \(6\), art. no. 1842](#)
- [31] [Ortenzi V., Marturi N., Mistry M., Kuo J., Stolkin R., "Vision-Based Framework to Estimate Robot Configuration and Kinematic Constraints", \(2018\) IEEE/ASME Transactions on Mechatronics, 23 \(5\), art. no. 8439000, pp 2402-2412](#)
- [32] [Carey T., Williams C.D., McArthur D.J., Malkinson T., Thompson O.R., Baidak A., Murtagh L., Glodan G., Morgan S.P., Banford A.W., "Removal of Cs, Sr, U and Pu species from simulated nuclear waste effluent using graphene oxide", \(2018\) Journal of Radioanalytical and Nuclear Chemistry, 317 \(1\), pp 93-102](#)
- [33] [Turkington G., Gamage K.A.A., Graham J., "Beta detection of strontium-90 and the potential for direct in situ beta detection for nuclear decommissioning applications", \(2018\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 911, pp 55-65](#)
- [34] [Gregson C.R., Horne G.P., Orr R.M., Pimblott S.M., Sims H.E., Taylor R.J., Webb K.J., "Molecular Hydrogen Yields from the \$\alpha\$ -Self-Radiolysis of Nitric Acid Solutions Containing Plutonium or Americium", \(2018\) Journal of Physical Chemistry B, 122 \(9\), pp 2627-2634](#)

- [35] [Cooper A.J., Brayshaw W.J., Sherry A.H., "Effect of Temperature on the Fracture Toughness of Hot Isostatically Pressed 304L Stainless Steel", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(3\), pp 811-816](#)
- [36] [Barcellini C., Dumbill S., Jimenez-Melero E., "Isothermal annealing behaviour of nuclear grade 20Cr-25Ni austenitic stainless steel", \(2018\) Materials Characterization, 145, pp 303-311](#)
- [37] [Alshater A.F., Engelberg D.L., Donohoe C.J., Lyon S.B., Sherry A.H., "Proton irradiation damage in cold worked Nb-stabilized 20Cr-25Ni stainless steel", \(2018\) Applied Surface Science, 454, pp 130-137](#)
- [38] [Sanderson R.A., Cann G.M., Provis J.L., "The effect of blast-furnace slag particle size on the hydration of slag-Portland cement grouts at elevated temperatures", \(2018\) Advances in Cement Research, 30 \(8\), pp 337-344](#)
- [39] [Cooper A.J., Tuck O.C.G., Burnett T.L., Sherry A.H., "A statistical assessment of ductile damage in 304L stainless steel resolved using X-ray computed tomography", \(2018\) Materials Science and Engineering: A, 728, pp 218-230](#)
- [40] [Merk B., Bankhead M., Litskevich D., Gregg R., Peakman A., Shearer C., "On a roadmap for future industrial nuclear reactor core simulation in the U.K. To support the nuclear renaissance", \(2018\) Energies, 11 \(12\), art. no. 3509](#)
- [41] [Burrows R., Baron-Wiechec A., Harrington C., Moore S., Chaney D., Martin T.L., Likonen J., Springell R., Surrey E., "The possible effect of high magnetic fields on the aqueous corrosion behaviour of Eurofer", \(2018\) Fusion Engineering and Design, 136, pp 1000-1006](#)
- [42] [Sutherland-Harper S., Pearce C., Campbell C., Carrott M., Colledge H., Gregson C., Hobbs J., Livens F., Kaltsoyannis N., Orr R., Sarsfield M., Sims H., Steele H., Vatter I., Walton L., Webb K., Taylor R., "Characterisation and heat treatment of chloride-contaminated and humidified PuO₂ samples", \(2018\) Journal of Nuclear Materials, 509, pp 654-666](#)
- [43] [Than Y.R., Wenman M.R., Bell B.D.C., Ortner S.R., Swan H., Grimes R.W., "Modelling and experimental analysis of the effect of solute iron in thermally grown Zircaloy-4 oxides", \(2018\) Journal of Nuclear Materials, 509, pp 114-123](#)
- [44] [Sarwar R., Astromskas V., Zimmerman C.H., Nutter G., Simone A.T., Croft S., Joyce M.J., "An event-triggered coincidence algorithm for fast-neutron multiplicity assay corrected for cross-talk and photon breakthrough", \(2018\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 903, pp 152-161](#)
- [45] [Nixon S.L., van Dongen B.E., Boothman C., Small J.S., Lloyd J.R., "Additives in plasticised polyvinyl chloride fuel microbial nitrate reduction at high pH: Implications for nuclear waste disposal", \(2018\) Frontiers in Environmental Science, 6 \(SEP\), art. no. 97](#)

- [46] [Brkić B., Giannoukos S., Taylor S., Lee D.F., "Mobile mass spectrometry for water quality monitoring of organic species present in nuclear waste ponds", \(2018\) Analytical Methods, 10 \(48\), pp 5827-5833](#)
- [47] [Chen T.-Y., Maddrell E.R., Hyatt N.C., Gandy A.S., Stennett M.C., Hriljac J.A., "Transformation of Cs-IONSIV® into a ceramic wasteform by hot isostatic pressing", \(2018\) Journal of Nuclear Materials, 498, pp 33-43](#)
- [48] [Smith R.J., Horn A.J., Sherry A.H., "Relating Charpy energy to fracture toughness in the lower transition region using a Weibull stress dependent energy scaling model", \(2018\) International Journal of Pressure Vessels and Piping, 166, pp 72-83](#)
- [49] [Botha J.A., Ding W., Hunter T.N., Biggs S., Mackay G.A., Cowley R., Woodbury S.E., Harbottle D., "Quartz crystal microbalance as a device to measure the yield stress of colloidal suspensions", \(2018\) Colloids and Surfaces A: Physicochemical and Engineering Aspects, 546, pp 179-185](#)
- [50] [Sutherland-Harper S., Taylor R., Hobbs J., Pimblott S., Pattrick R., Sarsfield M., Denecke M., Livens F., Kaltsoyannis N., Arey B., Kovarik L., Engelhard M., Waters J., Pearce C., "Surface speciation and interactions between adsorbed chloride and water on cerium dioxide", \(2018\) Journal of Solid State Chemistry, 262, pp 16-25](#)
- [51] [Boylan A.A., Stewart D.I., Graham J.T., Burke I.T., "Behaviour of carbon-14 containing low molecular weight organic compounds in contaminated groundwater under aerobic conditions", \(2018\) Journal of Environmental Radioactivity, 192, pp 279-288](#)
- [52] [Jordan M.S.L., Ramsay P., Verrall K.E., van Staveren T.O., Brown M., Davies B., Tzelepi A., Metcalfe M.P., "Determining the electrical and thermal resistivities of radiolytically-oxidised nuclear graphite by small sample characterisation", \(2018\) Journal of Nuclear Materials, 507, pp 68-77](#)
- [53] [Cooper A.J., Brayshaw W.J., Sherry A.H., "Ductile Fracture Behaviour of Hot Isostatically Pressed Inconel 690 Superalloy", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(4\), pp 1079-1089](#)
- [54] [Wilbraham R.J., Boxall C., Taylor R.J., "Photocatalytically driven dissolution of macroscopic nickel surfaces", \(2018\) Corrosion Science, 131, pp 137-146](#)
- [55] [Taylor R., Hobbs J., Orr R., Steele H., "Characterisation of plutonium dioxide", \(2018\) Nuclear Future, 14 \(1\), pp 40-50](#)
- [56] [Smith K.F., Bryan N.D., Law G.T.W., Hibberd R., Shaw S., Livens F.R., Parry S.A., Mosselmans J.F.W., Morris K., "Np\(V\) sorption and solubility in high pH calcite systems", \(2018\) Chemical Geology, 493, pp 396-404](#)
- [57] [Isaacs M., Hayes M., Rawlinson S., Angus M., Qaisar A., Christie S., Edmondson S., Read D., "Processing and product characteristics of a blended cement grout incorporating polycarboxylate ether superplasticiser", \(2018\) Advances in Cement Research, 30 \(4\), pp 148-158](#)

- [58] [Crompton A.J., Gamage K.A.A., Trivedi D., Jenkins A., "The effect of gamma and beta radiation on a UVTRON flame sensor: Assessment of the impact on implementation in a mixed radiation field", \(2018\) Sensors \(Switzerland\), 18 \(12\), art. no. 4394](#)
- [59] [Thomas R.N., Paluszny A., Hambley D., Hawthorne F.M., Zimmerman R.W., "Permeability of observed three dimensional fracture networks in spent fuel pins", \(2018\) Journal of Nuclear Materials, 510, pp 613-622](#)
- [60] [Paulillo A., Clift R., Dodds J., Milliken A., Palethorpe S.J., Lettieri P., "Radiological impact assessment approaches for Life Cycle Assessment: A review and possible ways forward", \(2018\) Environmental Reviews, 26 \(3\), pp 239-254](#)
- [61] [Walters W.S., Durham P., Hodge N.A., "The adsorption and desorption of water from a carbonaceous deposit layer on the surface of stainless steel representing spent AGR nuclear fuel cladding", \(2018\) Journal of Nuclear Science and Technology, 55 \(4\), pp 374-385](#)
- [62] [Maher C.J., Bouyer C., Griffiths T.L., Legand S., Leturcq G., Miguiditchian M., Sarsfield M., "Impact of uranium carbide organics treated by prolonged boiling and electrochemical oxidation upon uranium and plutonium solvent extraction", \(2018\) Radiochimica Acta, 106 \(2\), pp 95-106](#)
- [63] [Hodgson B.J., Ward T.R., Dunnett B.F., Pyke C., Cheesewright J., "Dissolution Rates of Barium Nitrate in Water and Weak Nitric Acid Solutions Under Stirred and Stagnant Conditions", \(2018\) Journal of Solution Chemistry, 47 \(11\), pp 1858-1874](#)
- [64] [Hyde J.M., Boothby R.M., Swan H., Riddle N., Wilford K., Burke M.G., Efsing P., "A sensitivity study using maximum entropy to interpret SANS data from the Ringhals Unit 3 NPP", \(2018\) Journal of Nuclear Materials, 509, pp 417-424](#)
- [65] [Thompson O., Greenough K., "Recruiting for skill, training for attitude", \(2018\) Nuclear Future, 14 \(6\), pp 44-47](#)
- [66] [Rayment F., Holcroft J., Thompson O., "Optimising skills for our nuclear future", \(2018\) Nuclear Future, 14 \(6\), pp 40-43](#)
- [67] [Rayment F., "Keeping our options open in the UK", \(2018\) Nuclear Future, 14 \(1\), pp 20-22](#)

Journal & Review Articles - 2017

- [1] [Michel-Sendis F., Gauld I., Martinez J.S., Alejano C., Bossant M., Boulanger D., Cabellos O., Chrapciak V., Conde J., Fast I., Gren M., Govers K., Gysemans M., Hannstein V., Havlůj F., Hennebach M., Hordosy G., Ilas G., Kilger R., Mills R., Mountford D., Ortego P., Radulescu G., Rahimi M., Ranta-Aho A., Rantamäki K., Ruprecht B., Soppera N., Stuke M., Suyama K., Tittelbach S., Tore C., Winckel S.V., Vasiliev A., Watanabe T., Yamamoto T., Yamamoto T., "SFCOMPO-2.0: An OECD NEA database of spent nuclear fuel isotopic assays, reactor design specifications, and operating data", \(2017\) *Annals of Nuclear Energy*, 110, pp 779-788](#)
- [2] [Littlewood J.L., Shaw S., Peacock C.L., Bots P., Trivedi D., Burke I.T., "Mechanism of Enhanced Strontium Uptake into Calcite via an Amorphous Calcium Carbonate Crystallization Pathway", \(2017\) *Crystal Growth and Design*, 17 \(3\), pp 1214-1223](#)
- [3] [Tso C.-H.M., Kuras O., Wilkinson P.B., Uhlemann S., Chambers J.E., Meldrum P.I., Graham J., Sherlock E.F., Binley A., "Improved characterisation and modelling of measurement errors in electrical resistivity tomography \(ERT\) surveys", \(2017\) *Journal of Applied Geophysics*, 146, pp 103-119](#)
- [4] [Daly M., Burnett T.L., Pickering E.J., Tuck O.C.G., Léonard F., Kelley R., Withers P.J., Sherry A.H., "A multi-scale correlative investigation of ductile fracture", \(2017\) *Acta Materialia*, 130, pp 56-68](#)
- [5] [Oparaji U., Sheu R.-J., Bankhead M., Austin J., Patelli E., "Robust artificial neural network for reliability and sensitivity analyses of complex non-linear systems", \(2017\) *Neural Networks*, 96, pp 80-90](#)
- [6] [Chen H., Taylor R.J., Jobson M., Woodhead D.A., Boxall C., Masters A.J., Edwards S., "Simulation of Neptunium Extraction in an Advanced PUREX Process—Model Improvement", \(2017\) *Solvent Extraction and Ion Exchange*, 35 \(1\), pp 1-18](#)
- [7] [Ortenzi V., Stolkin R., Kuo J., Mistry M., "Hybrid motion/force control: a review", \(2017\) *Advanced Robotics*, 31 \(19-20\), pp 1102-1113](#)
- [8] [Wareing A., Abrahamsen-Mills L., Fowler L., Grave M., Jarvis R., Metcalfe M., Norris S., Banford A.W., "Development of integrated waste management options for irradiated graphite", \(2017\) *Nuclear Engineering and Technology*, 49 \(5\), pp 1010-1018](#)
- [9] [Watkinson E.J., Ambrosi R.M., Kramer D.P., Williams H.R., Reece M.J., Chen K., Sarsfield M.J., Barklay C.D., Fenwick H., Weston D.P., Stephenson K., "Sintering trials of analogues of americium oxides for radioisotope power systems", \(2017\) *Journal of Nuclear Materials*, 491, pp 18-30](#)
- [10] [Watkinson E.J., Ambrosi R.M., Williams H.R., Sarsfield M.J., Stephenson K., Weston D.P., Marsh N., Haidon C., "Cerium neodymium oxide solid solution synthesis as a potential analogue for substoichiometric AmO₂ for radioisotope power systems", \(2017\) *Journal of Nuclear Materials*, 486, pp 308-322](#)

- [11] [Paul N., Biggs S., Shiels J., Hammond R.B., Edmondson M., Maxwell L., Harbottle D., Hunter T.N., "Influence of shape and surface charge on the sedimentation of spheroidal, cubic and rectangular cuboid particles", \(2017\) Powder Technology, 322, pp 75-83](#)
- [12] [Seal C.K., Sherry A.H., "Predicting the effect of constraint on cleavage and ductile fracture toughness using area contour toughness scaling", \(2017\) Engineering Fracture Mechanics, 186, pp 347-367](#)
- [13] [Merk B., Litskevich D., Bankhead M., Taylor R.J., "An innovative way of thinking nuclear waste management – Neutron physics of a reactor directly operating on SNF", \(2017\) PLoS ONE, 12 \(7\), art. no. e0180703](#)
- [14] [Merk B., Litskevich D., Whittle K.R., Bankhead M., Taylor R.J., Mathers D., "On a long term strategy for the success of nuclear power", \(2017\) Energies, 10 \(7\), art. no. 867](#)
- [15] [Al-Shater A., Engelberg D., Lyon S., Donohoe C., Walters S., Whillock G., Sherry A., "Characterization of the stress corrosion cracking behavior of thermally sensitized 20Cr-25Ni stainless steel in a simulated cooling pond environment", \(2017\) Journal of Nuclear Science and Technology, 54 \(7\), pp 742-751](#)
- [16] [Horn A.J., Sherry A.H., Budden P.J., "Size and geometry effects in notched compact tension specimens", \(2017\) International Journal of Pressure Vessels and Piping, 154, pp 29-40](#)
- [17] [Horne G.P., Gregson C.R., Sims H.E., Orr R.M., Taylor R.J., Pimblott S.M., "Plutonium and Americium Alpha Radiolysis of Nitric Acid Solutions", \(2017\) Journal of Physical Chemistry B, 121 \(4\), pp 883-889](#)
- [18] [Seel A.G., Swan H., Bowron D.T., Wasse J.C., Weller T., Edwards P.P., Howard C.A., Skipper N.T., "Electron Solvation and the Unique Liquid Structure of a Mixed-Amine Expanded Metal: The Saturated Li-NH3-MeNH2System", \(2017\) Angewandte Chemie - International Edition, 56 \(6\), pp 1561-1565](#)
- [19] [Bux J., Paul N., Hunter T.N., Peakall J., Dodds J.M., Biggs S., "In situ characterization of mixing and sedimentation dynamics in an impinging jet ballast tank via acoustic backscatter", \(2017\) AIChE Journal, 63 \(7\), pp 2618-2629](#)
- [20] [Sanderson R.A., Cann G.M., Provis J.L., "Comparison of calorimetric methods for the assessment of slag cement hydration", \(2017\) Advances in Applied Ceramics, 116 \(4\), pp 186-192](#)
- [21] [Bleyen N., Smets S., Small J., Moors H., Leys N., Albrecht A., De Cannière P., Schwyn B., Wittebroodt C., Valcke E., "Impact of the electron donor on in situ microbial nitrate reduction in Opalinus Clay: results from the Mont Terri rock laboratory \(Switzerland\)", \(2017\) Swiss Journal of Geosciences, 110 \(1\), pp 355-374](#)
- [22] [Robinson A.M., Edmondson P.D., English C., Lozano-Perez S., Greaves G., Hinks J.A., Donnelly S.E., Grovenor C.R.M., "The effect of temperature on bubble lattice formation in copper under in situ He ion irradiation", \(2017\) Scripta Materialia, 131, pp 108-111](#)
- [23] [Crompton A.J., Gamage K.A.A., Bell S., Wilson A.P., Jenkins A., Trivedi D., "First results of using a UVTron flame sensor to detect alpha-induced air fluorescence in the UVC wavelength range", \(2017\) Sensors \(Switzerland\), 17 \(12\), art. no. 2756](#)

- [24] [LaFerrere A., Burrows R., Glover C., Clark R.N., Payton O., Picco L., Moore S., Williams G., "In situ imaging of corrosion processes in nuclear fuel cladding", \(2017\) Corrosion Engineering Science and Technology, 52 \(8\), pp 596-604](#)
- [25] [Heikinheimo J., Ortner S., Makkonen I., Kujala J., Blackmur M., Tuomisto F., "Positron annihilation analysis of the atomic scale changes in oxidized Zircaloy-4 samples", \(2017\) Journal of Nuclear Materials, 495, pp 172-180](#)
- [26] [Maddrell E.R., Paterson H.C., May S.E., Burns K.M., "Phase evolution in zirconolite glass-ceramic wasteforms", \(2017\) Journal of Nuclear Materials, 493, pp 380-387](#)
- [27] [McNeil D.A., Burnside B.M., Elsaye E.A., Salem S.M., Baker S., "Shell-side boiling of a glycerol-water mixture at low sub-atmospheric pressures", \(2017\) Applied Thermal Engineering, 115, pp 1438-1450](#)
- [28] [Cooper A.J., Smith R.J., Sherry A.H., "An Assessment of the Ductile Fracture Behavior of Hot Isostatically Pressed and Forged 304L Stainless Steel", \(2017\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 48 \(5\), pp 2207-2221](#)
- [29] [Boylan A.A., Stewart D.I., Graham J.T., Trivedi D., Burke I.T., "Mechanisms of inorganic carbon-14 attenuation in contaminated groundwater: Effect of solution pH on isotopic exchange and carbonate precipitation reactions", \(2017\) Applied Geochemistry, 85, pp 137-147](#)
- [30] [Small J.S., Nykyri M., Vikman M., Itävaara M., Heikinheimo L., "The biogeochemistry of gas generation from low-level nuclear waste: Modelling after 18 years study under in situ conditions", \(2017\) Applied Geochemistry, 84, pp 360-372](#)
- [31] [Brayshaw W.J., Roy M.J., Sun T., Akrivos V., Sherry A.H., "Iterative mesh-based hardness mapping", \(2017\) Science and Technology of Welding and Joining, 22 \(5\), pp 404-411](#)
- [32] [Mullen E., Harris R., Graham D., Rhodes C., Hodgson Z., "Transfer characteristics of a lithium chloride–potassium chloride molten salt", \(2017\) Nuclear Engineering and Technology, 49 \(8\), pp 1727-1732](#)
- [33] [Qaisar S.A., Comyn T.P., Bell A.J., "Temperature Dependence of Domain Contributions as a Function of Aging in Soft and Hard Lead Zirconate Titanate Piezoelectric Ceramics", \(2017\) IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 64 \(6\), art. no. 7885087, pp 1023-1028](#)
- [34] [Kerry T., Banford A.W., Thompson O.R., Carey T., Schild D., Geist A., Sharrad C.A., "Transuranic contamination of stainless steel in nitric acid", \(2017\) Journal of Nuclear Materials, 493, pp 436-441](#)
- [35] [English C., Buckthorpe D., "Lessons learnt from fission materials R&D programmes", \(2017\) Nuclear Fusion, 57 \(9\), art. no. 092010](#)
- [36] [Arun S., Sherry A.H., Smith M.C., Sheikh M., "Simulations of the large-scale four point bending test using Rousselier model", \(2017\) Engineering Fracture Mechanics, 178, pp 497-511](#)

- [37] [Hesketh K., Gregg R., Butler G., Worrall A., "Key conclusions from UK strategic assessment studies of fast reactor fuel cycles", \(2017\) Annals of Nuclear Energy, 110, pp 330-337](#)
- [38] [Orr R., Godfrey H., Broan C., Goddard D., Woodhouse G., Durham P., Diggle A., Bradshaw J., "Kinetics of the reaction between water and uranium hydride prepared under conditions relevant to uranium storage", \(2017\) Journal of Alloys and Compounds, 695, pp 3727-3735](#)
- [39] [Materazzi M., Lettieri P., Dodds J.M., Milliken A., "X-ray imaging for design of gas nozzles in large scale fluidised bed reactors", \(2017\) Powder Technology, 316, pp 41-48](#)
- [40] [Wright A.C., Sinclair R.N., Shaw J.L., Haworth R., Bingham P.A., Forder S.D., Holland D., Scales C.R., Cuello G.J., Vedishcheva N.M., "The environment of Fe³⁺/Fe²⁺ cations in a sodium borosilicate glass", \(2017\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 58 \(3\), pp 78-91](#)
- [41] [Wright A.C., Sinclair R.N., Shaw J.L., Haworth R., Scales C.R., Cuello G.J., Vedishcheva N.M., "The environment of Dy³⁺ cations in a sodium borosilicate glass", \(2017\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 58 \(3\), pp 73-77](#)
- [42] [D'alessandro R., Ambrosino F., Bonechi L., Cimmino L., Ireland D.G., Kaiser R., Mahon D.F., Mori N., Noli P., Saracino G., Shearer C., Viliani L., Yang G., "Muography applied to nuclear waste storage sites", \(2017\) Annals of Geophysics, 60 \(1\), art. no. S0106](#)
- [43] [Elsaye E.A., McNeil D.A., Salem S.M., Rylatt D., Baker S., "An experimental study of solids deposited on the base of a heated vessel at low pressure", \(2017\) Applied Thermal Engineering, 118, pp 41-51](#)

Journal & Review Articles - 2016

- [1] [Weatherill J.S., Morris K., Bots P., Stawski T.M., Janssen A., Abrahamsen L., Blackham R., Shaw S., "Ferrihydrite formation: The role of Fe₁₃ Keggin clusters", \(2016\) Environmental Science and Technology, 50 \(17\), pp 9333-9342](#)
- [2] [Martin P.G., Kwong S., Smith N.T., Yamashiki Y., Payton O.D., Russell-Pavier F.S., Fardoulis J.S., Richards D.A., Scott T.B., "3D unmanned aerial vehicle radiation mapping for assessing contaminant distribution and mobility", \(2016\) International Journal of Applied Earth Observation and Geoinformation, 52, pp 12-19](#)
- [3] [Cooper A.J., Cooper N.I., Dhers J., Sherry A.H., "Effect of Oxygen Content Upon the Microstructural and Mechanical Properties of Type 316L Austenitic Stainless Steel Manufactured by Hot Isostatic Pressing", \(2016\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 47 \(9\), pp 4467-4475](#)
- [4] [Fuller A.J., Shaw S., Peacock C.L., Trivedi D., Burke I.T., "EXAFS Study of Sr sorption to Illite, Goethite, Chlorite, and Mixed Sediment under Hyperalkaline Conditions", \(2016\) Langmuir, 32 \(12\), pp 2937-2946](#)
- [5] [Patterson E.A., Taylor R.J., Bankhead M., "A framework for an integrated nuclear digital environment", \(2016\) Progress in Nuclear Energy, 87, pp 97-103](#)
- [6] [Kuras O., Wilkinson P.B., Meldrum P.I., Oxby L.S., Uhlemann S., Chambers J.E., Binley A., Graham J., Smith N.T., Atherton N., "Geoelectrical monitoring of simulated subsurface leakage to support high-hazard nuclear decommissioning at the Sellafield Site, UK", \(2016\) Science of the Total Environment, 566-567, pp 350-359](#)
- [7] [Fryer-Kanssen I., Austin J., Kerridge A., "Topological Study of Bonding in Aquo and Bis\(triazinyl\)pyridine Complexes of Trivalent Lanthanides and Actinides: Does Covalency Imply Stability?", \(2016\) Inorganic Chemistry, 55 \(20\), pp 10034-10042](#)
- [8] [Freeman H.M., Jones A.N., Ward M.B., Hage F.S., Tzelepi N., Ramasse Q.M., Scott A.J., Brydson R.M.D., "On the nature of cracks and voids in nuclear graphite", \(2016\) Carbon, 103, pp 45-55](#)
- [9] [Wellington J.P.W., Kerridge A., Austin J., Kaltsoyannis N., "Electronic structure of bulk AnO₂ \(An = U, Np, Pu\) and water adsorption on the \(111\) and \(110\) surfaces of UO₂ and PuO₂ from hybrid density functional theory within the periodic electrostatic embedded cluster method", \(2016\) Journal of Nuclear Materials, 482, pp 124-134](#)
- [10] [Chen X., Pao W., Thornton S., Small J., "Unsaturated hydro-mechanical-chemical constitutive coupled model based on mixture coupling theory: Hydration swelling and chemical osmosis", \(2016\) International Journal of Engineering Science, 104, pp 97-109](#)
- [11] [Horne G.P., Donocli T.A., Sims H.E., Orr R.M., Pimblott S.M., "Multi-scale modeling of the gamma radiolysis of nitrate solutions", \(2016\) Journal of Physical Chemistry B, 120 \(45\), pp 11781-11789](#)

- [12] [Swan H., Blackmur M.S., Hyde J.M., LaFerrere A., Ortner S.R., Styman P.D., Staines C., Gass M., Hulme H., Cole-Baker A., Frankel P., "The measurement of stress and phase fraction distributions in pre and post-transition Zircaloy oxides using nano-beam synchrotron X-ray diffraction", \(2016\) Journal of Nuclear Materials, 479, pp 559-575](#)
- [13] [Saunders F.C., Gale A.W., Sherry A.H., "Responding to project uncertainty: Evidence for high reliability practices in large-scale safety-critical projects", \(2016\) International Journal of Project Management, 34 \(7\), pp 1252-1265](#)
- [14] [Vance E.R., Gregg D.J., Grant C., Stopic A., Maddrell E.R., "Silver iodide sodalite for ¹²⁹I immobilisation", \(2016\) Journal of Nuclear Materials, 480, pp 177-181](#)
- [15] [Hodkin D.J., Stewart D.I., Graham J.T., Burke I.T., "Coprecipitation of ¹⁴C and Sr with carbonate precipitates: The importance of reaction kinetics and recrystallization pathways", \(2016\) Science of the Total Environment, 562, pp 335-343](#)
- [16] [Shaukat A., Gao Y., Kuo J.A., Bowen B.A., Mort P.E., "Visual classification of waste material for nuclear decommissioning", \(2016\) Robotics and Autonomous Systems, 75, pp 365-378](#)
- [17] [Rizoulis A., Milodowski A.E., Morris K., Lloyd J.R., "Bacterial Diversity in the Hyperalkaline Allas Springs \(Cyprus\), a Natural Analogue for Cementitious Radioactive Waste Repository", \(2016\) Geomicrobiology Journal, 33 \(2\), pp 73-84](#)
- [18] [Chen T.-Y., Maddrell E.R., Hyatt N.C., Hriljac J.A., "A Potential Wasteform for Cs Immobilization: Synthesis, Structure Determination, and Aqueous Durability of Cs₂TiNb₆O₁₈", \(2016\) Inorganic Chemistry, 55 \(24\), pp 12686-12695](#)
- [19] [Coe B.J., Foxon S.P., Pilkington R.A., Sánchez S., Whittaker D., Clays K., Van Steerteghem N., Brunschwig B.S., "Rhenium\(I\) Tricarbonyl Complexes with Peripheral N-Coordination Sites: A Foundation for Heterotrimetallic Nonlinear Optical Chromophores", \(2016\) Organometallics, 35 \(17\), pp 3014-3024](#)
- [20] [Carrott M., Maher C., Mason C., Sarsfield M., Taylor R., "'TRU-SANEX': A variation on the EURO-GANEX and i-SANEX processes for heterogeneous recycling of actinides Np-Cm", \(2016\) Separation Science and Technology \(Philadelphia\), 51 \(13\), pp 2198-2213](#)
- [21] [Maher Z., Ivanov P., O'Brien L., Sims H., Taylor R.J., Heath S.L., Livens F.R., Goddard D., Kellet S., Rand P., Bryan N.D., "Americium and plutonium association with magnesium hydroxide colloids in alkaline nuclear industry process environments", \(2016\) Journal of Nuclear Materials, 468, pp 84-96](#)
- [22] [Feng B., Dixon B., Sunny E., Cuadra A., Jacobson J., Brown N.R., Powers J., Worrall A., Passerini S., Gregg R., "Standardized verification of fuel cycle modeling", \(2016\) Annals of Nuclear Energy, 94, pp 300-312](#)
- [23] [Zelenty J., Smith G.D.W., Wilford K., Hyde J.M., Moody M.P., "Secondary precipitation within the cementite phase of reactor pressure vessel steels", \(2016\) Scripta Materialia, 115, pp 118-122](#)

- [24] [McLachlan F., Greenough K., Geist A., McLuckie B., Modolo G., Wilden A., Taylor R., "Nitric Acid Extraction into the TODGA/TBP Solvent", \(2016\) Solvent Extraction and Ion Exchange, 34 \(4\), pp 334-346](#)
- [25] [Saunders F.C., Gale A.W., Sherry A.H., "Mapping the multi-faceted: Determinants of uncertainty in safety-critical projects", \(2016\) International Journal of Project Management, 34 \(6\), pp 1057-1070](#)
- [26] [Di Giuli M., Haste T., Biehler R., Bosland L., Herranz L.E., Fontanet J., Beuzet E., Torkhani M., Davidovich N., Klein-Heßling W., Weber S., Dickinson S., Horváth G., Kruse P., Koch M., Paci S., Weber S.J., Salay M., Bujan A., Ivanov I., Kalychev P., Kim S.B., Morandi S., Del Corno A., Kotouč M., Dienstbier J., Kim H.-C., "SARNET benchmark on Phébus FPT3 integral experiment on core degradation and fission product behaviour", \(2016\) Annals of Nuclear Energy, 93, pp 65-82](#)
- [27] [Bower W.R., Morris K., Mosselmans J.F.W., Thompson O.R., Banford A.W., Law K., Patrick R.A.D., "Characterising legacy spent nuclear fuel pond materials using microfocus X-ray absorption spectroscopy", \(2016\) Journal of Hazardous Materials, 317, pp 97-107](#)
- [28] [Orr R., Godfrey H., Broan C., Goddard D., Woodhouse G., Durham P., Diggle A., Bradshaw J., "Formation and physical properties of uranium hydride under conditions relevant to metallic fuel and nuclear waste storage", \(2016\) Journal of Nuclear Materials, 477, pp 236-245](#)
- [29] [Chen H., Taylor R., Jobson M., Woodhead D., Masters A., "Development and Validation of a Flowsheet Simulation Model for Neptunium Extraction in an Advanced PUREX Process", \(2016\) Solvent Extraction and Ion Exchange, 34 \(4\), pp 297-321](#)
- [30] [Yan P., Delannay L., Payne J.F.B., Tzelepi A., "Micromechanistic modelling of the polycrystalline response of graphite under temperature changes and irradiation", \(2016\) Carbon, 96, pp 827-835](#)
- [31] [Makkos E., Kerridge A., Austin J., Kaltsoyannis N., "Ionic adsorption on the brucite \(0001\) surface: A periodic electrostatic embedded cluster method study", \(2016\) Journal of Chemical Physics, 145 \(20\), art. no. 204708](#)
- [32] [Saunders F.C., Sherry A.H., Gale A.W., "Dualities and dilemmas: contending with uncertainty in large-scale safety-critical projects", \(2016\) Construction Management and Economics, 34 \(9\), pp 657-675](#)
- [33] [Whitton J., Parry I., Grundy C., Lillycrop A., Ross D., "A review of the Generic Design Assessment \(GDA\) Public Dialogue Pilot \(2015\) for new nuclear build in the UK: Lessons for engagement theory and practice", \(2016\) Journal of Radiological Protection, 36 \(2\), pp S23-S44](#)
- [34] [Mason C., Brown T.L., Buchanan D., Maher C.J., Morris D., Taylor R.J., "The Decomposition of Oxalic Acid in Nitric Acid", \(2016\) Journal of Solution Chemistry, 45 \(3\), pp 325-333](#)
- [35] [Caborn J.A., Howard B.J., Blowers P., Wright S.M., "Spatial trends on an ungrazed West Cumbrian saltmarsh of surface contamination by selected radionuclides over a 25 year period", \(2016\) Journal of Environmental Radioactivity, 151, pp 94-104](#)

- [36] [Morozov M., Pierce S.G., Dobie G., Bolton G.T., Bennett T., "Robotic ultrasonic testing of AGR fuel cladding", \(2016\) Case Studies in Nondestructive Testing and Evaluation, 6, pp 26-31](#)
- [37] [Lindley B.A., Fiorina C., Gregg R., Franceschini F., Parks G.T., "The effectiveness of full actinide recycle as a nuclear waste management strategy when implemented over a limited timeframe - Part II: Thorium fuel cycle", \(2016\) Progress in Nuclear Energy, 87, pp 144-155](#)

Journal & Review Articles - 2015

- [1] [Fuller A.J., Shaw S., Ward M.B., Haigh S.J., Mosselmans J.F.W., Peacock C.L., Stackhouse S., Dent A.J., Trivedi D., Burke I.T., "Caesium incorporation and retention in illite interlayers", \(2015\) Applied Clay Science, 108, pp 128-134](#)
- [2] [Hayes A.C., Friar J.L., Garvey G.T., Ibeling D., Jungman G., Kawano T., Mills R.W., "Possible origins and implications of the shoulder in reactor neutrino spectra", \(2015\) Physical Review D - Particles, Fields, Gravitation and Cosmology, 92 \(3\), art. no. 033015](#)
- [3] [Walling S.A., Kinoshita H., Bernal S.A., Collier N.C., Provis J.L., "Structure and properties of binder gels formed in the system Mg\(OH\)2-SiO2-H2O for immobilisation of Magnox sludge", \(2015\) Dalton Transactions, 44 \(17\), pp 8126-8137](#)
- [4] [Styman P.D., Hyde J.M., Parfitt D., Wilford K., Burke M.G., English C.A., Efsing P., "Post-irradiation annealing of Ni-Mn-Si-enriched clusters in a neutron-irradiated RPV steel weld using Atom Probe Tomography", \(2015\) Journal of Nuclear Materials, 459, pp 127-134](#)
- [5] [Carrott M., Geist A., Hères X., Lange S., Malmbeck R., Miguirditchian M., Modolo G., Wilden A., Taylor R., "Distribution of plutonium, americium and interfering fission products between nitric acid and a mixed organic phase of TODGA and DMDOHEMA in kerosene, and implications for the design of the "eURO-GANEX" process", \(2015\) Hydrometallurgy, 152, pp 139-148](#)
- [6] [Newsome L., Morris K., Trivedi D., Bewsher A., Lloyd J.R., "Biostimulation by Glycerol Phosphate to Precipitate Recalcitrant Uranium\(IV\) Phosphate", \(2015\) Environmental Science and Technology, 49 \(18\), pp 11070-11078](#)
- [7] [Newsome L., Morris K., Shaw S., Trivedi D., Lloyd J.R., "The stability of microbially reduced U\(IV\); impact of residual electron donor and sediment ageing", \(2015\) Chemical Geology, 409, pp 125-135](#)
- [8] [Orr R.M., Sims H.E., Taylor R.J., "A review of plutonium oxalate decomposition reactions and effects of decomposition temperature on the surface area of the plutonium dioxide product", \(2015\) Journal of Nuclear Materials, 465, art. no. 49196, pp 756-773](#)
- [9] [Bassil N.M., Bryan N., Lloyd J.R., "Microbial degradation of isosaccharinic acid at high pH", \(2015\) ISME Journal, 9 \(2\), pp 310-320](#)
- [10] [Perkó Z., Pelloni S., Mikityuk K., Křepel J., Szieberth M., Gaëtan G., Vrbán B., Lúley J., Čerba Š., Halász M., Fehér S., Reiss T., Leen Kloosterman J., Stainsby R., Poette C., "Core neutronics characterization of the GFR2400 Gas Cooled Fast Reactor", \(2015\) Progress in Nuclear Energy, 83, pp 460-481](#)
- [11] [Cooper A.J., Cooper N.I., Bell A., Dhers J., Sherry A.H., "A Microstructural Study on the Observed Differences in Charpy Impact Behavior Between Hot Isostatically Pressed and Forged 304L and 316L Austenitic Stainless Steel", \(2015\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 46 \(11\), pp 5126-5138](#)

- [12] [Smith K.F., Bryan N.D., Swinburne A.N., Bots P., Shaw S., Natrajan L.S., Mosselmans J.F.W., Livens F.R., Morris K., "U\(VI\) behaviour in hyperalkaline calcite systems", \(2015\) *Geochimica et Cosmochimica Acta*, 148, pp 343-359](#)
- [13] [Maddrell E., Thornber S., Hyatt N.C., "The influence of glass composition on crystalline phase stability in glass-ceramic wasteforms", \(2015\) *Journal of Nuclear Materials*, 456, pp 461-466](#)
- [14] [Styman P.D., Hyde J.M., Wilford K., Parfitt D., Riddle N., Smith G.D.W., "Characterisation of interfacial segregation to Cu-enriched precipitates in two thermally aged reactor pressure vessel steel welds", \(2015\) *Ultramicroscopy*, 159, pp 292-298](#)
- [15] [Maddrell E.R., Vance E.R., Gregg D.J., "Capture of iodine from the vapour phase and immobilisation as sodalite", \(2015\) *Journal of Nuclear Materials*, 467, pp 271-279](#)
- [16] [Coe B.J., Foxon S.P., Pilkington R.A., Sánchez S., Whittaker D., Clays K., Depotter G., Brunschwig B.S., "Nonlinear optical chromophores with two ferrocenyl, octamethylferrocenyl, or 4-\(diphenylamino\)phenyl groups attached to rhenium\(I\) or zinc\(II\) centers", \(2015\) *Organometallics*, 34 \(9\), pp 1701-1715](#)
- [17] [Springell R., Rennie S., Costelle L., Darnbrough J., Stitt C., Cocklin E., Lucas C., Burrows R., Sims H., Wermeille D., Rawle J., Nicklin C., Nuttall W., Scott T., Lander G., "Water corrosion of spent nuclear fuel: Radiolysis driven dissolution at the UO₂/water interface", \(2015\) *Faraday Discussions*, 180, pp 301-311](#)
- [18] [Ambrosino F., Bonechi L., Cimmino L., D'Alessandro R., Ireland D.G., Kaiser R., Mahon D.F., Mori N., Noli P., Saracino G., Shearer C., Viliani L., Yang G., "Assessing the feasibility of interrogating nuclear waste storage silos using cosmic-ray muons", \(2015\) *Journal of Instrumentation*, 10 \(6\), art. no. T06005](#)
- [19] [Clarkson A., Hamilton D.J., Hoek M., Ireland D.G., Johnstone J.R., Kaiser R., Keri T., Lumsden S., Mahon D.F., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Yang G., Zimmerman C., "Characterising encapsulated nuclear waste using cosmic-ray muon tomography", \(2015\) *Journal of Instrumentation*, 10 \(3\), art. no. P03020](#)
- [20] [Paul N., Hammond R.B., Hunter T.N., Edmondson M., Maxwell L., Biggs S., "Synthesis of nuclear waste simulants by reaction precipitation: Formation of caesium phosphomolybdate, zirconium molybdate and morphology modification with citratomolybdate complex", \(2015\) *Polyhedron*, 89, pp 129-141](#)
- [21] [Metcalf M.P., Mills R.W., "Radiocarbon mass balance for a Magnox nuclear power station", \(2015\) *Annals of Nuclear Energy*, 75, pp 665-671](#)
- [22] [Lindley B.A., Fiorina C., Gregg R., Franceschini F., Parks G.T., "The effectiveness of full actinide recycle as a nuclear waste management strategy when implemented over a limited timeframe - Part I: Uranium fuel cycle", \(2015\) *Progress in Nuclear Energy*, 85, pp 498-510](#)
- [23] [Wilbraham R.J., Boxall C., Goddard D.T., Taylor R.J., Woodbury S.E., "The effect of hydrogen peroxide on uranium oxide films on 316L stainless steel", \(2015\) *Journal of Nuclear Materials*, 464, pp 86-96](#)

- [24] [Stitt C.A., Hart M., Harker N.J., Hallam K.R., MacFarlane J., Banos A., Paraskevoulakos C., Butcher E., Padovani C., Scott T.B., "Nuclear waste viewed in a new light; a synchrotron study of uranium encapsulated in grout", \(2015\) Journal of Hazardous Materials, 285, pp 221-227](#)
- [25] [Insulander Björk K., Drera S.S., Kelly J.F., Vitanza C., Helsengreen C., Tverberg T., Sobieska M., Oberländer B.C., Tuomisto H., Kekkonen L., Wright J., Bergmann U., Mathers D.P., "Commercial thorium fuel manufacture and irradiation: Testing \(Th, Pu\) O₂ and \(Th, U\) O₂ in the "seven-Thirty" program", \(2015\) Annals of Nuclear Energy, 75, pp 79-86](#)
- [26] [McNeil D.A., Burnside B.M., Rylatt D.I., Elsaye E.A., Baker S., "Shell-side boiling of water at sub-atmospheric pressures", \(2015\) International Journal of Heat and Mass Transfer, 85, pp 488-504](#)
- [27] [Squire J., Maddrell E.R., Hyatt N.C., Stennett M.C., "Influence of lubricants and attrition milling parameters on the quality of zirconolite ceramics, consolidated by hot isostatic pressing, for immobilization of plutonium", \(2015\) International Journal of Applied Ceramic Technology, 12 \(S2\), pp E92-E104](#)
- [28] [Siddeeg S.M., Bryan N.D., Livens F.R., "Behaviour and mobility of U and Ra in sediments near an abandoned uranium mine, Cornwall, UK", \(2015\) Environmental Sciences: Processes and Impacts, 17 \(1\), pp 235-245](#)
- [29] [Hiezl Z., Hambley D.I., Padovani C., Lee W.E., "Processing and microstructural characterisation of a UO₂-based ceramic for disposal studies on spent AGR fuel", \(2015\) Journal of Nuclear Materials, 456, pp 74-84](#)
- [30] [Chen X., Thornton S.F., Small J., "Influence of Hyper-Alkaline pH Leachate on Mineral and Porosity Evolution in the Chemically Disturbed Zone Developed in the Near-Field Host Rock for a Nuclear Waste Repository", \(2015\) Transport in Porous Media, 107 \(2\), pp 489-505](#)
- [31] [Panesar J.S., Heggs P.J., Burns A.D., Ma L., Graham S.J., "Predictions of Heat Transfer and Flow Circulations in Differentially Heated Liquid Columns With Applications to Low-Pressure Evaporators", \(2015\) Heat Transfer Engineering, 36 \(14-15\), pp 1177-1191](#)
- [32] [Boothby R.M., Hyde J.M., Swan H., Parfitt D., Wilford K., Lindner P., "SANS examination of irradiated RPV steel welds during in-situ annealing", \(2015\) Journal of Nuclear Materials, 461, pp 45-50](#)

Journal & Review Articles - 2014

- [1] [Stork D., Agostini P., Boutard J.L., Buckthorpe D., Diegele E., Dudarev S.L., English C., Federici G., Gilbert M.R., Gonzalez S., Ibarra A., Linsmeier C., Li Puma A., Marbach G., Morris P.F., Packer L.W., Raj B., Rieth M., Tran M.Q., Ward D.J., Zinkle S.J., "Developing structural, high-heat flux and plasma facing materials for a near-term DEMO fusion power plant: The EU assessment", \(2014\) Journal of Nuclear Materials, 455 \(1-3\), pp 277-291](#)
- [2] [Sajih M., Bryan N.D., Livens F.R., Vaughan D.J., Descostes M., Phommavanh V., Nos J., Morris K., "Adsorption of radium and barium on goethite and ferrihydrite: A kinetic and surface complexation modelling study", \(2014\) Geochimica et Cosmochimica Acta, 146, pp 150-163](#)
- [3] [Carrott M., Bell K., Brown J., Geist A., Gregson C., Hères X., Maher C., Malmbeck R., Mason C., Modolo G., Müllich U., Sarsfield M., Wilden A., Taylor R., "Development of a New Flowsheet for Co-Separating the Transuranic Actinides: The "EURO-GANEX" Process", \(2014\) Solvent Extraction and Ion Exchange, 32 \(5\), pp 447-467](#)
- [4] [Fuller A.J., Shaw S., Peacock C.L., Trivedi D., Small J.S., Abrahamsen L.G., Burke I.T., "Ionic strength and pH dependent multi-site sorption of Cs onto a micaceous aquifer sediment", \(2014\) Applied Geochemistry, 40, pp 32-42](#)
- [5] [Newsome L., Morris K., Trivedi D., Atherton N., Lloyd J.R., "Microbial reduction of uranium\(VI\) in sediments of different lithologies collected from Sellafield", \(2014\) Applied Geochemistry, 51, pp 55-64](#)
- [6] [Moyce E.B.A., Rochelle C., Morris K., Milodowski A.E., Chen X., Thornton S., Small J.S., Shaw S., "Rock alteration in alkaline cement waters over 15 years and its relevance to the geological disposal of nuclear waste", \(2014\) Applied Geochemistry, 50, pp 91-105](#)
- [7] [Maddrell E., Gandy A., Stennett M., "The durability of iodide sodalite", \(2014\) Journal of Nuclear Materials, 449 \(1-3\), pp 168-172](#)
- [8] [Jones A.E., Turner P., Zimmerman C., Goulermas J.Y., "Classification of spent reactor fuel for nuclear forensics", \(2014\) Analytical Chemistry, 86 \(11\), pp 5399-5405](#)
- [9] [Bosland L., Dickinson S., Glowa G.A., Herranz L.E., Kim H.C., Powers D.A., Salay M., Tietze S., "Iodine-paint interactions during nuclear reactor severe accidents", \(2014\) Annals of Nuclear Energy, 74 \(C\), pp 184-199](#)
- [10] [Clarkson A., Hamilton D.J., Hoek M., Ireland D.G., Johnstone J.R., Kaiser R., Keri T., Lumsden S., Mahon D.F., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Staines C., Yang G., Zimmerman C., "GEANT4 simulation of a scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 746, pp 64-73](#)
- [11] [Sinnathamby G., Phillips D.H., Sivakumar V., Pakys A., "Landfill cap models under simulated climate change precipitation: Impacts of cracks and root growth", \(2014\) Geotechnique, 64 \(2\), pp 95-107](#)

- [12] [Dickinson S., Auvinen A., Ammar Y., Bosland L., Clément B., Funke F., Glowa G., Kärkelä T., Powers D.A., Tietze S., Weber G., Zhang S., "Experimental and modelling studies of iodine oxide formation and aerosol behaviour relevant to nuclear reactor accidents", \(2014\) Annals of Nuclear Energy, 74, pp 200-207](#)
- [13] [Ashley S.F., Lindley B.A., Parks G.T., Nuttall W.J., Gregg R., Hesketh K.W., Kannan U., Krishnani P.D., Singh B., Thakur A., Cowper M., Talamo A., "Fuel cycle modelling of open cycle thorium-fuelled nuclear energy systems", \(2014\) Annals of Nuclear Energy, 69, pp 314-330](#)
- [14] [Clarkson A., Hamilton D.J., Hoek M., Ireland D.G., Johnstone J.R., Kaiser R., Keri T., Lumsden S., Mahon D.F., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Staines C., Yang G., Zimmerman C., "The design and performance of a scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 745, pp 138-149](#)
- [15] [Jackson S.F., Monk S.D., Riaz Z., "An investigation towards real time dose rate monitoring, and fuel rod detection in a First Generation Magnox Storage Pond \(FGMSP\)", \(2014\) Applied Radiation and Isotopes, 94, pp 254-259](#)
- [16] [Hyde J.M., Burke M.G., Smith G.D.W., Styman P., Swan H., Wilford K., "Uncertainties and assumptions associated with APT and SANS characterisation of irradiation damage in RPV steels", \(2014\) Journal of Nuclear Materials, 449 \(1-3\), pp 308-314](#)
- [17] [Brown A.R., Wincott P.L., Laverne J.A., Small J.S., Vaughan D.J., Pimblott S.M., Lloyd J.R., "The impact of \$\gamma\$ radiation on the bioavailability of Fe\(III\) minerals for microbial respiration", \(2014\) Environmental Science and Technology, 48 \(18\), pp 10672-10680](#)
- [18] [Delannay L., Yan P., Payne J.F.B., Tzelepi N., "Predictions of inter-granular cracking and dimensional changes of irradiated polycrystalline graphite under plane strain", \(2014\) Computational Materials Science, 87, pp 129-137](#)
- [19] [Andrieux F.P.L., Boxall C., Steele H.M., Taylor R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 3: Ferric ions at elevated temperatures", \(2014\) Journal of Solution Chemistry, 43 \(3\), pp 608-622](#)
- [20] [Dawson M., Borman D., Hammond R.B., Lesnic D., Rhodes D., "Moving boundary models for the growth of crystalline deposits from undetected leakages of industrial process liquors", \(2014\) Computers and Chemical Engineering, 71, pp 331-346](#)
- [21] [Ballesteros A., Altstadt E., Gillemot F., Hein H., Wagemans J., Rouden J., Barthelmes J., Wilford K., Serrano M., Brumovsky M., Chaouadi R., Ortner S., "Monitoring radiation embrittlement during life extension periods", \(2014\) Nuclear Engineering and Design, 267, pp 197-206](#)
- [22] [Ahmed M.H.M., Lydiatt F.P., Chekulaev D., Wincott P.L., Vaughan D.J., Jang J.H., Baldelli S., Thomas A.G., Walters W.S., Lindsay R., "Wet chemically prepared rutile TiO₂\(110\) and TiO₂\(011\): Substrate preparation for surface studies under non-UHV conditions", \(2014\) Surface Science, 630, pp 41-45](#)

- [23] [Mountford D.J., Deboer R.J., Descouvemont P., Murphy A.St.J., Uberseder E., Wiescher M., "Evaluation of the implementation of the R-matrix formalism with reference to the astrophysically important \$18\text{F}\(p,\alpha\)15\text{O}\$ reaction", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 767, pp 359-363](#)
- [24] [Jackson S.F., Monk S.D., Stanley S.J., Lennox K., "Sub-aquatic response of a scintillator, fibre optic and silicon photomultiplier based radiation sensor", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 752, pp 42-46](#)
- [25] [Foxhall H.R., Travis K.P., Owens S.L., "Effect of plutonium doping on radiation damage in zirconolite: A computer simulation study", \(2014\) Journal of Nuclear Materials, 444 \(1-3\), pp 220-228](#)
- [26] [Mills R.W., "Uncertainty propagation of fission product yield data in spent fuel inventory calculations", \(2014\) Nuclear Data Sheets, 118 \(1\), pp 484-487](#)
- [27] [Abrahamsen L., Bryan N., Broan C., Eaves C., O'Brien L., Kellet S., "Sr and Cs behaviour: Key to safe decommissioning", \(2014\) Nuclear Engineering International, 59 \(725\), pp 30-32](#)
- [28] [Leenders L., Wehmann U., Grove C., Hesketh K., Zwermann W., "IRPhEP evaluation of VENUS 9 and VENUS 7 experiments", \(2014\) Nuclear Science and Engineering, 178 \(4\), pp 509-523](#)
- [29] [Hiezl Z., Hambley D., Lee W.E., "Preparation and characterization of \$\text{UO}_2\$ -based AGR SIMFuel", \(2014\) Journal of Fluid Mechanics, 1665, pp 245-251](#)
- [30] [Harrison M., Steele C., "Product quality of high level waste during three key stages", \(2014\) Glass International, 37 \(8\), pp 81-84](#)
- [31] [Dupont E., Chadwick M.B., Danon Y., De Saint Jean C., Dunn M., Fischer U., Forrest R.A., Fukahori T., Ge Z., Harada H., Herman M., Igashira M., Ignatyuk A., Ishikawa M., Iwamoto O., Jacqmin R., Kahler A.C., Kawano T., Koning A.J., Leal L., Lee Y.O., McKnight R., McNabb D., Mills R.W., Palmiotti G., Plompen A., Salvatores M., Schillebeeckx P., "Working party on international nuclear data evaluation cooperation \(WPEC\)", \(2014\) Nuclear Data Sheets, 120, pp 264-267](#)
- [32] [Field R., "Predicting tube fatigue in a corrosive environment", \(2014\) Nuclear Engineering International, 59 \(720\), pp 18-19](#)

Journal & Review Articles - 2013

- [1] [Gin S., Abdelouas A., Criscenti L.J., Ebert W.L., Ferrand K., Geisler T., Harrison M.T., Inagaki Y., Mitsui S., Mueller K.T., Marra J.C., Pantano C.G., Pierce E.M., Ryan J.V., Schofield J.M., Steefel C.I., Vienna J.D., "An international initiative on long-term behavior of high-level nuclear waste glass", \(2013\) *Materials Today*, 16 \(6\), pp 243-248](#)
- [2] [Lewis F.W., Harwood L.M., Hudson M.J., Drew M.G.B., Hubscher-Bruder V., Videva V., Arnaud-Neu F., Stamberg K., Vyas S., "BTBPs versus BTPPhs: Some reasons for their differences in properties concerning the partitioning of minor actinides and the advantages of BTPPhs", \(2013\) *Inorganic Chemistry*, 52 \(9\), pp 4993-5005](#)
- [3] [Taylor R.J., Gregson C.R., Carrott M.J., Mason C., Sarsfield M.J., "Progress towards the Full Recovery of Neptunium in an Advanced PUREX Process", \(2013\) *Solvent Extraction and Ion Exchange*, 31 \(4\), pp 442-462](#)
- [4] [Steele H.M., Guillaumont D., Moisy P., "Density functional theory calculations of the redox potentials of actinide\(VI\)/actinide\(V\) couple in water", \(2013\) *Journal of Physical Chemistry A*, 117 \(21\), pp 4500-4505](#)
- [5] [Swift P., Kinoshita H., Collier N.C., Utton C.A., "Phosphate modified calcium aluminate cement for radioactive waste encapsulation", \(2013\) *Advances in Applied Ceramics*, 112 \(1\), pp 1-8](#)
- [6] [Sims H.E., Webb K.J., Brown J., Morris D., Taylor R.J., "Hydrogen yields from water on the surface of plutonium dioxide", \(2013\) *Journal of Nuclear Materials*, 437 \(1-3\), pp 359-364](#)
- [7] [Carrot M.J., Gregson C.R., Taylor R.J., "Neptunium Extraction and Stability in the GANEX Solvent: 0.2 M TODGA/0.5 M DMDOHEMA/Kerosene", \(2013\) *Solvent Extraction and Ion Exchange*, 31 \(5\), pp 463-482](#)
- [8] [Styman P.D., Hyde J.M., Wilford K., Smith G.D.W., "Quantitative methods for the APT analysis of thermally aged RPV steels", \(2013\) *Ultramicroscopy*, 132, pp 258-264](#)
- [9] [Kinoshita H., Swift P., Utton C., Carro-Mateo B., Marchand G., Collier N., Milestone N., "Corrosion of aluminium metal in OPC- and CAC-based cement matrices", \(2013\) *Cement and Concrete Research*, 50, pp 11-18](#)
- [10] [Wallace S.H., Shaw S., Morris K., Small J.S., Burke I.T., "Alteration of sediments by hyperalkaline k-rich cement leachate: Implications for strontium adsorption and incorporation", \(2013\) *Environmental Science and Technology*, 47 \(8\), pp 3694-3700](#)
- [11] [Beardsmore D.W., da Fonseca J.Q., Romero J., English C.A., Ortner S.R., Sharples J., Sherry A.H., Wilkes M.A., "Study of Lüders phenomena in reactor pressure vessel steels", \(2013\) *Materials Science and Engineering: A*, 588, pp 151-166](#)
- [12] [Mahon D.F., Clarkson A., Hamilton D.J., Hoek M., Ireland D.G., Johnstone J.R., Kaiser R., Keri T., Lumsden S., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Staines C., Yang G., Zimmerman C., "A prototype scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2013\) *Nuclear Instruments*](#)

[and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 732, pp 408-411](#)

[13] [Paul N., Biggs S., Edmondson M., Hunter T.N., Hammond R.B., "Characterising highly active nuclear waste simulants", \(2013\) Chemical Engineering Research and Design, 91 \(4\), pp 742-751](#)

[14] [Van Uffelen P., Botazzoli P., Luzzi L., Bremier S., Schubert A., Raison P., Eloirdi R., Barker M.A., "An experimental study of grain growth in mixed oxide samples with various microstructures and plutonium concentrations", \(2013\) Journal of Nuclear Materials, 434 \(1-3\), pp 287-290](#)

[15] [Maddrell E., "Hot isostatically pressed wastefoms for future nuclear fuel cycles", \(2013\) Chemical Engineering Research and Design, 91 \(4\), pp 735-741](#)

[16] [Griffiths T.L., Martin L.R., Zalupski P.R., Rawcliffe J., Sarsfield M.J., Evans N.D.M., Sharrad C.A., "Understanding the solution behavior of minor actinides in the presence of EDTA4-, carbonate, and hydroxide ligands", \(2013\) Inorganic Chemistry, 52 \(7\), pp 3728-3737](#)

[17] [Foxhall H.R., Travis K.P., Hobbs L.W., Rich S.C., Owens S.L., "Understanding the radiation-induced amorphization of zirconolite using molecular dynamics and connectivity topology analysis", \(2013\) Philosophical Magazine, 93 \(4\), pp 328-355](#)

[18] [Metcalf M.P., Banford A.W., Eccles H., Norris S., "EU Carbowaste project: Development of a toolbox for graphite waste management", \(2013\) Journal of Nuclear Materials, 436 \(1-3\), pp 158-166](#)

[19] [Jackson S.F., Monk S.D., Lennox K., "Testing of a scintillator and fibre optic based radiation sensor", \(2013\) Radiation Measurements, 59, pp 50-58](#)

[20] [Dawson M., Borman D., Hammond R.B., Lesnic D., Rhodes D., "A meshless method for solving a two-dimensional transient inverse geometric problem", \(2013\) International Journal of Numerical Methods for Heat and Fluid Flow, 23 \(5\), pp 790-817](#)

[21] [Staicu D., Barker M., "Thermal conductivity of heterogeneous LWR MOX fuels", \(2013\) Journal of Nuclear Materials, 442 \(1-3\), pp 46-52](#)

[22] [Donohoe C.J., Whillock G.O.H., "Localized corrosion of stainless steel in a nuclear waste cooling water system - Part 7: Direct radiation experiments", \(2013\) Corrosion, 69 \(2\), pp 107-121](#)

[23] [Peck S.L., "A human performance programme to improve front-line nuclear operations", \(2013\) Cognition, Technology and Work, 15 \(1\), pp 29-37](#)

[24] [Whillock G.O.H., Donohoe C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 6: Testing for stress corrosion cracking susceptibility", \(2013\) Corrosion, 69 \(1\), pp 9-14](#)

[25] [Stanley S.J., Lennox K.A.T., Jenkins A., "The development and testing of a much-improved radball: A small deployable 360-deg-view radiation hot-spot imaging device", \(2013\) Nuclear Technology, 183 \(2\), pp 260-269](#)

Journal & Review Articles - 2012

- [1] [Wallace S.H., Shaw S., Morris K., Small J.S., Fuller A.J., Burke I.T., "Effect of groundwater pH and ionic strength on strontium sorption in aquifer sediments: Implications for 90Sr mobility at contaminated nuclear sites", \(2012\) Applied Geochemistry, 27 \(8\), pp 1482-1491](#)
- [2] [Sarsfield M.J., Taylor R.J., Puxley C., Steele H.M., "Raman spectroscopy of plutonium dioxide and related materials", \(2012\) Journal of Nuclear Materials, 427 \(1-3\), pp 333-342](#)
- [3] [Brown J., McLachlan F., Sarsfield M., Taylor R., Modolo G., Wilden A., "Plutonium Loading of Prospective Grouped Actinide Extraction \(GANEX\) Solvent Systems based on Diglycolamide Extractants", \(2012\) Solvent Extraction and Ion Exchange, 30 \(2\), pp 127-141](#)
- [4] [Reilly S.D., Gaunt A.J., Scott B.L., Modolo G., Iqbal M., Verboom W., Sarsfield M.J., "Plutonium\(IV\) complexation by diglycolamide ligands—coordination chemistry insight into TODGA-based actinide separations", \(2012\) Chemical Communications, 48 \(78\), pp 9732-9734](#)
- [5] [Sypula M., Wilden A., Schreinemachers C., Malmbeck R., Geist A., Taylor R., Modolo G., "Use of Polyaminocarboxylic Acids as Hydrophilic Masking Agents for Fission Products in Actinide Partitioning Processes", \(2012\) Solvent Extraction and Ion Exchange, 30 \(7\), pp 748-764](#)
- [6] [Mitchell M.R., Carnevale D., Orr R., Whittle K.R., Ashbrook S.E., "Exploiting the chemical shielding anisotropy to probe structure and disorder in ceramics: 89Y MAS NMR and first-principles calculations", \(2012\) Journal of Physical Chemistry C, 116 \(6\), pp 4273-4286](#)
- [7] [Girault N., Bosland L., Dickinson S., Funke F., Güntay S., Herranz L.E., Powers D., "LWR severe accident simulation: Iodine behaviour in FPT2 experiment and advances on containment iodine chemistry", \(2012\) Nuclear Engineering and Design, 243, pp 371-392](#)
- [8] [Redfern S.A.T., Smith S.E., Maddrell E.R., "High-temperature breakdown of the synthetic iodine analogue of vanadinite, Pb 5\(VO 4\) 3I: An apatite-related compound for iodine radioisotope immobilization?", \(2012\) Mineralogical Magazine, 76 \(4\), pp 997-1003](#)
- [9] [Whillock G.O.H., Worthington S.E., Donohoe C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system- Part 1: Crevice corrosion studies", \(2012\) Corrosion, 68 \(8\), pp 677-687](#)
- [10] [Donohoe C.J., Whillock G.O.H., Apps P.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-Part 2: Plant inspection findings", \(2012\) Corrosion, 68 \(9\), pp 844-852](#)
- [11] [Whillock G.O.H., Binks T.J., Donohoe C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 4: Artificial pit investigation of nitrate inhibition", \(2012\) Corrosion, 68 \(11\), pp 967-981](#)

- [12] [Harrison M.T., Steele C.J., Riley A.D., "The effect on long term aqueous durability of variations in the composition of UK vitrified HLW product", \(2012\) Glass Technology: European Journal of Glass Science and Technology Part A, 53 \(5\), pp 211-216](#)
- [13] [Whillock G.O.H., Binks T.J., Donohoe C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 3: Development of a large artificial pit", \(2012\) Corrosion, 68 \(10\), pp 859-871](#)
- [14] [Wilbraham R.J., Boxall C., Taylor R.J., "Photocatalytically driven dissolution of macroscopic metal surfaces. Part 1: Silver", \(2012\) Journal of Photochemistry and Photobiology A: Chemistry, 249, pp 21-28](#)
- [15] [Farfán E.B., Stanley S., Holmes C., Lennox K., Oldham M., Clift C., Thomas A., Adamovics J., "Locating radiation hazards and sources within contaminated areas by implementing a reverse ray tracing technique in the RadBall™ technology", \(2012\) Health Physics, 102 \(2\), pp 196-207](#)
- [16] [Donohoe C.J., Whillock G.O.H., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 5: Inhibition studies using "all-metal" artificial pits", \(2012\) Corrosion, 68 \(12\), pp 1076-1084](#)
- [17] [Hesketh K., "A new non-proliferation assessment tool", \(2012\) Nuclear Engineering International, 57 \(697\), pp 36-40](#)
- [18] [Stanley S.J., Lennox K., Farfán E.B., Coleman J.R., Adamovics J., Thomas A., Oldham M., "Locating, quantifying and characterising radiation hazards in contaminated nuclear facilities using a novel passive non-electrical polymer based radiation imaging device", \(2012\) Journal of Radiological Protection, 32 \(2\), pp 131-145](#)
- [19] [Potter D., Howarth P., "The economics of advanced forms of nuclear energy", \(2012\) Nuclear Future, 8 \(4\), pp 48-55](#)

Journal & Review Articles - 2011

- [1] [Gupta J., Nunes C., Vyas S., Jonnalagadda S., "Prediction of solubility parameters and miscibility of pharmaceutical compounds by molecular dynamics simulations", \(2011\) Journal of Physical Chemistry B, 115 \(9\), pp 2014-2023](#)
- [2] [Hyde J.M., Marquis E.A., Wilford K.B., Williams T.J., "A sensitivity analysis of the maximum separation method for the characterisation of solute clusters", \(2011\) Ultramicroscopy, 111 \(6\), pp 440-447](#)
- [3] [Koning A.J., Bauge E., Dean C.J., Dupont E., Fischer U., Forrest R.A., Jacqmin R., Leeb H., Kellett M.A., Mills R.W., Nordborg C., Pescarini M., Rugama Y., Rullhusen P., "Status of the JEFF nuclear data library", \(2011\) Journal of the Korean Physical Society, 59 \(23\), pp 1057-1062](#)
- [4] [Deshon J., Hussey D., Kendrick B., McGurk J., Secker J., Short M., "Pressurized water reactor fuel crud and corrosion modeling", \(2011\) JOM, 63 \(8\), pp 64-72](#)
- [5] [Connelly A.J., Hyatt N.C., Travis K.P., Hand R.J., Maddrell E.R., Short R.J., "The structural role of Zr within alkali borosilicate glasses for nuclear waste immobilisation", \(2011\) Journal of Non-Crystalline Solids, 357 \(7\), pp 1647-1656](#)
- [6] [Hyde J.M., Sha G., Marquis E.A., Morley A., Wilford K.B., Williams T.J., "A comparison of the structure of solute clusters formed during thermal ageing and irradiation", \(2011\) Ultramicroscopy, 111 \(6\), pp 664-671](#)
- [7] [Rossiter G., "Development of the ENIGMA fuel performance code for whole core analysis and dry storage assessments", \(2011\) Nuclear Engineering and Technology, 43 \(6\), pp 489-498](#)
- [8] [Bai Y., Collier N.C., Milestone N.B., Yang C.H., "The potential for using slags activated with near neutral salts as immobilisation matrices for nuclear wastes containing reactive metals", \(2011\) Journal of Nuclear Materials, 413 \(3\), pp 183-192](#)
- [9] [Gregson C.R., Goddard D.T., Sarsfield M.J., Taylor R.J., "Combined electron microscopy and vibrational spectroscopy study of corroded Magnox sludge from a legacy spent nuclear fuel storage pond", \(2011\) Journal of Nuclear Materials, 412 \(1\), pp 145-156](#)
- [10] [Williams C.A., Hyde J.M., Smith G.D.W., Marquis E.A., "Effects of heavy-ion irradiation on solute segregation to dislocations in oxide-dispersion-strengthened Eurofer 97 steel", \(2011\) Journal of Nuclear Materials, 412 \(1\), pp 100-105](#)
- [11] [Hyde J.M., Burke M.G., Gault B., Saxey D.W., Styman P., Wilford K.B., Williams T.J., "Atom probe tomography of reactor pressure vessel steels: An analysis of data integrity", \(2011\) Ultramicroscopy, 111 \(6\), pp 676-682](#)
- [12] [Preuss M., Frankel P., Lozano-Perez S., Hudson D., Polatidis E., Ni N., Wei J., English C., Storer S., Chong K.B., Fitzpatrick M., Wang P., Smith J., Grovenor C., Smith G., Sykes J., Cottis B., Lyon S., Hallstadius L., Comstock B.,](#)

[Ambard A., Blat-Yrieix M., "Studies regarding corrosion mechanisms in zirconium alloys", \(2011\) Journal of ASTM International, 8 \(9\)](#)

[13] [Jones M.J., Butchins L.J., Charnock J.M., Pattrick R.A.D., Small J.S., Vaughan D.J., Wincott P.L., Livens F.R., "Reactions of radium and barium with the surfaces of carbonate minerals", \(2011\) Applied Geochemistry, 26 \(7\), pp 1231-1238](#)

[14] [Haque J.N., Mahmud T., Roberts K.J., Liang J.K., White G., Wilkinson D., Rhodes D., "Free-surface turbulent flow induced by a Rushton turbine in an unbaffled dish-bottom stirred tank reactor: LDV measurements and CFD simulations", \(2011\) Canadian Journal of Chemical Engineering, 89 \(4\), pp 745-753](#)

[15] [Parry S.A., O'Brien L., Fellerman A.S., Eaves C.J., Milestone N.B., Bryan N.D., Livens F.R., "Plutonium behaviour in nuclear fuel storage pond effluents", \(2011\) Energy and Environmental Science, 4 \(4\), pp 1457-1464](#)

[16] [Hill G.L., Bailey E., Stennett M.C., Hyatt N.C., Maddrell E.M., McMillan P.F., Hriljac J.A., "High-pressure and-temperature ion exchange of aluminosilicate and gallosilicate natrolite", \(2011\) Journal of the American Chemical Society, 133 \(35\), pp 13883-13885](#)

[17] [Connelly A.J., Travis K.P., Hand R.J., Hyatt N.C., Maddrell E., "Composition-structure relationships in simplified nuclear waste glasses: 1. Mixed alkali borosilicate glasses", \(2011\) Journal of the American Ceramic Society, 94 \(1\), pp 151-159](#)

[18] [Connelly A.J., Travis K.P., Hand R.J., Hyatt N.C., Maddrell E., "Composition-structure relationships in simplified nuclear waste glasses: 2. the effect of ZrO₂ additions", \(2011\) Journal of the American Ceramic Society, 94 \(1\), pp 137-144](#)

[19] [Connelly A.J., Hyatt N.C., Travis K.P., Hand R.J., Maddrell E.R., "Predicting the preference for charge compensation in silicate glasses", \(2011\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 52 \(2\), pp 64-67](#)

[20] [Von Lensa W., Vulpius D., Steinmetz H.-J., Girke N., Bosbach D., Thomauske B., Banford A.W., Bradbury D., Grave M.J., Jones A.N., Grambow B., Petit L., Pina G., "Treatment and Disposal of irradiated Graphite and other Carbonaceous Waste", \(2011\) ATW - Internationale Zeitschrift fur Kernenergie, 56 \(4-5\), pp 263-269](#)

[21] [Sarsfield M.J., Sims H.E., Taylor R.J., "Modelling Np\(IV\) solvent extraction between 30% tri-butyl phosphate and nitric acid in the presence of simple hydroxamic acids", \(2011\) Solvent Extraction and Ion Exchange, 29 \(1\), pp 49-71](#)

[22] [Gregson C.R., Hastings J.J., Sims H.E., Steele H.M., Taylor R.J., "Characterisation of plutonium species in alkaline liquors sampled from a UK legacy nuclear fuel storage pond", \(2011\) Analytical Methods, 3 \(9\), pp 1957-1968](#)

[23] [Riley B.J., Hrma P.R., Vienna J.D., Schweiger M.J., Rodriguez C.P., Crum J.V., Lang J.B., Marra J.C., Johnson F.C., Peeler D.K., Leonelli C., Ferrari A.M., Lancellotti I., Dussossoy J.-L., Hand R.J., Schofield J.M., Connelly A.J., Short R.,](#)

[Harrison M.T., "The Liquidus Temperature of Nuclear Waste Glasses: An International Round-Robin Study", \(2011\) International Journal of Applied Glass Science, 2 \(4\), pp 321-333](#)

[24] [Phillips D.H., Sinnathamby G., Russell M.I., Anderson C., Paksy A., "Mineralogy of selected geological deposits from the United Kingdom and the Republic of Ireland as possible capping material for low-level radioactive waste disposal facilities", \(2011\) Applied Clay Science, 53 \(3\), pp 395-401](#)

[25] [Rushton M.J.D., Grimes R.W., Owens S.L., "Partial ordering of glass networks adjacent to simulated glass-crystal interfaces", \(2011\) Journal of Non-Crystalline Solids, 357 \(16-17\), pp 3278-3287](#)

[26] [Blowers P., Caborn J., Dell T., Gingell T., Harms A., Long S., Sleep D., Stewart C., Walker J., Warwick P.E., "Determination of carbon-14 in environmental level, solid reference materials", \(2011\) Applied Radiation and Isotopes, 69 \(10\), pp 1323-1329](#)

[27] [Reid D., Hyatt N., Maddrell E.R., "Immobilising plutonium", \(2011\) Materials World, 19 \(7\), pp 26-28](#)

[28] [Ortner S.R., Lee K.S., Sherry A.H., "The effect of a residual stress field on fracture initiation in RPV steel", \(2011\) Fatigue and Fracture of Engineering Materials and Structures, 34 \(12\), pp 945-955](#)

[29] [Rotter B.E., Barry D.A., Gerhard J.I., Small J.S., "Modeling the effectiveness of U\(VI\) biomineralization in dual-porosity porous media", \(2011\) Journal of Hydrology, 402 \(1-2\), pp 14-24](#)

[30] [Tinsley T., Sarsfield M., Rice T., "Alternative radioisotopes for heat and power sources", \(2011\) JBIS - Journal of the British Interplanetary Society, 64 \(1-2\), pp 49-53](#)

[31] [Wareing A., "Waste management & minimisation", \(2011\) Chemical Engineer, \(837\), pp 42-44](#)

[32] [Ortner S.R., "Comparison between particle cracking criteria in models for the fracture of steels", \(2011\) Fatigue and Fracture of Engineering Materials and Structures, 34 \(12\), pp 956-973](#)

[33] [Taylor R., "Fuelling the coming era", \(2011\) Chemical Engineer, \(844\), pp 41-43](#)

Journal & Review Articles - 2010

- [1] [Marquis E.A., Hyde J.M., "Applications of atom-probe tomography to the characterisation of solute behaviours", \(2010\) Materials Science and Engineering R: Reports, 69 \(4-5\), pp 37-62](#)
- [2] [Ni N., Lozano-Perez S., Jenkins M.L., English C., Smith G.D.W., Sykes J.M., Grovenor C.R.M., "Porosity in oxides on zirconium fuel cladding alloys, and its importance in controlling oxidation rates", \(2010\) Scripta Materialia, 62 \(8\), pp 564-567](#)
- [3] [English C.A., Jenkins M.L., "Molecular ion irradiations of molybdenum", \(2010\) Philosophical Magazine, 90 \(7-8\), pp 821-843](#)
- [4] [Reid D.P., Stennett M.C., Ravel B., Woicik J.C., Peng N., Maddrell E.R., Hyatt N.C., "The structure of ion beam amorphised zirconolite studied by grazing angle X-ray absorption spectroscopy", \(2010\) Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms, 268 \(11-12\), pp 1847-1852](#)
- [5] [Dickinson S., Andreo F., Karkela T., Ball J., Bosland L., Cantrel L., Funke F., Girault N., Holm J., Guilbert S., Herranz L.E., Housiadas C., Ducros G., Mun C., Sabroux J.-C., Weber G., "Recent advances on containment iodine chemistry", \(2010\) Progress in Nuclear Energy, 52 \(1\), pp 128-135](#)
- [6] [Cozzo C., Staicu D., Pagliosa G., Papaioannou D., Rondinella V.V., Konings R.J.M., Walker C.T., Barker M.A., Hervé P., "Thermal diffusivity of homogeneous SBR MOX fuel with a burn-up of 35 MWd/kgHM", \(2010\) Journal of Nuclear Materials, 400 \(3\), pp 213-217](#)
- [7] [Quintanilla M.A.S., Goddard D.T., "Lateral Force Microscopy with micrometer-sized particles: Effect of wear on adhesion and friction", \(2010\) Wear, 268 \(1\), pp 277-286](#)
- [8] [Islam M.M., Holland D., Howes A.P., Scales C.R., "The effect of divalent additions on the structure of a mixed alkali borosilicate glass for high level waste immobilisation", \(2010\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 51 \(3\), pp 137-145](#)
- [9] [Bromley M.A., Boxall C., Galea S., Goodall P.S., Woodbury S., "Photocatalytic initiation of electroless deposition", \(2010\) Journal of Photochemistry and Photobiology A: Chemistry, 216 \(2-3\), pp 228-237](#)
- [10] [Wilkins M.J., Livens F.R., Vaughan D.J., Lloyd J.R., Beadle I., Small J.S., "Fe\(III\) reduction in the subsurface at a low-level radioactive waste disposal site", \(2010\) Geomicrobiology Journal, 27 \(3\), pp 231-239](#)
- [11] [Whyte B., "Waste hot, want not", \(2010\) Chemical Engineer, \(832\), pp 30-31](#)
- [12] [Tinsley T., "Past, present, future", \(2010\) Chemical Engineer, \(826\), pp 45-46](#)

Journal & Review Articles - 2009

- [1] [Lozano-Perez S., Yamada T., Terachi T., Schröder M., English C.A., Smith G.D.W., Grovenor C.R.M., Eyre B.L., "Multi-scale characterization of stress corrosion cracking of cold-worked stainless steels and the influence of Cr content", \(2009\) Acta Materialia, 57 \(18\), pp 5361-5381](#)
- [2] [Marquis E.A., Hyde J.M., Saxey D.W., Lozano-Perez S., de Castro V., Hudson D., Williams C.A., Humphry-Baker S., Smith G.D.W., "Nuclear reactor materials at the atomic scale", \(2009\) Materials Today, 12 \(11\), pp 30-37](#)
- [3] [Mahmud T., Haque J.N., Roberts K.J., Rhodes D., Wilkinson D., "Measurements and modelling of free-surface turbulent flows induced by a magnetic stirrer in an unbaffled stirred tank reactor", \(2009\) Chemical Engineering Science, 64 \(20\), pp 4197-4209](#)
- [4] [López-Honorato E., Tan J., Meadows P.J., Marsh G., Xiao P., "TRISO coated fuel particles with enhanced SiC properties", \(2009\) Journal of Nuclear Materials, 392 \(2\), pp 219-224](#)
- [5] [Cornet S.M., Häller L.J.L., Sarsfield M.J., Collison D., Helliwell M., May I., Kaltsoyannis N., "Neptunium\(vi\) chain and neptunium\(vi/v\) mixed valence cluster complexes", \(2009\) Chemical Communications, \(8\), pp 917-919](#)
- [6] [Hyde J.M., Cerezo A., Williams T.J., "Statistical analysis of atom probe data: Detecting the early stages of solute clustering and/or co-segregation", \(2009\) Ultramicroscopy, 109 \(5\), pp 502-509](#)
- [7] [Sarsfield M.J., Sims H.E., Taylor R.J., "Extraction of Neptunium \(IV\) ions into 30% tri-butyl phosphate from nitric acid", \(2009\) Solvent Extraction and Ion Exchange, 27 \(5-6\), pp 638-662](#)
- [8] [Haste T., Giordano P., Herranz L., Girault N., Dubourg R., Sabroux J.-C., Cantrel L., Bottomley D., Parozzi F., Auvinen A., Dickinson S., Lamy J.-C., Weber G., Albiol T., "SARNET integrated European Severe Accident Research- Conclusions in the source term area", \(2009\) Nuclear Engineering and Design, 239 \(12\), pp 3116-3131](#)
- [9] [Copping R., Talbot-Eeckelaers C., Collison D., Helliwell M., Gaunt A.J., May I., Reilly S.D., Scott B.L., McDonald R.D., Valenzuela O.A., Jones C.J., Sarsfield M.J., "Probing the 5f electrons in a plutonyl\(vi\) cluster complex", \(2009\) Dalton Transactions, \(29\), pp 5609-5611](#)
- [10] [Hyde J.M., Burke M.G., Boothby R.M., English C.A., "Characterisation of the early stages of solute clustering in 1Ni-1.3Mn welds containing Cu", \(2009\) Ultramicroscopy, 109 \(5\), pp 510-517](#)
- [11] [Hammond R.B., Orley M.J., Roberts K.J., Jackson R.A., Quayle M.J., "An examination of the influence of divalent cationic dopants on the bulk and surface properties of Ba\(NO₃\)₂ associated with crystallization", \(2009\) Crystal Growth and Design, 9 \(6\), pp 2588-2594](#)

- [12] [Dyer A., Newton J., O'Brien L., Owens S., "Studies on a synthetic sitinakite-type silicotitanate cation exchanger. Part 2. Effect of alkaline earth and alkali metals on the uptake of Cs and Sr radioisotopes", \(2009\) Microporous and Mesoporous Materials, 120 \(3\), pp 272-277](#)
- [13] [Dyer A., Newton J., O'Brien L., Owens S., "Studies on a synthetic sitinakite-type silicotitanate cation exchanger. Part 1: Measurement of cation exchange diffusion coefficients", \(2009\) Microporous and Mesoporous Materials, 117 \(1-2\), pp 304-308](#)
- [14] [Collier N.C., Milestone N.B., Hill J., Godfrey I.H., "Immobilisation of Fe floc: Part 2, encapsulation of floc in composite cement", \(2009\) Journal of Nuclear Materials, 393 \(1\), pp 92-101](#)
- [15] [Vankeerberghen M., Weyns G., Gavrilov S., Henshaw J., Deconinck J., "The electrochemistry in 316SS crevices exposed to PWR-relevant conditions", \(2009\) Journal of Nuclear Materials, 385 \(3\), pp 517-526](#)
- [16] [Collier N.C., Milestone N.B., Hill J., Godfrey I.H., "Immobilisation of Fe floc: Part 1, pre-treatment of floc with slaked lime", \(2009\) Journal of Nuclear Materials, 393 \(1\), pp 77-86](#)
- [17] [Doran S.J., Stanley S.J., Jenneson P.M., Prott E., Adamovics J., "RadBall ™: A new departure for 3-D dosimetry", \(2009\) Journal of Physics: Conference Series, 164, art. no. 012042](#)
- [18] [Stanley S., Bolton G., Bolton L., Featonby P., "Process visualization: Seeing is believing", \(2009\) Chemical Engineer, \(812\), pp 38-40](#)
- [19] [Burke M.G., Hyde J.M., Boothby R.M., English C.A., "Early stages of solute clustering in irradiated 1 Ni -1.3 mn welds", \(2009\) Microscopy and Microanalysis, 15 \(SUPPL. 2\), pp 1352-1353](#)
- [20] [Stanley S., Bolton G., Bolton L., Featonby P., "Seeing is believing", \(2009\) Chemical Engineer, \(812\), pp 38-40](#)

Journal & Review Articles - 2008

- [1] [Collier N.C., Sharp J.H., Milestone N.B., Hill J., Godfrey I.H., "The influence of water removal techniques on the composition and microstructure of hardened cement pastes", \(2008\) Cement and Concrete Research, 38 \(6\), pp 737-744](#)
- [2] [Parkinson B.G., Holland D., Smith M.E., Larson C., Doerr J., Affatigato M., Feller S.A., Howes A.P., Scales C.R., "Quantitative measurement of Q3 species in silicate and borosilicate glasses using Raman spectroscopy", \(2008\) Journal of Non-Crystalline Solids, 354 \(17\), pp 1936-1942](#)
- [3] [Reid H.J., Bashammakh A.A., Goodall P.S., Landon M.R., O'Connor C., Sharp B.L., "Determination of iodine and molybdenum in milk by quadrupole ICP-MS", \(2008\) Talanta, 75 \(1\), pp 189-197](#)
- [4] [López-Honorato E., Meadows P.J., Xiao P., Marsh G., Abram T.J., "Structure and mechanical properties of pyrolytic carbon produced by fluidized bed chemical vapor deposition", \(2008\) Nuclear Engineering and Design, 238 \(11\), pp 3121-3128](#)
- [5] [Polovov I.B., Volkovich V.A., Charnock J.M., Kralj B., Lewin R.G., Kinoshita H., May I., Sharrad C.A., "In situ spectroscopy and spectroelectrochemistry of uranium in high-temperature alkali chloride molten salts", \(2008\) Inorganic Chemistry, 47 \(17\), pp 7474-7482](#)
- [6] [Stanley S.J., Bolton G.T., "A review of recent electrical resistance tomography \(ERT\) applications for wet particulate processing", \(2008\) Particle and Particle Systems Characterization, 25 \(3\), pp 207-215](#)
- [7] [Carrott M.J., Fox O.D., LeGurun G., Jones C.J., Mason C., Taylor R.J., Andrieux F.P.L., Boxall C., "Oxidation-reduction reactions of simple hydroxamic acids and plutonium\(IV\) ions in nitric acid", \(2008\) Radiochimica Acta, 96 \(6\), pp 333-343](#)
- [8] [Lozano-Perez S., Schröder M., Yamada T., Terachi T., English C.A., Grovenor C.R.M., "Using NanoSIMS to map trace elements in stainless steels from nuclear reactors", \(2008\) Applied Surface Science, 255 \(4\), pp 1541-1543](#)
- [9] [Copping R., Jonasson L., Gaunt A.J., Drennan D., Collison D., Helliwell M., Pirttijarvi R.J., Jones C.J., Huguet A., Apperley D.C., Kaltsoyannis N., May I., "Tetravalent metal complexation by Keggin and lacunary phosphomolybdate anions", \(2008\) Inorganic Chemistry, 47 \(13\), pp 5787-5798](#)
- [10] [López-Honorato E., Chiritescu C., Xiao P., Cahill D.G., Marsh G., Abram T.J., "Thermal conductivity mapping of pyrolytic carbon and silicon carbide coatings on simulated fuel particles by time-domain thermoreflectance", \(2008\) Journal of Nuclear Materials, 378 \(1\), pp 35-39](#)
- [11] [Gibb F.G.F., McTaggart N.A., Travis K.P., Burley D., Hesketh K.W., "High-density support matrices: Key to the deep borehole disposal of spent nuclear fuel", \(2008\) Journal of Nuclear Materials, 374 \(3\), pp 370-377](#)

- [12] [Lozano-Perez S., Kilburn M.R., Yamada T., Terachi T., English C.A., Grovenor C.R.M., "High-resolution imaging of complex crack chemistry in reactor steels by NanoSIMS", \(2008\) Journal of Nuclear Materials, 374 \(1-2\), pp 61-68](#)
- [13] [Stanek C.R., Tan A.H.H., Owens S.L., Grimes R.W., "Atomistic simulation of CeO₂ surface hydroxylation: Implications for glass polishing", \(2008\) Journal of Materials Science, 43 \(12\), pp 4157-4162](#)
- [14] [Small J., Nykyri M., Helin M., Hovi U., Sarlin T., Itävaara M., "Experimental and modelling investigations of the biogeochemistry of gas production from low and intermediate level radioactive waste", \(2008\) Applied Geochemistry, 23 \(6\), pp 1383-1418](#)
- [15] [Harrison M.T., Simms H.E., Jackson A., Lewin R.G., "Salt waste treatment from a LiCl-KCl based pyrochemical spent fuel treatment process", \(2008\) Radiochimica Acta, 96 \(4-5\), pp 295-301](#)
- [16] [Andrieux F.P.L., Boxall C., May I., Taylor R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 2: Neptunium \(IV\) ions", \(2008\) Journal of Solution Chemistry, 37 \(2\), pp 215-232](#)
- [17] [Taylor R.J., Sinkov S.I., Choppin G.R., May I., "Solvent extraction behavior of neptunium \(IV\) ions between nitric acid and diluted 30% tri-butyl phosphate in the presence of simple hydroxamic acids", \(2008\) Solvent Extraction and Ion Exchange, 26 \(1\), pp 41-61](#)
- [18] [Lawless W.F., Whitton J., Poppeliers C., "Case studies from the United Kingdom and the United States of stakeholder decision making on radioactive waste management", \(2008\) Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, 12 \(2\), pp 70-78](#)
- [19] [Rotter B.E., Barry D.A., Gerhard J.I., Small J.S., "Parameter and process significance in mechanistic modeling of cellulose hydrolysis", \(2008\) Bioresource Technology, 99 \(13\), pp 5738-5748](#)
- [20] [Martin P., Pelletier M., Every D., Buckthorpe D., "French and United Kingdom experience of high-burnup mixed-oxide fuel in sodium-cooled fast breeder reactors", \(2008\) Nuclear Technology, 161 \(1\), pp 35-44](#)
- [21] [Pitois A., Ivanov P.I., Abrahamsen L.G., Bryan N.D., Taylor R.J., Sims H.E., "Magnesium hydroxide bulk and colloid-associated ¹⁵²Eu in an alkaline environment: Colloid characterisation and sorption properties in the presence and absence of carbonate", \(2008\) Journal of Environmental Monitoring, 10 \(3\), pp 315-324](#)
- [22] [Banford A., Eccles H., Graves M., Von Lensa W., Norris S., "CARBOWASTE - An integrated approach to irradiated graphite", \(2008\) Nuclear Future, 4 \(5\), pp 268-270](#)
- [23] [Rotter B.E., Barry D.A., Gerhard J.I., Small J.S., "Modeling U\(VI\) biomineralization in single- and dual-porosity porous media", \(2008\) Water Resources Research, 44 \(8\), art. no. W08437](#)
- [24] [Gras Ch., Stanley S.J., "Post-irradiation examination of a fuel pin using a microscopic X-ray system: Measurement of carbon deposition and pin metrology", \(2008\) Annals of Nuclear Energy, 35 \(5\), pp 829-837](#)

- [25] [Quintanilla M.A.S., Goddard D.T., "A calibration method for lateral forces for use with colloidal probe force microscopy cantilevers", \(2008\) Review of Scientific Instruments, 79 \(2\), art. no. 023701](#)
- [26] [Stanley S.J., Rhodes D., Jenneson P.M., Gilboy W.B., Simons S.J.R., "See inside: The development of a cosmic ray muon imaging system to aid the clean up of the UK's nuclear waste legacy", \(2008\) Annals of Nuclear Energy, 35 \(3\), pp 507-517](#)
- [27] [Rushton M.J.D., Grimes R.W., Owens S.L., "Predicted changes to alkali concentration adjacent to glass-crystal interfaces", \(2008\) Journal of the American Ceramic Society, 91 \(5\), pp 1659-1664](#)
- [28] [Andrieux F.P.L., Boxall C., Taylor R.J., "Acetohydroxamatoiron\(III\) complexes: Thermodynamics of formation and temperature dependent speciation", \(2008\) Journal of Solution Chemistry, 37 \(11\), pp 1511-1527](#)
- [29] [Lee C.K., Scholey J.J., Worthington S.E., Wilcox P.D., Wisnom M.R., Friswell M.I., Drinkwater B.W., "Acoustic emission from pitting corrosion in stressed stainless steel plate", \(2008\) Corrosion Engineering Science and Technology, 43 \(1\), pp 54-63](#)
- [30] [Islam M.M., Holland D., Scales C.R., "Chemical durability and conductivity of mixed borosilicate glasses for high level waste immobilisation", \(2008\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 49 \(5\), pp 229-236](#)
- [31] [Stanley S., "On the RadBall", \(2008\) Nuclear Engineering International, 53 \(644\), pp 14-15](#)
- [32] [Shearer C., Moore R.G., Zimmerman C.H., Scafes C., Worrall A., Sims H.E., Fowler L., "Options for the disposition of UK civil plutonium stocks", \(2008\) Nuclear Future, 4 \(6\), pp 341-346](#)
- [33] [Sharp B.L., Ignjatovic L.M., Goodall P.S., "Inductively coupled plasma mass spectrometry, coincidence laser spectroscopy \(ICP-MS-CLS\), simulation of the transmission efficiency of a 3D quadrupole ion trap for cooling energetic ions from the ICP prior to optical detection", \(2008\) Journal of Analytical Atomic Spectrometry, 23 \(7\), pp 985-991](#)

Journal & Review Articles - 2007

- [1] [Steele H., Taylor R.J., "A theoretical study of the inner-sphere disproportionation reaction mechanism of the pentavalent actinyl ions", \(2007\) Inorganic Chemistry, 46 \(16\), pp 6311-6318](#)
- [2] [Jia X., Gan M., Williams R.A., Rhodes D., "Validation of a digital packing algorithm in predicting powder packing densities", \(2007\) Powder Technology, 174 \(1-2\), pp 10-13](#)
- [3] [Wilkins M.J., Livens F.R., Vaughan D.J., Beadle I., Lloyd J.R., "The influence of microbial redox cycling on radionuclide mobility in the subsurface at a low-level radioactive waste storage site", \(2007\) Geobiology, 5 \(3\), pp 293-301](#)
- [4] [Carrott M.J., Fox O.D., Maher C.J., Mason C., Taylor R., Sinkov S.I., Choppin G.R., "Solvent extraction behavior of plutonium \(IV\) ions in the presence of simple hydroxamic acids", \(2007\) Solvent Extraction and Ion Exchange, 25 \(6\), pp 723-745](#)
- [5] [Travis K.P., Bankhead M., Good K., Owens S.L., "New parametrization method for dissipative particle dynamics", \(2007\) Journal of Chemical Physics, 127 \(1\), art. no. 014109](#)
- [6] [Sarsfield M.J., Taylor R.J., Maher C.J., "Neptunium\(V\) disproportionation and cation-cation interactions in TBP/kerosene solvent", \(2007\) Radiochimica Acta, 95 \(12\), pp 677-682](#)
- [7] [Birkett J.E., Carrott M.J., Fox O.D., Jones C.J., Maher C.J., Roubé C.V., Taylor R.J., Woodhead D.A., "Controlling neptunium and plutonium within single cycle solvent extraction flowsheets for advanced fuel cycles", \(2007\) Journal of Nuclear Science and Technology, 44 \(3\), pp 337-343](#)
- [8] [Talbot-Eeckelaers C., Pope S.J.A., Hynes A.J., Copping R., Jones C.J., Taylor R.J., Faulkner S., Sykes D., Livens F.R., May I., "Luminescence from neptunyl\(VI\) species in solution", \(2007\) Journal of the American Chemical Society, 129 \(9\), pp 2442-2443](#)
- [9] [Zhang M., Maddrell E.R., Abraitis P.K., Salje E.K.H., "Impact of leach on lead vanado-iodoapatite \[Pb₅\(VO₄\)₃\]: An infrared and Raman spectroscopic study", \(2007\) Materials Science and Engineering: B, 137 \(1-3\), pp 149-155](#)
- [10] [Häller L.J.L., Kaltsoyannis N., Sarsfield M.J., May I., Cornet S.M., Redmond M.P., Helliwell M., "A structural and theoretical investigation of equatorial cis and trans uranyl phosphinimine and uranyl phosphine oxide complexes UO₂Cl₂\(Cy₃PNH\)₂ and UO₂Cl₂\(Cy₃PO\)₂", \(2007\) Inorganic Chemistry, 46 \(12\), pp 4868-4875](#)
- [11] [Hastings J.J., Rhodes D., Fellerman A.S., Mckendrick D., Dixon C., "New approaches for sludge management in the nuclear industry", \(2007\) Powder Technology, 174 \(1-2\), pp 18-24](#)
- [12] [Andrieux F.P.L., Boxall C., Taylor R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 1: Ferric ions", \(2007\) Journal of Solution Chemistry, 36 \(10\), pp 1201-1217](#)

- [13] [Parkinson B.G., Holland D., Smith M.E., Howes A.P., Scales C.R., "Effect of minor additions on structure and volatilization loss in simulated nuclear borosilicate glasses", \(2007\) Journal of Non-Crystalline Solids, 353 \(44-46\), pp 4076-4083](#)
- [14] [John G.H., May I., Sarsfield M.J., Collison D., Helliwell M., "Dimeric uranyl complexes with bridging perrhenates", \(2007\) Dalton Transactions, \(16\), pp 1603-1610](#)
- [15] [Holland D., Parkinson B.G., Islam M.M., Duddridge A., Roderick J.M., Howes A.P., Scales C.R., "NMR insights into wasteforms for the vitrification of high-level nuclear waste", \(2007\) Applied Magnetic Resonance, 32 \(4\), pp 483-497](#)
- [16] [Pagliai P., Simons S.J.R., Rhodes D., "A novel experimental study of temperature enhanced cohesive interparticle forces", \(2007\) Powder Technology, 174 \(1-2\), pp 71-74](#)
- [17] [Gilboy W.B., Jenneson P.M., Simons S.J.R., Stanley S.J., Rhodes D., "Industrial radiography with cosmic-ray muons: A progress report", \(2007\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 580 \(1 SPEC. ISS.\), pp 785-787](#)
- [18] [Sinkov S.I., Choppin G.R., Taylor R.J., "Spectrophotometry and luminescence spectroscopy of acetohydroxamate complexes of trivalent lanthanide and actinide ions", \(2007\) Journal of Solution Chemistry, 36 \(6\), pp 815-830](#)
- [19] [Ruozhou H., Mahmud T., Prodromidis N., Roberts K.J., Williams R.A., Goddard D.T., Semeraz T., "Synthesis of UO₂F₂ nanoparticles in a tubular aerosol reactor: Reactor design and experimental investigations", \(2007\) Industrial and Engineering Chemistry Research, 46 \(7\), pp 2020-2033](#)
- [20] [Wogelius R.A., Morris P.M., Kertesz M.A., Chardon E., Stark A.I.R., Warren M., Brydie J.R., "Mineral surface reactivity and mass transfer in environmental mineralogy", \(2007\) European Journal of Mineralogy, 19 \(3\), pp 297-307](#)
- [21] [Worrall A., Gregg R., "Scenario analyses of future UK fuel cycle options", \(2007\) Journal of Nuclear Science and Technology, 44 \(3\), pp 249-256](#)
- [22] [May I., Copping R., Cornet S.M., Talbot-Eeckeleers C.E., Gaunt A.J., John G.H., Redmond M.P., Sharrad C.A., Sutton A.D., Collison D., Fox O.D., Jones C.J., Sarsfield M.J., Taylor R.J., "Actinyl chemistry at the Centre for Radiochemistry Research", \(2007\) Journal of Alloys and Compounds, 444-445 \(SPEC. ISS.\), pp 383-386](#)
- [23] [Koltunov V.S., Zhuravleva G.I., Marchenko V.I., Dvoeglazov K.N., Savilova O.A., Koltunov G.V., Taylor R.J., Bankhead M., "Kinetics and mechanism of the plutonium catalysed nitric acid oxidation of U\(IV\) ions in 30% tributyl phosphate solution", \(2007\) Radiochimica Acta, 95 \(10\), pp 559-567](#)
- [24] [Rice G., Miles N., Farris S., "Approaches to control the quality of cementitious PFA grouts for nuclear waste encapsulation", \(2007\) Powder Technology, 174 \(1-2\), pp 56-59](#)
- [25] [Sharp B.L., Goodall P.S., Ignjatovic L.M., Teng H., "Coincidence laser spectroscopy \(CLS\) for the detection of ions in ICP-MS \(ICP-MS-CLS\). A feasibility study", \(2007\) Journal of Analytical Atomic Spectrometry, 22 \(12\), pp 1447-1470](#)

- [26] [Cornet S.M., May I., Sarsfield M.J., Kaltsoyannis N., Haller J., Auwer C.D., Meyer D., "Actinyl chemistry across the U, Np and Pu series", \(2007\) Journal of Alloys and Compounds, 444-445 \(SPEC. ISS.\), pp 453-456](#)
- [27] [Norman P., Worrall A., Hesketh K., "A new dawn for nuclear power", \(2007\) Physics World, 20 \(7\), pp 25-30](#)
- [28] [Cattle B.A., "A model problem for restricted-data gamma ray emission tomography of highly active nuclear waste", \(2007\) Annals of Nuclear Energy, 34 \(7\), pp 591-599](#)
- [29] [Willans S.M., Galais N.C.M., Lennon C.P., Trivedi D.P., "ReCLAIM v2.0: A spreadsheet tool for calculating doses and soil/water radionuclide screening levels for assessment of radioactively contaminated land", \(2007\) Journal of Radiological Protection, 27 \(1\), art. no. N01, pp 87-93](#)
- [30] [John G.H., May I., Sarsfield M.J., Collison D., Helliwell M., "Dimeric uranyl complexes with bridging perrhenates", \(2007\) Journal of the Chemical Society. Dalton Transactions, \(16\), pp 1603-1610](#)

Journal & Review Articles - 2006

- [1] [Zhou Q., Milestone N.B., Hayes M., "An alternative to Portland Cement for waste encapsulation-The calcium sulfoaluminate cement system", \(2006\) Journal of Hazardous Materials, 136 \(1 SPEC. ISS.\), pp 120-129](#)
- [2] [Henshaw J., McGurk J.C., Sims H.E., Tuson A., Dickinson S., Deshon J., "A model of chemistry and thermal hydraulics in PWR fuel crud deposits", \(2006\) Journal of Nuclear Materials, 353 \(1-2\), pp 1-11](#)
- [3] [Gras C., Gaffet E., Bernard F., "Combustion wave structure during the MoSi₂ synthesis by Mechanically-Activated Self-propagating High-temperature Synthesis \(MASHS\): In situ time-resolved investigations", \(2006\) Intermetallics, 14 \(5\), pp 521-529](#)
- [4] [Setiadi A., Milestone N.B., Hill J., Hayes M., "Corrosion of aluminium and magnesium in BFS composite cements", \(2006\) Advances in Applied Ceramics, 105 \(4\), pp 191-196](#)
- [5] [Stanley S.J., "Tomographic imaging during reactive precipitation in a stirred vessel: Mixing with chemical reaction", \(2006\) Chemical Engineering Science, 61 \(24\), pp 7850-7863](#)
- [6] [Copping R., Gaunt A.J., May I., Sharrad C.A., Collison D., Helliwell M., Fox O.D., Jones C.J., "Oxoneptunium\(v\) as part of the framework of a polyoxometalate", \(2006\) Chemical Communications, \(36\), pp 3788-3790](#)
- [7] [Bhatt A.I., Duffy N.W., Collison D., May I., Lewin R.G., "Cyclic voltammetry of Th\(IV\) in the room-temperature ionic liquid \[Me 3NnBu\]\[N\(SO₂CF₃\)₂\]", \(2006\) Inorganic Chemistry, 45 \(4\), pp 1677-1682](#)
- [8] [George M., Goddard D.T., "The characterisation of rough particle contacts by atomic force microscopy", \(2006\) Journal of Colloid and Interface Science, 299 \(2\), pp 665-672](#)
- [9] [Collier N.C., Milestone N.B., Hill J., Godfrey I.H., "The disposal of radioactive ferric floc", \(2006\) Waste Management, 26 \(7\), pp 769-775](#)
- [10] [Marsden O.J., Abrahamsen L., Brayan N.D., Day Philip J., Fifield K., Gent C., Goodal P.S., Morris K., Livens F.R., "Transport and accumulation of actinide elements in the near-shore environment: Field and modelling studies", \(2006\) Sedimentology, 53 \(1\), pp 237-248](#)
- [11] [Murphy S.C., Stanley S.J., Rhodes D., York T.A., "3D electrical tomographic imaging using vertical arrays of electrodes", \(2006\) Measurement Science and Technology, 17 \(11\), art. no. 026, pp 3053-3065](#)
- [12] [Sutton A.D., May I., Sharrad C.A., Sarsfield M.J., Helliwell M., "The coordination of perrhenate and pertechnetate to thorium\(iv\) in the presence of phosphine oxide or phosphate ligands", \(2006\) Dalton Transactions, \(48\), pp 5734-5742](#)
- [13] [Sims H.E., "Yields of radiolysis products from \$\gamma\$ -irradiated supercritical water-A re-analysis data by W.G. Burns and W.R. Marsh", \(2006\) Radiation Physics and Chemistry, 75 \(9\), pp 1047-1050](#)

- [14] [Ortner S.R., "The ductile-to-brittle transition in steels controlled by particle cracking", \(2006\) Fatigue and Fracture of Engineering Materials and Structures, 29 \(9-10\), pp 752-769](#)
- [15] [Fox J.R., Mortimer R.J.G., Lear G., Lloyd J.R., Beadle I., Morris K., "The biogeochemical behaviour of U\(VI\) in the simulated near-field of a low-level radioactive waste repository", \(2006\) Applied Geochemistry, 21 \(9\), pp 1539-1550](#)
- [16] [Cattle B.A., West R.M., "A two-dimensional dual-modality tomography technique for a radioactive waste separation process", \(2006\) Annals of Nuclear Energy, 33 \(14-15\), pp 1236-1244](#)
- [17] [Cattle B.A., West R.M., "A statistical method for passive gamma ray tomography of nuclear waste vaults", \(2006\) Annals of Nuclear Energy, 33 \(16\), pp 1297-1308](#)
- [18] [Quintanilla M.A.S., George M., Goddard D.T., Terry Semeraz J., "From single particle interactions to bulk powder flow: Application to uranium oxide powders", \(2006\) Particle and Particle Systems Characterization, 23 \(2\), pp 121-126](#)
- [19] [Maddrell E.R., Milestone N.B., "Current developments and future directions in nuclear waste immobilisation", \(2006\) WIT Transactions on Ecology and the Environment, 92, pp 13-22](#)
- [20] [Willans S.M., Richards H.G., "RADCONTAB 1.0: a look-up tables tool for radiological assessment of contaminated land on Nuclear Licensed sites.", \(2006\) Journal of radiological protection : official journal of the Society for Radiological Protection, 26 \(1\), pp 105-110](#)
- [21] [Sutton A.D., May I., Sharrad C.A., Sarsfield M.J., Helliwell M., "The coordination of perrhenate and pertechnetate to thorium\(iv\) in the presence of phosphine oxide or phosphate ligands", \(2006\) Journal of the Chemical Society. Dalton Transactions, \(48\), pp 5734-5742](#)
- [22] [Ashley V., Jarvis R., Owens S., "gPROMS: A model system?", \(2006\) Chemical Engineer, \(783\), pp 58-59](#)
- [23] [Bleasdale P., "Past, present and future Where next for Nexia?", \(2006\) Nuclear Engineering International, 51 \(622\), pp 38-39](#)
- [24] [Thornton D.A., Thiruarooran C., Allen D.A., Harris A.M., Holmes C.G., Harvey C.R., "Retrospective measurement of neutron activation within the pressure circuit steelwork of a Magnox reactor and comparison with prediction", \(2006\) Journal of ASTM International, 3 \(4\)](#)

Journal & Review Articles - 2005

- [1] [Bhatt A.I., May I., Volkovich V.A., Collison D., Helliwell M., Polovov I.B., Lewin R.G., "Structural characterization of a lanthanum bistriflimide complex, La\(N\(SO₂CF₃\)₂\)₃\(H₂O\)₃, and an investigation of La, Sm, and Eu electrochemistry in a room-temperature ionic liquid, \[Me₃NnBu\]\[N\(SO₂CF₃\)₂\]", \(2005\) Inorganic Chemistry, 44 \(14\), pp 4934-4940](#)
- [2] [Birkett J.E., Carrott M.J., Fox O.D., Jones C.J., Maher C.J., Roubé C.V., Taylor R.J., Woodhead D.A., "Recent developments in the purex process for nuclear fuel reprocessing: Complexant based stripping for uranium/plutonium separation", \(2005\) Chimia, 59 \(12\), pp 898-904](#)
- [3] [Gras Ch., Meredith M., Hunt J.D., "Microstructure and texture evolution after twin roll casting and subsequent cold rolling of Al-Mg-Mn aluminium alloys", \(2005\) Journal of Materials Processing Technology, 169 \(2\), pp 156-163](#)
- [4] [John G.H., May I., Sharrad C.A., Sutton A.D., Collison D., Helliwell M., Sarsfield M.J., "The synthesis, structural, and spectroscopic characterization of uranium\(IV\) perhenate complexes", \(2005\) Inorganic Chemistry, 44 \(21\), pp 7606-7615](#)
- [5] [Sarsfield M.J., May I., Cornet S.M., Helliwell M., "Preference for nitrogen versus oxygen donor coordination in uranyl- and neptunyl\(VI\) complexes", \(2005\) Inorganic Chemistry, 44 \(21\), pp 7310-7312](#)
- [6] [Tan A.H.H., Abramowski M., Grimes R.W., Owens S., "Surface defect configurations on the \(100\) dipolar surface of UO₂", \(2005\) Physical Review B - Condensed Matter and Materials Physics, 72 \(3\), art. no. 035457](#)
- [7] [Dutton M.V., Humphreys P.N., "Assessing the potential of short rotation coppice \(SRC\) for cleanup of radionuclide-contaminated sites", \(2005\) International Journal of Phytoremediation, 7 \(4\), pp 279-293](#)
- [8] [Knott J.F., English C.A., Weaver D.R., Lidbury D.P.G., "Views of TAGSI on the effects of gamma irradiation on the mechanical properties of irradiated ferritic steel reactor pressure vessels", \(2005\) International Journal of Pressure Vessels and Piping, 82 \(12\), pp 929-940](#)
- [9] [Gregg R., Worrall A., "Effect of highly enriched/highly burnt UO₂ fuels on fuel cycle costs, radiotoxicity, and nuclear design parameters", \(2005\) Nuclear Technology, 151 \(2\), pp 126-132](#)
- [10] [Burrows R., Harris S., Stevens N.P.C., "Corrosion electrochemistry of fuel element materials in pond storage conditions", \(2005\) Chemical Engineering Research and Design, 83 \(7 A\), pp 887-892](#)
- [11] [Slee A., Harrison D., Field R., "Worst-case scenario", \(2005\) Chemical Engineer, \(773\), pp 42-43](#)

Conference Papers - 2023

- [1] [Styman P., Chivers K., Long E., Ortner S., "Long-Term Aging of NPP Ferritic Steels and Components", \(2023\) ASTM Special Technical Publication, STP 1647, pp 105-120](#)
- [2] [Tuck O., Pyke C., Styman P., Ortner S., "Development of Modern Dose-Damage Relations in the United Kingdom", \(2023\) ASTM Special Technical Publication, STP 1647, pp 82-104](#)
- [3] [Tinsley T., White J., "UK Development of Deployable Nuclear Space Power Systems", \(2023\) IEEE Aerospace Conference Proceedings, 2023-March](#)
- [4] [Keane A., Murray P., Zabalza J., Di Buono A., Cockbain N., Bernard R., "Hyperspectral imaging analysis of corrosion products on metals in the UV range", \(2023\) Proceedings of SPIE - The International Society for Optical Engineering, 12338, art. no. 1233809](#)

Conference Papers - 2022

- [1] [Sharp E., Bernard R., Bolton G., Dixon S., "PRESSURE MONITORING OF NUCLEAR CONTAINMENT", \(2022\) Proceedings of the International Congress on Sound and Vibration](#)
- [2] [Can A., Price J., Montazeri A., "A Nonlinear Discrete-Time Sliding Mode Controller for Autonomous Navigation of an Aerial Vehicle Using Hector SLAM", \(2022\) IFAC-PapersOnLine, 55 \(10\), pp 2653-2658](#)
- [3] [Can A., Imran I.H., Price J., Montazeri A., "Robust Formation Control and Trajectory Tracking of Multiple Quadrotors Using a Discrete-Time Sliding Mode Control Technique", \(2022\) IFAC-PapersOnLine, 55 \(10\), pp 2974-2979](#)
- [4] [Chevalier M., James P.M., Underwood N., "GUIDANCE ON THE SUITABILITY OF DESIGN CODES AND ASSESSMENT PROCEDURES FOR DEPLOYING HIGH TEMPERATURE ADVANCED MODULAR REACTORS IN THE UK", \(2022\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 1, art. no. V001T01A076](#)

Conference Papers - 2021

- [1] [Watson R.J., Pierce S.G., Kamel M., Zhang D., MacLeod C.N., Dobie G., Bolton G., Dawood T., Nieto J., "Deployment of Contact-Based Ultrasonic Thickness Measurements Using Over-Actuated UAVs", \(2021\) European Workshop on Structural Health Monitoring, pp 683-694](#)
- [2] [Atkinson S., Gray A., Patelli E., "Developing a design optimization methodology for the thermal-hydraulic evaluation for a high temperature reactor during a DLOCA", \(2021\) Journal of Physics: Conference Series, 2048 \(1\), art. no. 012033](#)
- [3] [Yang M., Yu L., Wong C., Mineo C., Yang E., Bomphray I., Huang R., Brady S., "Comprehensive simulation of cooperative robotic system for advanced composite manufacturing: A case study", \(2021\) Advances in Transdisciplinary Engineering, 15, pp 105-110](#)
- [4] [Watson R., Zhao T., Zhang D., Kamel M., Macleod C., Dobie G., Bolton G., Joly A., Pierce S.G., Nieto J., "Techniques for Contact-Based Structural Health Monitoring with Multirotor Unmanned Aerial Vehicles", \(2021\) Structural Health Monitoring 2021: Enabling Next-Generation SHM for Cyber-Physical Systems - Proceedings of the 13th International Workshop on Structural Health Monitoring, IWSHM 2021, pp 21-28](#)
- [5] [James P., Coon D., Austin C., Underwood N., Meek C., Chevalier M., Dean D., "Progress of easics validation experiments and code comparison of R5, RCC-MRX and asme III division v", \(2021\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 4, art. no. V004T06A031](#)

Conference Papers - 2020

- [1] [Cicero S., Lambrecht M., Swan H., Arffman P., Altstadt E., Petit T., Obermeier F., Arroyo B., Álvarez J.A., Lacalle R., "Fracture mechanics testing of irradiated RPV steels by means of sub-sized specimens: FRACTESUS project", \(2020\) Procedia Structural Integrity, 28, pp 61-66](#)
- [2] [Blackburn L.R., Gardner L.J., Sun S.K., Maddrell E.R., Stennett M.C., Corkhill C.L., Hyatt N.C., "Hot Isostatically Pressed Zirconolite Wasteforms for Actinide Immobilisation", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012010](#)
- [3] [Chevalier M., James P., Underwood N., "Establishing amr structural integrity codes and standards for UK GDA \(EASICS\): Overview of activities to provide guidance for the UK generic design assessment process for high temperature advanced modular reactors", \(2020\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 1, art. no. v001t01a094](#)
- [4] [Dixon Wilkins M.C., Maddrell E.R., Stennett M.C., Hyatt N.C., "Synthesis and characterisation of high ceramic fraction brannerite \(UTi₂O₆\) glass-ceramic composites", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012018](#)
- [5] [Scourfield S.J., Kent J.E., Wickham S.M., Nieminen M., Clarke S., Frasca B., "Thermal treatment for radioactive waste minimisation and hazard reduction: Overview and summary of the EC THERAMIN project", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012001](#)
- [6] [Doudou S., Swain-Phipps E.K., Fuller A.J., Wickham S.M., Daniels N., Fourcy E., Fournier M., Frasca B., Meert K., Mikusova A., Olin M., Poskas R., Scales C., "Strategic Study of Thermal Treatment of European Radioactive Wastes", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012002](#)
- [7] [Clarke S., Scales C., Patel N., Roe J., Banford A.W., "Active demonstration of the thermal treatment of surrogate sludge and surrogate drums using the GeoMelt™ in Container Vitrification \(ICV\) melter installed in NNL Central Laboratory", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012004](#)
- [8] [Harnett L., Stennett M.C., Maddrell E.R., Hyatt N.C., "Development of phosphate glass and multi-phase titanate ceramic compositions for thermal treatment of irradiated nuclear fuel residues", \(2020\) IOP Conference Series: Materials Science and Engineering, 818 \(1\), art. no. 012012](#)
- [9] [Davies U., Margulis M., Shwageraus E., Fridman E., Garcia-Herranz N., Jimenez-Carrascosa A., Cabellos O., Gregg R., Krepel J., "Evaluation of the ESFR end of cycle state and detailed analysis of spatial distributions of reactivity coefficients", \(2020\) International Conference on Physics of Reactors: Transition to a Scalable Nuclear Future, PHYSOR 2020, 2020-March, pp 105-114](#)

- [10] [Ade B.J., Luciano N.P., Conant A.J., Gentry C.A., Stimpson S.G., Collins B.S., Kim K.S., Mills R., "Development of MPACT for full-core simulations of MAGNOX gas-cooled nuclear reactors", \(2020\) International Conference on Physics of Reactors: Transition to a Scalable Nuclear Future, PHYSOR 2020, 2020-March, pp 1266-1274](#)
- [11] [Underwood N., Nevitt P., Howarth A., Barron N., "Overview of UK policy and research landscape relevant to deploying advanced nuclear technologies in the UK", \(2020\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 1, art. no. v001t01a043](#)
- [12] [Boccaccio M., Fierro G.P.M., Meo M., Bolton G., "Design of passive acoustic hyperbolic-shaped filter for nonlinear ultrasonic inspection method optimisation", \(2020\) Proceedings of SPIE - The International Society for Optical Engineering, 11382, art. no. 1138206](#)
- [13] [Evans A.K., Kelly P.J., Goddard D.T., Cole-Baker A., Obasi G., Preuss M., Vernon E.P., "Fabrication, characterization, and testing of Cr-coated Zr alloy nuclear fuel rod cladding for enhanced accident tolerance", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 864-872](#)
- [14] [Turkington G., Gamage K.A.A., Graham J., "Optimising sensor geometry of a photodiode based detector for the direct detection of strontium 90 in groundwater", \(2020\) Journal of Physics: Conference Series, 1643 \(1\), art. no. 012210](#)
- [15] [Peakman A., Bennett T., Fitzgerald K., Gregg R., Rossiter G., "NEXUS framework for whole-core fuel performance: Current applications and future trends", \(2020\) International Conference on Physics of Reactors: Transition to a Scalable Nuclear Future, PHYSOR 2020, 2020-March, pp 2287-2294](#)
- [16] [Lindley B., Tollit B., Smith P., Charles A., Mason R., Ware T., Perry R., Lavarenne J., Davies U., Gregg R., "Fast reactor multiphysics and uncertainty propagation within WIMS", \(2020\) International Conference on Physics of Reactors: Transition to a Scalable Nuclear Future, PHYSOR 2020, 2020-March, pp 927-934](#)
- [17] [Laventine D., Boxall C., Chombakkadath M., Orr R., Taylor R., "Analysis of water absorption onto ceria and thorium thin films by direct mass and contact angle measurements", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 145-151](#)
- [18] [Jones S., Boxall C., Taylor R., "Redox reactions of Fe\(III\) and AHA in nitric acid solutions in the context of an advanced purex process", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 983-992](#)
- [19] [Chimes M., Boxall C., Edwards S., Sarsfield M., Taylor R.J., Woodhead D., "Reduction reactions of vanadium as a neptunium analogue with nitrogen oxide species", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 549-555](#)

- [20] [Howett E., Boxall C., Hambley D., "The Behavior of Analogues for RIS-affected AGR Cladding under Conditions Relevant to Wet Interim Storage", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 1048-1055](#)
- [21] [Bromley M.A., Boxall C., Taylor R., Sarsfield M., "A new photochemical reactor for the rapid reduction of U\(VI\) in the development of mixed metal oxide fuel fabrication processes", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 18-25](#)
- [22] [Kennedy J., Boxall C., Banford A., Demmer R., Parker A., "Towards the decontamination of plutonium contaminated bricks: Creation of a cerium-based simulant contamination system", \(2020\) GLOBAL 2019 - International Nuclear Fuel Cycle Conference and TOP FUEL 2019 - Light Water Reactor Fuel Performance Conference, pp 556-565](#)

Conference Papers - 2019

- [1] [Jansen F., Bergmann B., Brandt T., Damme F., Detsis E., Ferraris S., Findlay J.A.P., Funaki I., Funke O., Grundmann J.T., Guimaraes L.N.F., Hillebrandt M., Koroteev A.S., Kühn D., Kuijper J.C., Masson F., Maiwald V., Oberst J., Oriol S., Pospisil S., Richter M., Schanz L., Semenko A.V., Solodukhin A.E., Stekl I., Tinsley T., Tosi M.C., Worms J.-C., "INPPS Flagship: 2020th and 2030th Mars explorations", \(2019\) Proceedings of the International Astronautical Congress, IAC, 2019-October, art. no. IAC-19 A3 3A 11 x51994](#)
- [2] [Boccaccio M., Malfense Fierro G.P., Meo M., Bolton G., "Development and focusing enhancement of nonlinear air-coupled acoustic technique for damage characterization in materials", \(2019\) Materials Today: Proceedings, 34, pp 266-274](#)
- [3] [Ambrosi R., Watkinson E.J., Barco A., Mesalam R., Crawford T., Bicknell C., Williams H., Perkinson M.-C., Burgess C., Gibson S., Stroud C., Godfrey A., Merrifield J., Kramer D., Barklay C., Stephenson K., Reece M.J., Simpson K., Tuley R., Tinsley T., Sarsfield M., "Radioisotope Power Systems for the European Space Nuclear Power Program", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8742245](#)
- [4] [Jansen F., Brandt T., Dafnis A., Detsis E., Ferraris S., Findlay J.A.P., Funaki I., Granjon R., Grundmann J.T., Grunwald G., Guimaraes L.N.F., Hillebrandt M., Koroteev A.S., Kuijper J.C., Lassoudiere F., Lovtsov A.S., Maiwald V., Masson F., Muszynski M., Oriol S., Richter M., Schanz L., Semenko A.V., Solodukhin A.E., Tinsley T., Tosi M.C., Worms J.-C., "InPPS flagship: Cluster of electric thrusters", \(2019\) Proceedings of the International Astronautical Congress, IAC, 2019-October, art. no. IAC-19 C4 4 11 x52152](#)
- [5] [James P.M., Underwood N.J., Sharples J.K., "UK programme on codes, standard and procedure needs for SMR and Gen IV reactors: Phase 1 output", \(2019\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 1](#)
- [6] [Jansen F., Brandt T., Dafnis A., Detsis E., Ferraris S., Findlay J.A.P., Funaki I., Grundmann J.T., Grunwald G., Frutuoso Guimaraes L.N., Hillebrandt M., Koroteev A.S., Kuijper J.C., Masson F., Oriol S., Richter M., Schanz L., Semenko A.V., Solodukhin A.E., Tinsley T., Tosi M.C., Worms J.-C., "InPPS flagship with IBOSS building blocks", \(2019\) Proceedings of the International Astronautical Congress, IAC, 2019-October, art. no. IAC-19 C2 7 2 x53122](#)
- [7] [Jansen F., Bergmann B., Brandt T., Damme F., Detsis E., Ferraris S., Findlay J.A.P., Funaki I., Funke O., Grundmann J.T., Guimaraes L.N.F., Hillebrandt M., Koroteev A.S., Kühn D., Kuijper J.C., Masson F., Maiwald V., Oberst J., Oriol S., Pospisil S., Richter M., Schanz L., Semenko A.V., Solodukhin A.E., Stekl I., Tinsley T., Tosi M.C., Waldmann Ch., Worms J.-C., "MARS / Europa InPPS flagship high power space transportation", \(2019\) Proceedings of the International Astronautical Congress, IAC, 2019-October, art. no. IAC-19 A5 4-D2.8 9 x53118](#)
- [8] [Coleman J., Metelko C., Murdoch M., Schnellbach Y., Touramanis C., Mills R., Mountford D., "VIDARR: Aboveground Reactor Monitoring", \(2019\) Journal of Physics: Conference Series, 1216 \(1\), art. no. 012007](#)

- [9] [Tinsley T., Sarsfield M., Stephenson K., Ambrosi R., "Progress and future roadmap on ²⁴¹Am production for use in Radioisotope Power Systems", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8741817](#)
- [10] [Watkinson E.J., Ambrosi R., Freis D., Lajarge P., Vigier J.-F., Bouexiere D., Nourry S., Konings R., Tinsley T., Sarsfield M., Stephenson K., Najorka J., "Americium Oxide Surrogate Studies: Pursuing European Radioisotope Power Systems Fuel Form Development", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8741815](#)
- [11] [Sayers J., Ortner S., Li K., Lozano-Perez S., "Effect of pH on hydrogen pick-up and corrosion in zircaloy-4", \(2019\) Minerals, Metals and Materials Series, pp 1169-1180](#)
- [12] [Martin T.L., Warren A.D., Kumar D., Siberry A., Springell R., Holmes R., Clark R., Platts L., Burrows R., Harrington C., Gorley M., Surrey E., Rowthu S., Grundler P., Ritter S., "Insights into prospective fusion reactor cooling systems from fission reactor cooling circuits", \(2019\) 19th International Conference on Environmental Degradation of Materials in Nuclear Power Systems - Water Reactors, EnvDeg 2019, pp 1059-1068](#)
- [13] [Ambrosi R.M., Barco A., Watkinson E.J., Mesalam R., Williams H., Crawford T., Bicknell C., Stephenson K., Perkinson M.-C., Burgess C., Stroud C., Gibson S., Slater R., Simpson K., Tuley R., Reece M.J., Chen K., Tinsley T., Sarsfield M., Fongarland C., Libessart M., Kramer D., "Radioisotope thermoelectric generators \(rTGs\) and heater units \(RHUs\) based on Americium-241 for science and exploration", \(2019\) Proceedings of the International Astronautical Congress, IAC, 2019-October, art. no. IAC-19 C3 5-C4.7 11 x49367](#)
- [14] [Cooper A.J., Armson S.A.J., Tuck O.C.G., Preuss M., "On the microstructural evolution and porosity consolidation in 316L stainless steel during hot isostatic pressing", \(2019\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 6A-2019, art. no. pvp2019-93016](#)
- [15] [Meek C., Spence M., "Comparison of fracture assessments of corrosion pits using sharp and blunt notched crack procedures", \(2019\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 3](#)
- [16] [Di Buono A., Green P.R., Lennox B., Cockbain N., Poteau X., "Design of a wireless sensing system for deployment in nuclear decommissioning environments", \(2019\) 11th Nuclear Plant Instrumentation, Control, and Human-Machine Interface Technologies, NPIC and HMIT 2019, pp 1284-1293](#)
- [17] [Horner D.A., Lowden M., Nevitt P., Quirk G., "Hydrogen assisted cracking studies of a 12% chromium martensitic stainless steel—influence of hardness, stress and environment", \(2019\) Minerals, Metals and Materials Series, pp 1051-1065](#)

Conference Papers - 2018

- [1] [Topping M., Harte A., Frankel P., Race C., Sundell G., Thuvander M., Andrén H.-O., Jadernas D., Tejlund P., Romero J.E., Darby E.C., Dumbill S., Hallstadius L., Preuss M., "The effect of iron on dislocation evolution in model and commercial zirconium alloys", \(2018\) ASTM Special Technical Publication, STP 1597, pp 796-822](#)
- [2] [Kerry T., Banford A.W., Bower W., Thompson O.R., Carey T., Mosselmans J.F.W., Ignatyev K., Sharrad C.A., "Uranium Contamination of Stainless Steel in Nuclear Processing Plants", \(2018\) Industrial and Engineering Chemistry Research, 57 \(11\), pp 3957-3962](#)
- [3] [Geddes D.A., Ke X., Bernal S.A., Hayes M., Provis J.L., "Metakaolin-based geopolymers for nuclear waste encapsulation", \(2018\) RILEM Bookseries, 16, pp 183-188](#)
- [4] [Lindley B., Allen D., Lillington J., Smethurst A., Smith P., Bowman D., Dwyer L., Lai K., Levers A., Vikhorev K., Litskevich D., Merk B., Patelli E., Patterson E., Bankhead M., Peakman A., De Haas S., Jackson C., Draup J., Galenne E., Parks G., Shwageraus E., Eaton M.D., "Modelling and simulation activities in support of the UK nuclear r&d programme on digital reactor design", \(2018\) International Conference on Nuclear Engineering, Proceedings, ICONE, 3](#)
- [5] [Nanstad R.K., Sokolov M.A., Ortner S.R., Styman P.D., "Neutron and thermal embrittlement of RPV steels: An overview", \(2018\) ASTM Special Technical Publication, STP 1603, pp 68-106](#)
- [6] [Sayers J., Ortner S., Li K., Lozano-Perez S., "Effect of pH on hydrogen pick-up and corrosion in zircaloy-4", \(2018\) Minerals, Metals and Materials Series, Part F9, pp 1169-1180](#)
- [7] [Summan R., Jackson W., Dobie G., Macleod C., Mineo C., West G., Offin D., Bolton G., Marshall S., Lille A., "A novel visual pipework inspection system", \(2018\) AIP Conference Proceedings, 1949, art. no. 220001](#)
- [8] [James P.M., Sharples J.K., Underwood N., "UK programme on codes, standard and procedure needs for SMR and GeN IV reactors", \(2018\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 1B-2018](#)
- [9] [Mills R.W., Mountford D.J., Coleman J.P., Metelko C., Murdoch M., Schnellbach Y.-J., "Modelling of the anti-neutrino production and spectra from a Magnox reactor", \(2018\) EPJ Web of Conferences, 170, art. no. 07008](#)
- [10] [Merk B., Allen D., Bankhead M., Bowen A., Bowman D., De Haas S., Draup J., Dwyer L., Eaton M., Galenne E., Jackson C., Lai C.K., Levers A., Lindley B., Litskevich D., Mason L., Parks G., Patelli E., Patterson E., Peakman A., Shwageraus E., Smethurst A., Smith P., Toland A., Vikhorev K., "The UK nuclear r&d programme on digital nuclear reactor design - modelling, simulation, and virtual engineering", \(2018\) Proceedings of the 2018 International Congress on Advances in Nuclear Power Plants, ICAPP 2018, pp 1085-1090](#)

- [11] [Kuo E.Y., Gregg D.J., Vance E.R., Maddrell E.R., Lumpkin G.R., "Radioactive Iodine-129 Capture in Mixed Cation Sodalites: Ab initio Modelling", \(2018\) MRS Advances, 3 \(20\), pp 1105-1110](#)
- [12] [Turkington G., Gamage K.A.A., Graham J., "Detection of strontium-90, a review and the potential for direct in situ detection", \(2018\) 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference, NSS/MIC 2018 - Proceedings, art. no. 8824504](#)
- [13] [Crompton A.J., Gamage K.A.A., Jenkins A., Trivedi D., "Detecting Alpha-induced Radioluminescence in the UVC Wavelength Range Using a UVTron Flame Sensor, and the Effect of a Gas Flow on Detection Rates as Compared to an Air Atmosphere", \(2018\) 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference, NSS/MIC 2018 - Proceedings, art. no. 8824570](#)
- [14] [Gornicki K., Groves K., Carrasco J., Lennox B., "The Pond Cleaning System", \(2018\) 2018 UKACC 12th International Conference on Control, CONTROL 2018, art. no. 8516738, pp 366](#)
- [15] [Ng H.C.-H., Cregan H.L.F., Dodds J.M., Poole R.J., Dennis D.J.C., "Experiments in turbulent partially-filled pipe flow", \(2018\) Proceedings of the International Symposium on Turbulence, Heat and Mass Transfer, 2018-July, pp 311-314](#)
- [16] [Messer D., Jones L., Orr R., Koehler S., Pimblott S., "Radiolytic recombination of H₂, O₂ and N₂ over PuO₂ and ceramic oxide surrogates", \(2018\) Plutonium Futures - The Science 2018, pp 73-75](#)
- [17] [Carrott M., Colledge H., Dodds J., Farrer M., Gregson C., Holt J., Mason C., Orr R., Sarsfield M., Sims H.E., Taylor R.J., Walton L., Woodall S., Woodhead D., Hobbs J., Steele H., "The Sellafield plutonium storage can surveillance programme: Characterization of PuO₂ after extended storage", \(2018\) Plutonium Futures - The Science 2018, pp 56-57](#)
- [18] [Jones L., Orr R., Sims H., Pimblott S., "Radiolytic gas generation from adsorbed water on the surface of PuO₂", \(2018\) Plutonium Futures - The Science 2018, pp 113-114](#)
- [19] [Donocli T.A., Orr R.M., Sims H.E., Pimblott S.M., "A catalytic approach to thermal recombination of H₂ and O₂ over the surface of PuO₂ and PuO₂ surrogates", \(2018\) Plutonium Futures - The Science 2018, pp 369-370](#)
- [20] [Cooper A.J., Burnett T.L., Tuck O.C.G., Sherry A.H., "Challenges associated with the quantitative analysis of ductile damage using X-ray computed tomography", \(2018\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 6B-2018](#)
- [21] [Clark R.N., Payton O., Knapp J., Picco L., Laferrère A., Walters W.S., Moore S., Burrows R., "Development of an adapted electrochemical noise technique for in-situ corrosion monitoring of spent nuclear fuel aqueous storage environments", \(2018\) NACE - International Corrosion Conference Series, 2018-April](#)
- [22] [Wilford K., Ortner S., Chivers K., "UK surveillance schemes", \(2018\) ASTM Special Technical Publication, STP 1603, pp 296-306](#)

[23] [Cooper A.J., Tuck O.G.C., Burnett T.L., Sherry A.H., "Ductile fracture assessment of 304l stainless steel using 3D X-ray computed tomography", \(2018\) Minerals, Metals and Materials Series, Part F12, pp 737-754](#)

[24] [Horner D.A., Lowden M., Nevitt P., Quirk G., "Hydrogen assisted cracking studies of a 12% chromium martensitic stainless steel—influence of hardness, stress and environment", \(2018\) Minerals, Metals and Materials Series, Part F9, pp 1051-1065](#)

Conference Papers - 2017

- [1] [Marturi N., Rastegarpanah A., Takahashi C., Adjigble M., Stolkin R., Zurek S., Kopicki M., Talha M., Kuo J.A., Bekiroglu Y., "Towards advanced robotic manipulation for nuclear decommissioning: A pilot study on tele-operation and autonomy", \(2017\) International Conference on Robotics and Automation for Humanitarian Applications, RAHA 2016 - Conference Proceedings, art. no. 7931866](#)
- [2] [Hyde J.M., Dacosta G., Hatzoglou C., Weekes H., Radiguet B., Styman P.D., Vurpillot F., Pareige C., Etienne A., Bonny G., Castin N., Malerba L., Pareige P., "Analysis of Radiation Damage in Light Water Reactors: Comparison of Cluster Analysis Methods for the Analysis of Atom Probe Data", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp 366-375](#)
- [3] [Zelenty J., Dahl A., Hyde J., Smith G.D.W., Moody M.P., "Detecting Clusters in Atom Probe Data with Gaussian Mixture Models", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp 269-278](#)
- [4] [Martin T.L., London A.J., Jenkins B., Hopkin S.E., Douglas J.O., Styman P.D., Bagot P.A.J., Moody M.P., "Comparing the Consistency of Atom Probe Tomography Measurements of Small-Scale Segregation and Clustering between the LEAP 3000 and LEAP 5000 Instruments", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp 227-237](#)
- [5] [Angelici Avincola V., Fitzgerald K., Shepherd D., Kinay D., Sauder C., Steinbrueck M., "High-temperature tests of silicon carbide composite cladding under GFR conditions", \(2017\) Energy Procedia, 127, pp 320-328](#)
- [6] [Mills R.W., "A new GBR fission yield evaluation GBRFY3.7", \(2017\) EPJ Web of Conferences, 146, art. no. 04008](#)
- [7] [Burnett T.L., Holroyd N.J.H., Lewandowski J.J., Ogurreck M., Rau C., Kelley R., Pickering E.J., Daly M., Sherry A.H., Pawar S., Slater T.J.A., Withers P.J., "Degradation of metallic materials studied by correlative tomography", \(2017\) IOP Conference Series: Materials Science and Engineering, 219 \(1\), art. no. 012001](#)
- [8] [Sarsfield M.J., Campbell C., Carrigan C., Carrott M.J., Colle J.-Y., Freis D., Gregson C., Griffiths T., Holt J., Lajarge P., Maher C.J., Manara D., McLuckie B., Mason C., Naji M., Taylor R.J., Tinsley T., Somers J., Stephenson K., Vigier J.-F., "The Separation of 241Am from Aged Plutonium Dioxide for use in Radioisotope Power Systems", \(2017\) E3S Web of Conferences, 16, art. no. 05003](#)
- [9] [Howett E., Boxall C., Hambley D., "AGR Cladding Corrosion: Investigation of the Effect of Temperature on Unsensitized Stainless Steel", \(2017\) MRS Advances, 2 \(11\), pp 615-620](#)
- [10] [Kramer D.P., Ambrosi R., Sarsfield M., Watkinson E.J., Mesalam R., Williams H., Barklay C., Tinsley T., Goodrich S., Pierson T., Whiting C., "Recent Joint Studies Related to the Development of Space Radioisotope Power Systems", \(2017\) E3S Web of Conferences, 16, art. no. 05002](#)
- [11] [Tinsley T., Sarsfield M., Stephenson K., "Update on 241Am production for use in Radioisotope Power Systems", \(2017\) IEEE Aerospace Conference Proceedings, art. no. 7943562](#)

- [12] [Tinsley T., Sarsfield M., "241 Am production for use in Radioisotope Power Systems", \(2017\) Transactions of the American Nuclear Society, 117, pp 1319-1320](#)
- [13] [Merk B., Bankhead M., Dwyer L., Bowen A., "The UK national program R&D on digital nuclear reactor design", \(2017\) Transactions of the American Nuclear Society, 117, pp 1328-1330](#)
- [14] [Moore S., Burrows R., Picco L., Scott T., Laferrere A., Martin P.G., Payton O.D., "Investigating corrosion using high-speed AFM", \(2017\) EUROCORR 2017 - The Annual Congress of the European Federation of Corrosion, 20th International Corrosion Congress and Process Safety Congress 2017](#)
- [15] [Laventine D., Wilbraham R., Boxall C., Taylor R., Orr R., "Direct mass analysis of water absorption onto ceria thin films", \(2017\) MRS Advances, 2 \(12\), pp 649-654](#)
- [16] [Tzagkaroulakis I., Boxall C., Trivedi D., "Real-Time Nanogravimetric Monitoring of Corrosion in Radioactive Decontamination Systems", \(2017\) MRS Advances, 2 \(10\), pp 577-582](#)
- [17] [Carmack J., Mathers D., "U.S. And U.K. International collaboration on nuclear R&D-nuclear fuels and materials", \(2017\) Transactions of the American Nuclear Society, 117, pp 1313-1314](#)
- [18] [Davidson E., Peterson-Droogh J., Worrall A., Gregg R., "A US-UK collaboration on fuel cycle assessment", \(2017\) Transactions of the American Nuclear Society, 117, pp 1321-1324](#)
- [19] [Lowden M., Horner T., Nevitt P., Quirk G., Barrow A., "Effect of material hardness and microstructure on the susceptibility of martensitic stainless steels to corrosion and stress corrosion cracking", \(2017\) EUROCORR 2017 - The Annual Congress of the European Federation of Corrosion, 20th International Corrosion Congress and Process Safety Congress 2017](#)
- [20] [O'Neill A., "Demonstrating compliance with moderator content limits in uranium dioxide powder upon leaving a furnace environment", \(2017\) ANS NCSD - 2017 Nuclear Criticality Safety Division Topical Meeting: Criticality Safety - Pushing Boundaries by Modernizing and Integrating Data, Methods, and Regulations, 2017-September](#)
- [21] [Mlejnkova P., Patelli E., Grundy C., Hodgson Z., "Influence of trust in institutions on public acceptance of nuclear power from a historical context across nuclear countries", \(2017\) Risk, Reliability and Safety: Innovating Theory and Practice - Proceedings of the 26th European Safety and Reliability Conference, ESREL 2016, pp 472](#)

Conference Papers - 2016

- [1] [Ortenzi V., Marturi N., Stolkin R., Kuo J.A., Mistry M., "Vision-guided state estimation and control of robotic manipulators which lack proprioceptive sensors", \(2016\) IEEE International Conference on Intelligent Robots and Systems, 2016-November, art. no. 7759525, pp 3567-3574](#)
- [2] [Seal C.K., Sherry A.H., "Weibull distribution of brittle failures in the transition region", \(2016\) Procedia Structural Integrity, 2, pp 1668-1675](#)
- [3] [Thorner S., Heath P., Maddrell E., Stennett M.C., Hyatt N.C., "Investigation of Processing Parameters for the Consolidation of Actinide Glass-Ceramic Wasteforms by Hot Isostatic Pressing", \(2016\) MRS Advances, 1 \(63-64\), pp 4269-4274](#)
- [4] [Kuras O., Shreeve J., Smith N., Graham J., Atherton N., "Enhanced characterisation of radiologically contaminated sediments at Sellafield by MSCL core logging and X-ray imaging", \(2016\) 22nd European Meeting of Environmental and Engineering Geophysics, Near Surface Geoscience 2016](#)
- [5] [Goddard D.T., Mathers D.P., Eaves D.G., Xu P., Lahoda E.J., Harp J.M., "Manufacturability of U₃Si₂ and its high temperature oxidation behaviour", \(2016\) Top Fuel 2016: LWR Fuels with Enhanced Safety and Performance, pp 31-39](#)
- [6] [Guangliang Y., Clarkson A., Hamilton D., Hoek M., Ireland D., Johnstone R., Kaiser R., Keri T., Lumsden S., Mahon D., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Zimmermann C., "Application of muon tomography to encapsulated nuclear waste", \(2016\) 2015 IEEE 12th International Conference on Electronic Measurement and Instruments, ICEMI 2015, 3, art. no. 7494465, pp 1359-1362](#)
- [7] [Summan R., Pierce G., Macleod C., Mineo C., Riise J., Morozov M., Dobie G., Bolton G., Raude A., Dalpé C., Braumann J., "Conformable eddy current array delivery", \(2016\) AIP Conference Proceedings, 1706, art. no. 170003](#)
- [8] [Ambrosi R., Williams H., Perkinson M.-C., Watkinson E.J., Mesalam R., Reed J., Reece M., Simpson K., Stroud C., Gibson S., Sarsfield M., Tinsley T., Townend M., Stephenson K., "European radioisotope-based space nuclear power systems", \(2016\) Proceedings of the International Astronautical Congress, IAC, 0](#)
- [9] [Rayment F., "Nuclear fuel cycles in the U.K.", \(2016\) Radwaste Solutions, 23 \(1\), pp 48-51](#)
- [10] [Ambrosi R.M., Williams H., Watkinson E.J., Barco A., Mesalam R., Crawford T., Bicknell C., Sykes J., Stephenson K., Perkinson M.-C., Burgess C., Reece M., Chen K., Simpson K., Robbins M., Tuley R., Gibson S., Godfrey A., Stroud C., Sarsfield M., Tinsley T., Fongarland C., Libessart M., Kramer D.P., Barklay C., Whiting C.E., "The European space nuclear power program: Development of radioisotope thermoelectric generators and heater units", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp 254-257](#)

- [11] [Barco A., Ambrosi R.M., Crawford T., Williams H.R., Godfrey A., Stroud C., Stephenson K., Bicknell C., Watkinson E.J., Mesalam R., Sarsfield M., Tinsley T., Chowanietz M., Cockrill M., "Design, development and testing of an241am-fuelled rhu for the esa program", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp 246-249](#)
- [12] [Kramer D.P., Ambrosi R.M., Watkinson E.J., Goodrich S.M., Barklay C.D., Vernon E., Sarsfield M., Tinsley T., "Recent university of dayton and university of leicester collaborations related to radioisotope power systems \(rps\) and nuclear energy technology", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp 298-301](#)
- [13] [Watkinson E.J., Najorka J., Ambrosi R.M., Sarsfield M.J., Vernon E., Tinsley T., Stephenson K., "High-temperature x-ray diffraction studies of americium oxide surrogates", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp 13-16](#)
- [14] [Harrison M.T., Steele C.J., "Vitrification of simulated highly active calcines containing high concentrations of sodium and molybdenum", \(2016\) MRS Advances, 1 \(63-64\), pp 4233-4238](#)
- [15] [Peterson J., Sunny E., Gregg R., "Impact of using cross sections versus recipes in transition fuel cycle analysis using ORION", \(2016\) Transactions of the American Nuclear Society, 115, pp 266-268](#)
- [16] [Tinsley T., Rayment F., "Going from closed to open and then back again: How to keep a level head", \(2016\) Transactions of the American Nuclear Society, 115, pp 251-253](#)
- [17] [Oriol S., Masson F., Tinsley T., Stainsby R., Hodgson Z., Detsis E., Worms J.-C., Koroteev A.A., Semenko A., Solodukhin A., Jansen F., Bauer W., Ferraris S., Tosi M.C., Muszynski M., Lassoudiere F., "DEMOCRITOS: Development logic for a demonstrator preparing nuclear-electric spacecraft", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2016, pp 50-60](#)
- [18] [Sayers J., Lozano-Perez S., Ortner S., "Effect of pH on hydrogen pick-up and corrosion in Zircaloy-4", \(2016\) Top Fuel 2016: LWR Fuels with Enhanced Safety and Performance, pp 1255-1265](#)
- [19] [Stolkin R., Kim J.-H., Leonardis A., Lee J.-C., Mistry M., Choi Y.-R., Kuo J., "Robotic system for retrieval of contaminated materials from hazardous zones - A project of the UK-Korea Civil Nuclear Collaboration Program", \(2016\) D and RS 2016 - Decommissioning and Remote Systems, pp 83-86](#)
- [20] [Morozov M., Pierce S.G., Dobie G., Bolton G.T., Bennett T., "Robotic ultrasonic inspection of AGR fuel cladding", \(2016\) 55th Annual Conference of the British Institute of Non-Destructive Testing, NDT 2016, pp 187-197](#)
- [21] [Fellerman A.S., Pyke C.K., "Predicting evaporator vessel base thicknesses from inspected heating coils", \(2016\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 6B-2016](#)

Conference Papers - 2015

- [1] [Ortenzi V., Adjigble M., Kuo J.A., Stolkin R., Mistry M., "An experimental study of robot control during environmental contacts based on projected operational space dynamics", \(2015\) IEEE-RAS International Conference on Humanoid Robots, 2015-February, art. no. 7041392, pp 407-412](#)
- [2] [Kuippers G., Bassil N.M., Boothman C., Bryan N., Lloyd J.R., "Microbial degradation of isosaccharinic acid under conditions representative for the far field of radioactive waste disposal facilities", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1443-1454](#)
- [3] [Bassil N.M., Bewsher A.D., Thompson O.R., Lloyd J.R., "Microbial degradation of cellulosic material under intermediate-level waste simulated conditions", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1433-1441](#)
- [4] [Ortenzi V., Stolkin R., Kuo J.A., Mistry M., "Projected inverse dynamics control and optimal control for robots in contact with the environment: A comparison", \(2015\) IEEE International Conference on Intelligent Robots and Systems, 2015-December, art. no. 7353942, pp 4009-4015](#)
- [5] [Serikov A., Bertalot L., Clough M., Fischer U., Suarez A., "Neutronics analysis for ITER cable looms", \(2015\) Fusion Engineering and Design, 96-97, pp 943-947](#)
- [6] [Clarkson A., Ireland D.G., Jebali R.A., Kaiser R., Lumsden S., Mahon D., Mountford D., Ryan M., Shearer C., Yang G., "Characterising encapsulated nuclear waste using cosmic-ray Muon Tomography \(MT\)", \(2015\) 2015 4th International Conference on Advancements in Nuclear Instrumentation Measurement Methods and their Applications, ANIMMA 2015, art. no. 7465529](#)
- [7] [Littlewood J., Shaw S., Bots P., Peacock C.L., Trivedi D., Burke I.T., "Effect of solution composition on the recrystallization of kaolinite to feldspathoids in hyperalkaline conditions: Limitations of pertechnetate incorporation by ion competition effects", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1379-1388](#)
- [8] [Sherriff N., Issa R., Morris K., Livens F., Heath S., Bryan N., "Reversibility in radionuclide/bentonite bulk and colloidal ternary systems", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1307-1315](#)
- [9] [Direito S.O.L., Clark S., Cousins C., Fujita Y., Gluyas J., Harley S., Holmes R.J., Hutchinson I.B., Kudryavtsev V.A., Lloyd J., Main I.G., Naylor M., Payler S., Smith N., Spooner N.J.C., Telfer S., Thompson L.F., Wouters K., Wragg J., Cockell C., "Geological repositories: Scientific priorities and potential high-technology transfer from the space and physics sectors", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1651-1664](#)
- [10] [Bryan N., Jones D., Keepax R., Farrelly D., Abrahamsen L., Beard R., Li N., Weir G., "Factors affecting the dissociation of metal ions from humic substances", \(2015\) Mineralogical Magazine, 79 \(6\), pp 1397-1405](#)
- [11] [Summan R., Dobie G., Guarato F., Macleod C., Marshall S., Forrester C., Pierce G., Bolton G., "Image mosaicing for automated pipe scanning", \(2015\) AIP Conference Proceedings, 1650, pp 1334-1342](#)

- [12] [Clark R.A., Punzo G., Dobie G., Macleod C.N., Summan R., Pierce G., Macdonald M., Bolton G., "3D model generation using an airborne swarm", \(2015\) AIP Conference Proceedings, 1650, pp 1460-1467](#)
- [13] [Tinsley T., Mason F., Detsis E., Gaia E., Hodgson Z., Jansen F., Semenkin A., Ruault J.-M., Worms J.-C., "MEGAHIT: Conclusion of the development of the advanced propulsion roadmap for HORIZON2020", \(2015\) Nuclear and Emerging Technologies for Space, NETS 2015, pp 50-57](#)
- [14] [Masson F., Ruault J.-M., Worms J.-C., Detsis E., Beaurain A., Lassouiere F., Gaia E., Tosi M.C., Jansen F., Bauer W., Semenkin A., Tinsley T., Hodgson M.Z., "Democritos: Preparing demonstrators for high power nuclear electric space propulsion", \(2015\) Nuclear and Emerging Technologies for Space, NETS 2015, pp 68-75](#)
- [15] [Rauff-Nisthar N., Boxall C., Hambley D., Hiezl Z., Padovani C., Wilbraham R., "Corrosion behaviour of AGR SIMFUELS", \(2015\) ECS Transactions, 66 \(17\), pp 85-94](#)
- [16] [Jansen F., Bauer W., Masson F., Ruault J.-M., Worms J.-C., Detsis E., Lassoudiere F., Granjon R., Gaia E., Ferraris S., Tosi M.C., Koroteev A.S., Semenkin A.V., Solodukhin A., Tinsley T., Hodgson Z., Guimarães L.N.F., "Step-by-step realization of the International Nuclear Power and Propulsion System \(INPPS\) mission", \(2015\) Proceedings of the International Astronautical Congress, IAC, 10, pp 7716-7724](#)
- [17] [Johal S.K., Boxall C., Gregson C., Steele C.J., "Ruthenium volatilisation from reprocessed spent nuclear fuel - Studying the baseline thermodynamics of Ru\(III\)", \(2015\) ECS Transactions, 66 \(21\), pp 31-42](#)
- [18] [Tinsley T., Mathers D., "Opportunities to reuse and recycle redundant radioisotopes", \(2015\) Transactions of the American Nuclear Society, 113, pp 304-306](#)
- [19] [Rayment F., Mathers D., Tinsley T., "Plutonium disposition R&D within the United Kingdom", \(2015\) Transactions of the American Nuclear Society, 113, pp 313-314](#)
- [20] [Watkinson E.J., Ambrosi R., Williams H., Sarsfield M., Stephenson K., "Americium oxide space radioisotope power systems: Cerium-neodymium oxide surrogate studies", \(2015\) Transactions of the American Nuclear Society, 113, pp 13-15](#)
- [21] [Head W.S., Hodgetts D., Smith N.T., "Integrating terrestrial laser scan data with dem for regional scale fault and fracture modelling", \(2015\) 77th EAGE Conference and Exhibition 2015: Earth Science for Energy and Environment, pp 1090-1094](#)
- [22] [LaFerrere A., Burrows R., Clark R., Glover C., Williams G., Payton O., Picco L., "In situ imaging of corrosion processes in nuclear fuel cladding", \(2015\) European Corrosion Congress, EUROCORR 2015, 1, pp 616-625](#)
- [23] [Rayment F., Tinsley T., Taylor R., Gregg R., "Moving from closed to open fuel cycle within the UK while keeping future fuel cycle options open", \(2015\) Transactions of the American Nuclear Society, 112, pp 139-141](#)
- [24] [Mathers D., Stainsby R., Johnston E., Goddard D., "Developments in fuel fabrication R&D within the UK", \(2015\) Transactions of the American Nuclear Society, 112, pp 142-143](#)

- [25] [Mori N., Ambrosino F., Bonechi L., Cimmino L., D'Alessandro R., Ireland D., Kaiser R., Mahon D., Noli P., Saracino G., Shearer C., Viliani L., Yang G., "Feasibility study of detection of high-Z material in nuclear waste storage facilities with atmospheric muons", \(2015\) Proceedings of Science, 30-July-2015, art. no. 563](#)
- [26] [Carroll T., Harris N., Rendell J.R., Cumming C., "The development of criticality response materials", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp 692-701](#)
- [27] [Hill D.A., "Recent activities of the UK working party on criticality", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp 1584-1590](#)
- [28] [Hill D.A., Wadeson T.G., "The application of ALARP to legacy residues recovery processes on the Springfields site in the United Kingdom", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp 139-145](#)
- [29] [Harris N., "The unforeseen component of risk when considering the need for a criticality accident alarm system", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp 1529-1536](#)
- [30] [Morozov M., Pierce S.G., Bolton G.T., "Eddy Current Testing of AGR fuel cladding", \(2015\) 54th Annual British Conference of Non-Destructive Testing, NDT 2015](#)

Conference Papers - 2014

- [1] [Stork D., Agostini P., Boutard J.-L., Buckthorpe D., Diegele E., Dudarev S.L., English C., Federici G., Gilbert M.R., Gonzalez S., Ibarra A., Linsmeier C., Puma A.L., Marbach G., Packer L.W., Raj B., Rieth M., Tran M.Q., Ward D.J., Zinkle S.J., "Materials R&D for a timely DEMO: Key findings and recommendations of the EU Roadmap Materials Assessment Group", \(2014\) Fusion Engineering and Design, 89 \(7-8\), pp 1586-1594](#)
- [2] [Walling S.A., Bernal S.A., Kinoshita H., Collier N.C., Provis J.L., "Cementitious binders in the system Mg\(OH\)₂-NaAlO₂-SiO₂-H₂O", \(2014\) Advances in Applied Ceramics, 113 \(8\), pp 496-501](#)
- [3] [Taylor R., Webb K., Gregson C., Orr R., Sims H., Mason C., Hobbs J., Bernard R., "Stabilisation of chloride contaminated plutonium oxide for long term storage", \(2014\) Plutonium Futures: The Science 2014, pp 242](#)
- [4] [Kaiser R., Clarkson A., Hamilton D.J., Hoek M., Ireland D.G., Johnston J.R., Keri T., Lumsden S., Mahon D.F., McKinnon B., Murray M., Nutbeam-Tuffs S., Shearer C., Staines C., Yang G., Zimmerman C., "A prototype scintillating-fibre tracker for the cosmic-ray Muon tomography of legacy nuclear waste containers", \(2014\) EPJ Web of Conferences, 66, art. no. 10005](#)
- [5] [Metcalf M.P., Tzelepi N., Wilde D., "Effect of test specimen size on graphite strength", \(2014\) ASTM Special Technical Publication, STP 1578, pp 1-29](#)
- [6] [Hiezl Z., Hambley D., Lee W.E., "Preparation and characterization of UO₂-based AGR SIMFuel", \(2014\) Materials Research Society Symposium Proceedings, 1665, pp 245-251](#)
- [7] [Montague W., Hayes M., Vandeperre L.J., "Strength - Formulation correlations in magnesium phosphate cements for nuclear waste encapsulation", \(2014\) Ceramic Engineering and Science Proceedings, 34 \(9\), pp 107-117](#)
- [8] [Kuras O., Wilkinson P.B., Meldrum P.I., Oxby L.S., Uhlemann S.S., Chambers J.E., Binley A., Graham J., Dewey G., Atherton N., "Long-term geoelectrical monitoring to support nuclear decommissioning at the Sellafield Site, UK", \(2014\) Near Surface Geoscience 2014 - 20th European Meeting of Environmental and Engineering Geophysics](#)
- [9] [Gribble N.R., Short R.J., Dunnett B.F., Steele C.J., "Increased molybdenum loading for vitrified high level waste", \(2014\) Materials Research Society Symposium Proceedings, 1665, pp 253-259](#)
- [10] [Tinsley T., Taylor R., Rayment F., "New opportunities in plutonium research and development in the UK", \(2014\) Plutonium Futures: The Science 2014, pp 323-324](#)
- [11] [Hesketh K.W., "Thorium research interests in the UK", \(2014\) Transactions of the American Nuclear Society, 111, pp 191-194](#)
- [12] [Tzelepi N., "Sample size effects on ultrasonic measurements of elastic moduli-experimental and theoretical investigations", \(2014\) ASTM Special Technical Publication, STP 1578, pp 144-171](#)

- [13] [Orr R.M., Taylor R.J., Sims H.E., Webb K.J., Woodhead D.A., Cook P.M.A., Hobbs J.W., "Adsorption of water on plutonium dioxide powders", \(2014\) Plutonium Futures: The Science 2014, pp 381-382](#)
- [14] [Altmaier M., Bourg S., Collings P., Dacheux N., Duplantier B., Ekberg Ch., Grolimund D., Natrajan L., Poinssot Ch., Raison Ph., Schaefer Th., Scheinost A., Schimmelpfennig B., "TALISMAN - A European Commission FP7 project promoting transnational access to large infrastructures for a safe management of actinides", \(2014\) Plutonium Futures: The Science 2014, pp 165-166](#)
- [15] [Maher C.J., Baker S.R., Carrott M., Lewin B., Sarsfield M., Schroeder S.L.M., Stephenson K., "Dissolution of aged PuO₂ to production of ²⁴¹Am for use in space exploration", \(2014\) Plutonium Futures: The Science 2014, pp 238-239](#)
- [16] [Sarsfield M.J., Bell K., Maher C.J., Carrott M.J., Gregson C., Brown J., Woodhead D.A., Baker S.R., Taylor R.J., Tinsley T.P., Rice T.G., Rhodes C.J., Clough M., Stephenson K., Wiss T., "²⁴¹Am production for use in radioisotope power systems", \(2014\) Plutonium Futures: The Science 2014, pp 305-306](#)
- [17] [Rayment F., Tinsley T., Taylor R., Gregg R., "Fuel cycle scenarios, challenges, and opportunities - A UK perspective", \(2014\) Transactions of the American Nuclear Society, 111, pp 213-216](#)
- [18] [Sunny E., Gregg R., Ault T., Gehin J., Peterson J., Powers J., Worrall A., "Fuel cycle assessment: Evaluation and analyses using ORION for US fuel cycle options", \(2014\) Transactions of the American Nuclear Society, 111, pp 253-256](#)
- [19] [Webborn B., "Challenges associated with the current demand for UK criticality safety assessors", \(2014\) Transactions of the American Nuclear Society, 111, pp 813-816](#)
- [20] [Lim J.J.H., Hyde J.M., Lozano-Perez S., Grovenor C.R.M., "Microstructural characterization of irradiation-induced MnNi-rich solute cluster in highly neutron-irradiated MnNiMo alloyed weld metals", \(2014\) ASTM Special Technical Publication, STP 1572, pp 57-73](#)
- [21] [Dawson M., Borman D., Hammond R., Lesnic D., Rhodes D., "Modelling the morphology of crystalline deposits evolving from impinging droplets of salt solution", \(2014\) 9th South African Conference on Computational and Applied Mechanics, SACAM 2014](#)
- [22] [Butler G., McGlynn G., Hesketh K., "Generic feasibility assessment: A methodology for assessing nuclear energy technologies", \(2014\) International Congress on Advances in Nuclear Power Plants, ICAPP 2014, 1, pp 743-749](#)
- [23] [Rayment F., Mathers D., "Creating an international fuel R&D capability", \(2014\) Transactions of the American Nuclear Society, 110, pp 722-724](#)
- [24] [Harrison M.T., Steele C.J., "The durability of simulated UK high level waste glass compositions based on recent vitrification campaigns", \(2014\) Ceramic Transactions, 246, pp 211-224](#)

Conference Papers - 2013

- [1] [Sarsfield M.J., Bell K., Maher C.J., Carrott M.J., Gregson C., Brown J., Woodhead D.A., Baker S.R., Cordingley L., Taylor R.J., Tinsley T.P., Rice T.G., Rhodes C.J., Clough M., "Progress on ²⁴¹Am production for use in radioisotope power systems", \(2013\) Nuclear and Emerging Technologies for Space, NETS 2013, pp 431-437](#)
- [2] [Gregg R., Hesketh K., "The benefits of a fast reactor closed fuel cycle in the UK", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1235-1244](#)
- [3] [Stewart M.W.A., Moricca S.A., Vance E.R., Day R.A., Maddrell E.R., Scales C.R., Hobbs J., "Hot-isostatic pressing of chlorine-containing, plutonium residues and wastes", \(2013\) TMS Annual Meeting, pp 675-682](#)
- [4] [Rauff-Nisthar N., Boxall C., Farnan I., Hiezl Z., Lee W., Perkins C., Wilbraham R., "Corrosion behaviour of AGR simulated fuels - Evolution of the fuel surface", \(2013\) ECS Transactions, 53 \(21\), pp 95-104](#)
- [5] [Chen T.-Y., Hriliac J.A., Gandy A.S., Stennett M.C., Hyatt N.C., Maddrell E.R., "Thermal conversion of Cs-exchanged IONSIV IE-911 into a novel caesium ceramic wasteform by hot isostatic pressing", \(2013\) Materials Research Society Symposium Proceedings, 1518, pp 67-72](#)
- [6] [Ambrosi R.M., Williams H.R., Samara-Ratna P., Jorden A., Slade R., Bannister N.P., Sykes J., Deacon T., Stephenson K., Simpson K., Reece M., Ning H., Stuttard M., Rice T., Tinsley T., Sarsfield M., Jaegle M., Koenig J., Edgington A., Lerman H., "Development and testing of an americium-241 radioisotope thermoelectric generator", \(2013\) Nuclear and Emerging Technologies for Space, NETS 2013, pp 450-454](#)
- [7] [Murphy P., Boxall C., Taylor R., Woodhead D., "Investigation of water adsorption on metal oxide surfaces under conditions representative of PuO₂ storage containers", \(2013\) ECS Transactions, 53 \(21\), pp 81-94](#)
- [8] [Hambley D.I., "Technical basis for extending storage of the UK's advanced gas-cooled reactor fuel", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1161-1170](#)
- [9] [Short R., Dunnett B., Gribble N., Steel H., Steele C.J., "Vitrification of high molybdenum feeds in the presence of reprocessing waste liquor", \(2013\) Materials Research Society Symposium Proceedings, 1518, pp 21-39](#)
- [10] [Scales C.R., Maddrell E.R., Hobbs J., Stephen R., Moricca S., Stewart M.W.A., "Building flexibility into the design of a pilot plant for the immobilisation of Pu containing residues and wastes", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T02A006](#)
- [11] [Rayment F., Hesketh K., Gregg R., Butler G., "Exploring technology choices against nuclear energy scenarios", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp 355-358](#)

- [12] [Bux J., Hunter T.N., Paul N., Dodds J.M., Peakall J., Biggs S.R., "Characterising nuclear simulant suspensions in situ with an acoustic backscatter system", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 2, art. no. V002T03A018](#)
- [13] [Gate A.M., Hambley D.I., "Examination of long-stored uranium metal", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1179-1187](#)
- [14] [Taylor T.A., Short R.J., Gribble N.R., Roe J.I., Steele C.J., "Rhenium volatilisation as caesium perrhenate from simulated vitrified high level waste from a melter crucible", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp 450-452](#)
- [15] [Hodgson Z., Hambley D.I., Gregg R., Ross D.N., "The United Kingdom's changing requirements for spent fuel storage", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1152-1160](#)
- [16] [Jackson S.F., Monk S.D., Lennox K., Stanley S.J., "Sub-aquatic response of a scintillator, fibre optic and silicon photomultiplier based radiation sensor", \(2013\) 2013 3rd International Conference on Advancements in Nuclear Instrumentation, Measurement Methods and Their Applications, ANIMMA 2013, art. no. 6727903](#)
- [17] [McTeer J., Morris J., Wickham S., Bolton G., McKinney J., Morris D., Angus M., Cann G., Binks T., "Establishing a store baseline during interim storage of waste packages and a review of potential technologies for baselining", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T01A059](#)
- [18] [Fachinger J., Müller W., Marsat E., Grosse K.-H., Seemann R., Scales C., Banford A., Easton M.M., "Production of an impermeable composite of irradiated graphite and glass by hot isostatic pressing as a long term leach resistant waste form", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T01A041](#)
- [19] [Coppersthaite D., Greenwood H., Docrat T., Allinson S., Sultan R., May S., "Processing liquid organic wastes at the NNL Preston laboratory", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T01A015](#)
- [20] [Francis S., "Safeguards on uranium ore concentrate? The impact of modern mining and milling processes", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp 53-58](#)
- [21] [Patel N., Hambley D., Simpson K., Clarke S., "Influence of uranium hydride oxidation on uranium metal behaviour", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1197-1203](#)
- [22] [Tinsley T., Mathers D., Rayment F., "International collaboration, the route to fuel cycle R&D", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp 641-644](#)

[23] [Godfrey H., Broan C., Diggle A., Goddard D., Hodge N., Orr R., Woodhouse G., "Uranium metal reactions with hydrogen and water vapour and the reactivity of the uranium hydride produced", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp 1404-1410](#)

[24] [Tinsley T., CliquetMoreno E., "MEGAHIT: Megawatt highly efficient technologies for space power and propulsion systems - Roadmap for HORIZON2020", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp 33-35](#)

[25] [Tinsley T., Sarsfield M., "Update on 241Am production for use in radioisotope power systems", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp 31-32](#)

Conference Papers - 2012

- [1] [Styman P.D., Hyde J.M., Wilford K., Morley A., Smith G.D.W., "Precipitation in long term thermally aged high copper, high nickel model RPV steel welds", \(2012\) Progress in Nuclear Energy, 57, pp 86-92](#)
- [2] [Rizoulis A., Steele H.M., Morris K., Lloyd J.R., "The potential impact of anaerobic microbial metabolism during the geological disposal of intermediate-level waste", \(2012\) Mineralogical Magazine, 76 \(8\), pp 3261-3270](#)
- [3] [Dunnett B.F., Gribble N.R., Short R., Turner E., Steele C.J., Riley A.D., "Vitrification of high molybdenum waste", \(2012\) Glass Technology: European Journal of Glass Science and Technology Part A, 53 \(4\), pp 166-171](#)
- [4] [Gibb F.G.F., Travis K.P., Hesketh K.W., "Deep borehole disposal of higher burn up spent nuclear fuels", \(2012\) Mineralogical Magazine, 76 \(8\), pp 3003-3017](#)
- [5] [Butcher E.J., Borwick J., Collier N., Williams S.J., "Long term leachate evolution during flow-through leaching of a vault backfill \(NRVB\)", \(2012\) Mineralogical Magazine, 76 \(8\), pp 3023-3031](#)
- [6] [Cronin J., Collier N., "Corrosion and expansion of grouted Magnox", \(2012\) Mineralogical Magazine, 76 \(8\), pp 2901-2909](#)
- [7] [York T.A., Green P.N., Green P.R., Phasoulitis A., Qu Z., Watson S., Hussain M., Nawaz S., Trigoni N., Stanley S., "Acoustic sensor networks for decommissioning", \(2012\) Measurement and Control, 45 \(2\), pp 48-54](#)
- [8] [Travis K.P., Gibb F.G.F., Hesketh K.W., "Modelling deep borehole disposal of higher burn-up spent nuclear fuels", \(2012\) Materials Research Society Symposium Proceedings, 1475, pp 391-396](#)
- [9] [Dawson M., Borman D., Hammond R.B., Lesnic D., Rhodes D., "Detection of a two-dimensional moving cavity", \(2012\) International Journal of Computer Mathematics, 89 \(11\), pp 1569-1582](#)
- [10] [Farfán E.B., Coleman J.R., Stanley S., Adamovics J., Oldham M., Thomas A., "Submerged RadBall® deployments in hanford site hot cells containing 137CsCl capsules", \(2012\) Health Physics, 103 \(1\), pp 100-106](#)
- [11] [Montague W., Vandeperre L., Hayes M., "Processing characteristics and strength of magnesium phosphate cement formulations compatible with UK nuclear waste treatment plants", \(2012\) Materials Research Society Symposium Proceedings, 1475, pp 287-292](#)
- [12] [Hyde J.M., Boothby R.M., English C.A., Styman P., Thompson H., Smith G.D.W., Wilford K., Williams T.J., "Microstructural characterisation of nanometre scale irradiation damage in high-Ni welds", \(2012\) TMS Annual Meeting, 2, pp 489-502](#)
- [13] [Rayment F., Tinsley T., "Nuclear fuel cycle R&D in the UK", \(2012\) Transactions of the American Nuclear Society, 107, pp 269-272](#)

- [14] [Collier N., Harrison M., Brogden M., Hanson B., "Release of uranium from candidate wasteforms", \(2012\) Mineralogical Magazine, 76 \(8\), pp 2939-2948](#)
- [15] [Metcalfe M.P., Koch W., Turner G., "Break-up testing of waste-form materials", \(2012\) Mineralogical Magazine, 76 \(8\), pp 2975-2983](#)
- [16] [Murphy P., Boxall C., Taylor R., "Investigation of water adsorption on metal oxide surfaces under conditions representative of PuO₂ storage containers", \(2012\) Materials Research Society Symposium Proceedings, 1383, pp 127-132](#)
- [17] [Tinsley T., Sarsfield M., "Developing an alternative radioisotopes supply for heat and power sources", \(2012\) Transactions of the American Nuclear Society, 107, pp 21-23](#)
- [18] [Edwards S., Andrieux F., Boxall C., Taylor R., Woodhead D., "Hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions", \(2012\) Materials Research Society Symposium Proceedings, 1383, pp 89-94](#)
- [19] [Wilbraham R.J., Boxall C., Taylor R.J., "Surface decontamination by photocatalysis", \(2012\) Materials Research Society Symposium Proceedings, 1383, pp 119-125](#)
- [20] [Onggo S., Jennings P., "Nuclear reprocessing: A simulation metamodelling approach", \(2012\) 2012 Operational Research Society Simulation Workshop, SW 2012, pp 10-18](#)

Conference Papers - 2011

- [1] [Preuss M., Frankel P., Lozano-Perez S., Hudson D., Polatidis E., Ni N., Wei J., English C., Storer S., Chong K.B., Fitzpatrick M., Wang P., Smith J., Grovenor C., Smith G., Sykes J., Cottis B., Lyon S., Hallstadius L., Comstock R.J., Ambard A., Blat-Yrieix M., "Studies regarding corrosion mechanisms in zirconium alloys", \(2011\) ASTM Special Technical Publication, 1529 STP, pp 649-681](#)
- [2] [Bommer J.J., Papaspiliou M., Price W., "Earthquake response spectra for seismic design of nuclear power plants in the UK", \(2011\) Nuclear Engineering and Design, 241 \(3\), pp 968-977](#)
- [3] [Shevelan J., Smith N.T., "Characterisation of the geology of the UK Low Level Waste Repository", \(2011\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, \(PARTS A AND B\), pp 361-370](#)
- [4] [Tinsley T., Sarsfield M., Rice T., "Alternative radioisotopes for heat and power sources", \(2011\) Nuclear and Emerging Technologies for Space 2011, NETS-2011, pp 543-550](#)
- [5] [Vezzoni B., Rineiski A., Gabrielli F., Romanello V., Schitthelm O., Da Cruz D.F., Growe C., "Inert matrix fuel for LWRs: Preliminary safety assessment", \(2011\) Transactions of the American Nuclear Society, 104, pp 661-662](#)
- [6] [Ferguson K., Zhang J., Steele C., Clarke C., Morris J., "Modelling vitrified glass viscosity in a nuclear fuel reprocessing plant using neural networks", \(2011\) NCTA 2011 - Proceedings of the International Conference on Neural Computation Theory and Applications, pp 322-325](#)
- [7] [Squire J., Maddrell E.R., Hyatt N.C., Stennett M.C., "Developing the plutonium disposition option: Ceramic processing concerns", \(2011\) Ceramic Transactions, 227, pp 241-249](#)

Conference Papers - 2010

- [1] [Primrose K.M., Qiu C., Bolton G.T., Talmon A.M., Glen N., Ross A., Learmouth D., "Visualisation and measurement of 3 phase \(air water oil\) flow and 2 phase flow \(sand water\) with electrical tomography", \(2010\) 6th World Congress in Industrial Process Tomography, pp 108-118](#)
- [2] [Brookes C., Harrison M., Riley A., Steele C., "The effect of increased waste loading on the durability of high level waste glass", \(2010\) Materials Research Society Symposium Proceedings, 1265, pp 109-114](#)
- [3] [Farfán E.B., Foley T.Q., Jannik G.T., Harpring L.J., Gordon J.R., Blessing R., Coleman J.R., Holmes C.J., Oldham M., Adamovics J., Stanley S.J., "RadBall™ technology testing in the Savannah river site's health physics instrument calibration laboratory", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012080, pp 398-402](#)
- [4] [Oldham M., Clift C., Thomas A., Farfan E., Foley T., Jannik T., Adamovics J., Holmes C., Stanley S., "Initial experience with optical-CT scanning of RadBall dosimeters", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012079, pp 394-397](#)
- [5] [Farfán E.B., Foley T.Q., Coleman J.R., Jannik G.T., Holmes C.J., Oldham M., Adamovics J., Stanley S.J., "RadBall™ technology testing and MCNP modeling of the tungsten collimator", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012081, pp 403-407](#)
- [6] [Alapour A., Joyce R.M., DiGiovine A.S., Tarves S., Patino N., Worrall A., Gregg R., Rossiter G., "Robust PCI monitoring during PWR operation at Southern Nuclear", \(2010\) LWR Fuel Performance Meeting/Top Fuel/WRFPM 2010, pp 210-217](#)
- [7] [Lord J.D., McCormick N.J., Urquhart J.M., Klimaytys G.M., Lingham I.J., "Measuring the static modulus of nuclear graphite from four-point flexural strength tests and DIC", \(2010\) Applied Mechanics and Materials, 24-25, pp 385-390](#)
- [8] [Lawless W.F., Akiyoshi M., Whitton J., Angjellari-Dajci F., Poppeliers C., "A comparative study of stakeholder participation in the cleanup of radioactive wastes in the US, JAPAN and UK", \(2010\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 519-530](#)
- [9] [Hesketh K.W., Worrall A., "Benchmarking UK National Nuclear Laboratory's proliferation resistance assessment methodology", \(2010\) Transactions of the American Nuclear Society, 102, pp 122-123](#)
- [10] [Jennings P., "The benefits and issues of using complementary models at a nuclear reprocessing plant", \(2010\) Proceedings of the 2010 Operational Research Society Simulation Workshop, SW 2010, pp 156-163](#)
- [11] [Thomas G.M., Hesketh K.W., Arm S.T., "The potential of pressurized water reactors for recycle of americium-curium", \(2010\) International Conference on the Physics of Reactors 2010, PHYSOR 2010, 3, pp 1991-2002](#)

- [12] [McDonald L., "New ALARP residues recovery system - Design concept to operation", \(2010\) Transactions of the American Nuclear Society, 103, pp 391](#)
- [13] [Currie R., Gregory C.V., Stuart R.A., "Maximizing the value of the UK's fast reactor knowledge base", \(2010\) Transactions of the American Nuclear Society, 103, pp 586-587](#)
- [14] [Tverberg T., Wiesenack W., Yagnik S.K., Rossiter G., "Behavior of homogeneous and heterogeneous MOX fuel", \(2010\) LWR Fuel Performance Meeting/Top Fuel/WRFPMP 2010, pp 845-851](#)
- [15] [Taylor R., McLachlan F., Sarsfield M., "Plutonium extraction chemistry in diglycolamide based solvents for the GANEX process", \(2010\) Plutonium Futures - The Science 2010, pp 168-169](#)
- [16] [Sarsfield M.J., Taylor R.J., "Raman spectroscopy of plutonium dioxide and related materials", \(2010\) Plutonium Futures - The Science 2010, pp 379-380](#)
- [17] [Steele H., Taylor R.J., "A computational study of the reduction of Pu\(IV\) by hydroxamic acids", \(2010\) Plutonium Futures - The Science 2010, pp 401-402](#)
- [18] [Farfán E.B., Foley T.Q., Jannik G.T., Gladden J.B., Mackenzie D., Stanley S.J., Holmes C.J., Oldham M., Adamovics J., Gordon J.R., Harpring L.J., "RadBall technology testing for hot cell characterization", \(2010\) Decommissioning, Decontamination, and Reutilization Topical Meeting 2010, DD and R 2010, pp 199-200](#)
- [19] [Gregg R., "A United Kingdom nuclear fuel cycle scenario assessment", \(2010\) International Conference on the Physics of Reactors 2010, PHYSOR 2010, 4, pp 3496-3511](#)

Conference Papers - 2009

- [1] [Hudson D., Ni N., Lozano-Perez S., Saxey D., English C., Smith G.D.W., Sykes J., Grovenor C., "The atomic scale structure and chemistry of the zircaloy-4 metal-oxide interface", \(2009\) 14th International Conference on Environmental Degradation of Materials in Nuclear Power Systems Water Reactors 2009, 2, pp 1407-1418](#)
- [2] [Stewart M.W.A., Moricca S.A., Begg B.D., Day R.A., Scales C.R., Maddrell E.R., Eilbeck A.B., "Flexible process options for the immobilisation of residues and wastes containing plutonium", \(2009\) Proceedings of the ICM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp 1453-1460](#)
- [3] [Riley A., Walker S., Gribble N.R., "Composition changes and future challenges for the sellafeld waste vitrification plant", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp 267-273](#)
- [4] [Gribble N.R., Short R., Tumer E., Riley A.D., "The impact of increased waste loading on vitrified HLW quality and durability", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp 283-290](#)
- [5] [Worrall A., DiGiovine A.S., "'ONUS': On-line fuel performance surveillance - Linking Studsvik's CMS with UK NNL'S ENIGMA-B", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 1, pp 626-637](#)
- [6] [Stennett M.C., Hyatt N.C., Reid D.P., Maddrell E.R., Peng N., Jeynes C., Kirkby K.J., Woicik J.C., "Characterisation of ion beam irradiated zirconolite for pu disposition", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp 243-248](#)
- [7] [Von Lensa W., Bradbury D., Cardinal G., Eccles H., Fachinger J., Grambow B., Grave M.J., Marsden B.J., Pina G., "CARBOWASTE: New euratom project on 'treatment and disposal of irradiated graphite and other carbonaceous waste'", \(2009\) 2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 2, pp 677-682](#)
- [8] [Sarsfield M.J., Taylor R.J., Boxall C., Adrieux F., Sims H.E., "Some aspects of neptunium acetohydroxamic acid chemistry under acidic conditions", \(2009\) Radiochimica Acta, 97 \(4-5\), pp 219-222](#)
- [9] [Whitton J., "Stakeholder participation for the legacy ponds and legacy silos \(LP&LS\) Facility at sellafeld, cumbria. UK: The nature and effectiveness of the dialogue", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICM, 2, pp 737-747](#)
- [10] [Dunnett B.F., Gribble N.R., Riley A.D., Steele C.J., "Initial investigation into the vitrification of high molybdenum solids in borosilicate glass", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp 291-298](#)
- [11] [Hyatt N.C., Stennett M., Jenni A., Reid D., Maddrell E.R., "Ceramic formulation and processing design for plutonium disposition", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp 61-66](#)

- [12] [Scales C.R., Maddrell E.R., Dowson M., "Developing ceramic based technology for the immobilisation of waste on the sellafeld site", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 585-592](#)
- [13] [Small J.S., Thompson O.R., "Modelling the spatial and temporal evolution of pH in the cementitious backfill of geological disposal facility", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp 327-332](#)
- [14] [Lawson Y., Steele C.J., Brookes C.M., Sarsfield M.J., "Understanding potential release mechanisms of volatile ruthenium during the vitrification of high level waste", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 859-868](#)
- [15] [Harbottle D., Rhodes D., Fairweather M., Biggs S., "The effect of particle-particle interaction forces on the flow properties of silica slurries", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp 1147-1152](#)
- [16] [Kwong S., Small J., "Reactive transport modelling of the interaction of fission product ground contamination with alkaline and cementitious leachates", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp 1307-1315](#)
- [17] [Kuijper J.C., Petrov B.Y., De Haas J.B.M., Bomboni E., Cerullo N., Lomonaco G., Mazzini G., Bernnat W., Meier A., Van Den Durpel L., Chauvet V., Cetnar J., Girardi E., Somers J., Abram T., Hesketh K., Mignanelli M., Jonnet J., Kloosterman J.L., Trakas C., Shihab S., Toury G., McEachern D., Venneri F., Zakova J., Millington D., Murgatroyd J., Werner H., Nabielek H., Verfondern K., "PU and MA management in thermal htgrs - impact at fuel, reactor and fuel cycle levels", \(2009\) 2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 1, pp 73-81](#)
- [18] [Thomas M., Worrall A., Phillips C., Wells A., "An assessment of the impact of AMCM target rods on the core physics of a PWR", \(2009\) Transactions of the American Nuclear Society, 101, pp 767-769](#)
- [19] [Bolton G., Stanley S., "Measurement of solid-liquid mixtures using electrical tomography measurement techniques", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 215-220](#)
- [20] [Nickson I.D., Boxall C., Jackson A., Whillock G.O.H., "The development of a method for the simultaneous measurement of cerium \(IV\) and chromium \(VI\) species in nitric acid media", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 163-169](#)
- [21] [Dean J., Rossiter D., "Delivering step change improvements to UK low level waste strategy", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp 457-464](#)

- [22] [Deegan D., Scales C., "The role of tetronics plasma vitrification technology in the management and conditioning of nuclear waste", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp 1179-1187](#)
- [23] [Willans M., Galais N., Lennon C., Trivedi D., "ReCLAIM V2.0: Comparison of calculated doses with other assessment tools when emulating contaminated land scenarios", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp 193-198](#)
- [24] [Booth P., Lennon C., "European Network on the determination of site end points for radiologically contaminated land", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp 703-705](#)
- [25] [Spasova L.M., Ojovan M.I., Hayes M., Godfrey H., "Acoustic emission monitoring of cement-based structures immobilising radioactive waste", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp 631-638](#)
- [26] [Brown A., "An overview of the challenges associated with the processing of obsolete UF6 cylinders at the Springfields fuels limited site at preston in the United Kingdom", \(2009\) American Nuclear Society - Nuclear Criticality Safety Division Topical Meeting on Realism, Robustness and the Nuclear Renaissance 2009, pp 115-119](#)
- [27] [Hill D.A., Clemson P.D., "Criticality and fire-fighting - Recent developments at westinghouse, springfields fuels limited", \(2009\) American Nuclear Society - Nuclear Criticality Safety Division Topical Meeting on Realism, Robustness and the Nuclear Renaissance 2009, pp 108-114](#)
- [28] [Thomas M., "UK-titled thorp plutonium stockpile evaluation for potential loading in sizewell 'B' and an AP-1000", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 2, pp 1043-1057](#)
- [29] [Grove C., "Modelling of VENUS reactor configurations 9 and 9/1 using CASMO-4", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 2, pp 820-829](#)
- [30] [Gregg R., "A fuel cycle scenario assessment for the UK covering the next 100 years", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 1, pp 556-574](#)
- [31] [Steele C.J., Scales C., Dunnett B., "Widening the envelope of UK HLW vitrification-experimental studies with high waste loading formulations containing platinoids", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp 141-146](#)
- [32] [Fairhall G.A., "The national nuclear laboratory and collaborative university research in the UK", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp 65-76](#)
- [33] [Basini V., Guillermier P., Michel F., Fütterer M.A., Abram T., De Groot S., Charollais F., Bottomley D., Hiernaut J.-P., Verfondern K., Kissane M., "High-temperature reactor fuel technology in the raphael european project", \(2009\)](#)

[2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 1, pp 297-306](#)

[34] [Wilbraham R.J., Boxall C., Taylor R.J., "Surface decontamination by photocatalysis", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 2, pp 185-193](#)

[35] [Stennett M.C., Hyatt N.C., Reid D.P., Maddrell E.R., Peng N., Jeynes C., Kirkby K.J., Woicik J.C., Ravel B., "Heavy ion implantation combined with grazing incidence X-ray absorption spectroscopy \(GIXAS\): A new methodology for the characterisation of radiation damage in nuclear ceramics", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp 67-72](#)

Conference Papers - 2008

- [1] [Bingham P.A., Hand R.J., Stennett M.C., Hyatt N.C., Harrison M.T., "The use of surrogates in waste immobilization studies: A case study of plutonium", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 421-428](#)
- [2] [Utton C.A., Hayes M., Hill J., Milestone N.B., Sharp J.H., "Effect of temperatures up to 90°C on the early hydration of Portland-blastfurnace slag cements", \(2008\) Journal of the American Ceramic Society, 91 \(3\), pp 948-954](#)
- [3] [Short R., Turner E., Dunnett B., Riley A., "Devitrified and phase separated material found in simulated high level nuclear waste glasses containing Ca and Zn additions", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 261-267](#)
- [4] [Gibb F.G.F., Travis K.P., McTaggart N.A., Burley D., Hesketh K.W., "Modeling temperature distribution around very deep borehole disposals of HLW", \(2008\) Nuclear Technology, 163 \(1\), pp 62-73](#)
- [5] [Guilbert S., Bosland L., Fillet S., Jacquemain D., Clement B., Andreo F., Ducros G., Dickinson S., Herranz L., Ball J., "Formation of organic iodide in the containment in case of a severe accident", \(2008\) Transactions of the American Nuclear Society, 98, pp 291-292](#)
- [6] [Poette C., Brun-Magaud V., Morin F., Dor I., Pignatelli J.-F., Bertrand F., Stainsby R., Pelloni S., Every D., Da Cruz D., "ETDR, the European Union's experimental gas-cooled fast reactor project", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 3, pp 2197-2204](#)
- [7] [Harrison M.T., Scales C.R., "Development of borosilicate glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 405-412](#)
- [8] [Hambley M.J., Dumbill S., Maddrell E.R., Scales C.R., "Characterisation of 20 year old Pu238 -Doped Synroc C", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 373-380](#)
- [9] [Gordon L.E., Milestone N.B., Angus M.J., "The immobilisation of clinoptilolite within cementitious systems", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 135-142](#)
- [10] [Poette C., Garnier J.C., Klein J.C., Morin F., Tosello A., Dor I., Bertrand F., Mitchell C., Every D., Coddington P., "Status of the ETDR design", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp 1198-1207](#)
- [11] [Stennett M.C., Hyatt N.C., Gilbert M., Livens F.R., Maddrell E.R., "Towards a single host phase ceramic formulation for UK plutonium disposition", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 413-420](#)
- [12] [Harrison M.T., Scales C.R., "Durability of borosilicate glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 429-436](#)

- [13] [Rondinella V.V., Serrano-Purroy D., Hiernaut J.-P., Wegen D., Papaioannou D., Barker M., "Grain boundary inventory and instant release fractions for SBR MOX", \(2008\) American Nuclear Society - 12th International High-Level Radioactive Waste Management Conference 2008, 2, pp 418-423](#)
- [14] [Holland D., Parkinson B.G., Islam M.M., Duddridge A., Roderick J.M., Howes A.P., Scales C.R., "NMR investigation of cation distribution in HLW wasteform glass", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 199-206](#)
- [15] [Rushton M.J.D., Grimes R.W., Owens S.L., "Changes to alkali ion content adjacent to crystal-glass interfaces", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 207-213](#)
- [16] [Rugama Y., Blomquist R., Brady Raap M., Briggs B., Gulliford J., Miyoshi Y., Suyama K., Ivanova T., "Overview of the Activities of the OECD/NEA/NSC Working Party on Nuclear Criticality Safety", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 2, pp 1619-1623](#)
- [17] [Banford A.W., Hanson B.C., Scully P.J., Taylor R., "Formulation of engineering design principles for the treatment of irradiated fuel and associated radioactive waste", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp 1017-1023](#)
- [18] [Angus M.J., Butcher E., Godfrey I.H., Milestone N.B., "The role and management of free water in the production of durable radioactive waste products using hydraulic cements", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 117-125](#)
- [19] [Fairhall G.A., "The UK National Nuclear Laboratory and waste management R&D", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 3-13](#)
- [20] [Lozano-Perez S., English C.A., Terachi T., Yamada T., "A multi-scale approach to stress corrosion cracking", \(2008\) NACE - International Corrosion Conference Series](#)
- [21] [Lozano-Perez S., English C.A., Terachi T., Yamada T., "A multi-scale approach to stress corrosion cracking", \(2008\) NACE - International Corrosion Conference Series, pp 084951-084959](#)
- [22] [López-Honorato E., Meadows P.J., Tan J., Xiao P., Marsh G., Abram T., "Fluidized bed chemical vapor deposition of pyrolytic carbon and silicon carbide for very high temperature reactor fuels", \(2008\) Transactions of the American Nuclear Society, 98, pp 988-989](#)
- [23] [Abram T., "A review of cladding corrosion in UK advanced gas-cooled reactors", \(2008\) Transactions of the American Nuclear Society, 98, pp 1175-1176](#)
- [24] [Lewin R.G., Fairhall G.A., Farrant D., "Moving towards industrialisation - the strategy behind the science and engineering of pyrochemistry in Nexia Solutions", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp 1127-1133](#)

- [25] [Bourg S., Caravaca C., Finne J., De Angelis G., Malmbeck R., Lewin B.G., Uhler J., Inoue T., Luca V., Madic C., "Pyrochemistry within Europart Assessment of the Studies on spent fuel treatment processes Collective Work", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp 945-951](#)
- [26] [Von Lensa W., Boucher L., Gonzales E., Greneche D., Gudowski W., Marivoet J., Nabbi R., Odoj R., Zimmerman C.H., "Red-impact: A European research programme to assess the impact of partitioning and transmutation on final nuclear waste disposal", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 4, pp 2564-2573](#)
- [27] [Mills R.W., "Tritium production within thermal reactor nuclear fuel", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp 693-698](#)
- [28] [Hesketh K., Thomas M., Worrall A., "Fuel cycle options and sustainability for new nuclear build in the UK", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 4, pp 3295-3302](#)
- [29] [Small J.S., Lennon C., Kwong S., Scott R.J., "Development and validation of a model of uranium release to groundwater from legacy disposals at the UK Low Level Waste Repository", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 657-664](#)
- [30] [Hastings J.J., "Release behaviour of Sr-90 from hydraulically retrieved ILW sludge", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp 613-620](#)

Conference Papers - 2007

- [1] [Harrison M.T., Scales C.R., Bingham P.A., Hand R.J., "Survey of potential glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2007\) Materials Research Society Symposium Proceedings, 985, pp 151-156](#)
- [2] [Hyatt N.C., Morgan S., Stennett M.C., Scales C.R., Deegan D., "Characterisation of plasma vitrified simulant plutonium contaminated material waste", \(2007\) Materials Research Society Symposium Proceedings, 985, pp 393-398](#)
- [3] [Barker M.A., Stephenson K., Weston R., "The manufacture and performance of homogeneous- microstructure SBR mox fuel", \(2007\) American Nuclear Society - 2007 LWR Fuel Performance/Top Fuel, pp 52-61](#)
- [4] [Stennett M.C., Maddrell E.R., Scales C.R., Livens F.R., Gilbert M., Hyatt N.C., "An evaluation of single phase ceramic formulations for plutonium disposition", \(2007\) Materials Research Society Symposium Proceedings, 985, pp 145-150](#)
- [5] [Fox O.D., Carrott M.J., Gaubert E., Maher C.J., Mason C., Taylor R.J., Woodhead D.A., "Development and validation of process models for minor actinide separations processes using centrifugal contactors", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 182-188](#)
- [6] [Kuijper J.C., Cetnar J., Shihab S., Toury G., Cerullo N., Lomonaco G., Girardi E., Venneri F., Bernnat W., Somers J., Zakova J., Wallenius J., Van Den Durpel L., Abram T., Millington D., Chauvet V., Kloosterman J.L., Jonnet J., Werner H., Trakas C., "PUMA - Plutonium and minor actinides management in thermal high-temperature reactors", \(2007\) Transactions of the American Nuclear Society, 96, pp 750-751](#)
- [7] [Worrall A., Thomas G.M., "Potential plutonium utilisation in UK PWRs using MOX and IMF: AP1000", \(2007\) Transactions of the American Nuclear Society, 96, pp 187-188](#)
- [8] [Stanley S.J., Rhodes D., Jenneson P.M., Gilboy W.B., Simons S.J.R., "Muon imaging 1: Detecting the frequency and location of cosmic ray muon events to enable the development of a muon based imaging system", \(2007\) 5th World Congress in Industrial Process Tomography, pp 585-591](#)
- [9] [Worrall A., Abram T.J., Gregg R.W.H., Hesketh K.W., Palmer I.D., Rossiter G.D., Thomas G.M., "Plutonium utilization options in future UK PWRs using MOX and Inert Matrix Fuels", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 1191-1200](#)
- [10] [Taylor R.J., Fox O.D., Sarsfield M.J., Carrott M.J., Mason C., Woodhead D.A., Maher C.J., Steele H., Koltunov V.S., "Fundamental chemical kinetic and thermodynamic data for purex process models", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 180-181](#)

- [11] [Staicu D., Pagliosa G., Papaioannou D., Rondinella V.V., Cozzo C., Konings R., Walker C.T., Barker M., Weston R., "Thermal diffusivity of homogeneous SBR MOX fuel with a burn-up of 35 MWd/kgHM", \(2007\) American Nuclear Society - 2007 LWR Fuel Performance/Top Fuel, pp 274-282](#)
- [12] [Stanley S.J., Rhodes D., Jenneson P.M., Gilboy W.B., Simons S.J.R., "Muon imaging 2: Two dimensional density mapping using naturally occurring cosmic ray muons", \(2007\) 5th World Congress in Industrial Process Tomography, pp 644-651](#)
- [13] [Murphy S.C., Stanley S.J., Rhodes D., York T.A., "Electrical impedance tomography \(EIT\) imaging of solid-liquid suspensions using vertically deployable sensor electrode arrays", \(2007\) 5th World Congress in Industrial Process Tomography, pp 487-494](#)
- [14] [Kato T., Usami T., Kurata M., Inoue T., Sims H.E., Jenkins J.A., "Chemical reduction of SIM MOX in molten lithium chloride using lithium metal reductant", \(2007\) Zeitschrift fur Naturforschung - Section A Journal of Physical Sciences, 62 \(9\), pp 513-523](#)
- [15] [Harbottle D., Rhodes D., Jones T.F., Biggs S.R., "Remote characterization of the rheological properties of sludges and slurries - Preliminary investigations into a novel in situ sensor", \(2007\) HYDROTRANSPORT 17 - The 17th International Conference on the Hydraulic Transport of Solids, pp 281-290](#)
- [16] [Thomas G.M., Worrall A., "Potential plutonium utilisation in UK PWRs using MOX and IMF; sizewell 'B'", \(2007\) Transactions of the American Nuclear Society, 96, pp 189-190](#)
- [17] [Galea S., Boxall C., Goodall P.S., Woodbury S., "Photocatalytic initiation of electroless deposition", \(2007\) ECS Transactions, 6 \(8\), pp 199-208](#)
- [18] [Stanley S.J., Scully P., "Cosmic rays to acoustics: Non-intrusive monitoring for nuclear applications", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 1822-1830](#)
- [19] [Banfield Z., Banford A.W., Hanson B.C., Scully P.J., "Nuclear processing - A simple cost equation or a complex problem?", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 541-549](#)
- [20] [Westlén D., Norris S., Gonzalez-Romero E.M., Greneche D., Boucher L., Marivoet J., Zimmerman C., Von Lensa W., "Impact of P&T on geological repositories an overview of the euratom red impact project", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp 772-781](#)

Conference Papers - 2006

- [1] [Haque J.N., Mahmud T., Roberts K.J., Rhodes D., "Modeling turbulent flows with free-surface in unbaffled agitated vessels", \(2006\) Industrial and Engineering Chemistry Research, 45 \(8\), pp 2881-2891](#)
- [2] [Sheppard G.P., Hriljac J.A., Maddrell E.R., Hyatt N.C., "Silver zeolites: Iodide occlusion and conversion to sodalite - A potential 129I waste form?", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 775-782](#)
- [3] [Bingham P.A., Hand R.J., Scales C.R., "Immobilisation of simulated plutonium-contaminated material in phosphate glass: An initial scoping study", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 345-352](#)
- [4] [Da Cruz D.F., Hogenbirk A., Bosq J.C., Rimpault G., Prulhiere G., Morris P., Pelloni S., "Neutronic benchmark on the 2400 MW gas-cooled fast reactor design", \(2006\) PHYSOR-2006 - American Nuclear Society's Topical Meeting on Reactor Physics, 2006, pp Cited 8 times](#)
- [5] [Stennett M.C., Hyatt N.C., Maddrell E.R., Gibb F.G.F., Moebus G., Lee W.E., "Microchemical and cristallographic characterisation of fluorite-based ceramic wasteforms", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 623-630](#)
- [6] [Spasova L.M., Ojovan M.I., Scales C.R., "Acoustic emission monitoring of Al corrosion in cemented-based wasteforms", \(2006\) Advanced Materials Research, 13-14, pp 223-230](#)
- [7] [Stennett M.C., Hyatt N.C., Lee W.E., Maddrell E.R., "Processing and characterisation of fluorite-related ceramic wasteforms for immobilisation of actinides", \(2006\) Ceramic Transactions, 176, pp 81-90](#)
- [8] [Soneda N., English C., Server W., "Use of an offset in assessing radiation embrittlement data and predictive models", \(2006\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 2006, pp Cited 3 times](#)
- [9] [Hosking J.G., Newton T.D., Köberl O., Morris P., Goluoglu S., Tombakoglu T., Colak U., Sartori E., "Analysis of an OECD/NEA high-temperature reactor benchmark", \(2006\) PHYSOR-2006 - American Nuclear Society's Topical Meeting on Reactor Physics, 2006, pp Cited 2 times](#)
- [10] [Thomas G.M., Worrall A., "Plutonium utilisation in future UK PWRs", \(2006\) PHYSOR-2006 - American Nuclear Society's Topical Meeting on Reactor Physics, 2006, pp Cited 2 times](#)
- [11] [Hyatt N.C., Stennett M.C., Fiddy S.G., Wellings J.S., Dutton S.S., Maddrell E.R., Connelly A.J., Lee W.E., "Synthesis and characterisation of transition metal substituted barium hollandite ceramics", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 583-590](#)

- [12] [Small J.S., Nykyri M., Paaso N., Hovi U., Itävaara M., Sarlin T., "Testing of a near-field biogeochemical model against data from a large-scale gas generation experiment", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 111-118](#)
- [13] [McTaggart N.A., Gibb F.G.F., Travis K.P., Burley D., Hesketh K.W., "Modelling temperature distribution around very deep borehole disposals of HLW", \(2006\) Proceedings of the 11th International High Level Radioactive Waste Management Conference, IHLRWM, 2006, pp 415-421](#)
- [14] [López Honorato E., Xiao P., Marsh G., Abram T., "Fluidised bed chemical vapour deposition of pyrolytic carbon", \(2006\) Ceramic Engineering and Science Proceedings, 27 \(5\), pp 101-114](#)
- [15] [Ortner S.R., "A microstructure-based probabilistic model for cleavage in RPV steels", \(2006\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 2006, pp Cited 1 time](#)
- [16] [Bolton G.T., Bennett M., Wang M., Qiu C., Wright M., Rhodes D., "On the development of an electrical tomographic system for monitoring the performance of a heavy metal precipitation step during nuclear fuel reprocessing", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [17] [Harbottle D., Tindley A., Rhodes D., Fairweather M., Biggs S., "Bridging the gap: Slurry behaviour from coarse to colloid", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [18] [Simons S.J.R., Pagliai P., Rhodes D., "A novel experimental study of temperature enhanced cohesive interparticle forces", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [19] [Bolton G., Williams R., Stanley S., "Non-intrusive measurement of industrial processes", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [20] [Stanley S.J., Rhodes D., Jenneson P.M., Gilboy W.B., Simons S., "Modelling and detection of cosmic ray muons: The development of a muon imaging system for large shielded storage vessels", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [21] [Harbottle D., Webber G., Fairweather M., Rhodes D., Biggs S., "Applying the quartz crystal microbalance technique to determine the stability of colloidal suspensions", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [22] [Quintanilla M.A.S., Georgef M., Goddard D.T., Semeraz J.T., "Adhesion, friction and wear of particle contacts", \(2006\) AIChE Annual Meeting, Conference Proceedings](#)
- [23] [Roque B., Gregg R., Kilger R., Laugier F., Marimbeau P., Ranta-Aho A., Riffard C., Suyama K., Thro J.F., Yudkevich M., Hesketh K., Sartori E., "International comparison of a depletion calculation benchmark devoted to fuel cycle issues results from the phase 1 dedicated to PWR-UOx fuels", \(2006\) PHYSOR-2006 - American Nuclear Society's Topical Meeting on Reactor Physics, 2006](#)

- [24] [Bankhead M., Good K., Owens S.L., Travis K.P., "Multi-scale simulation of soft material flow", \(2006\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 2006](#)
- [25] [Thornton D.A., Thiruarooran C., Allen D.A., Harris A.M., Holmes C.G., Harvey C.R., "Retrospective measurement of neutron activation within the pressure circuit steelwork of a magnox reactor and comparison with prediction", \(2006\) ASTM Special Technical Publication, 1490 STP, pp 348-355](#)
- [26] [Small J.S., Zimmerman C.H., Parker D.R., Robbins C., Bond A.E., Stevens G.A., "Repository performance assessment and advanced fuel cycle models for input to decision making of options for nuclear waste and resource management", \(2006\) Materials Research Society Symposium Proceedings, 932, pp 235-242](#)

Conference Papers - 2005

- [1] [Day R.A., Moricca S., Stewart M.W.A., Begg B.D., Maddrell E.R., Scales C.R., Gawthorpe N., "Technical demonstration of zirconolite glass-ceramics processed in a hot isostatic press: An option for immobilisation of actinide containing residues at Sellafield", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 664-671](#)
- [2] [Scales C.R., Maddrell E.R., Gawthorpe N., Begg B.D., Moricca S., Day R.A., "Development of a process for the immobilisation of actinide containing residues on the Sellafield site", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 609-615](#)
- [3] [McArthur G.A.H., Tinsley T.P., McKendrick D., "Development of a liquid jet sludge re-suspension model used on pulse jets or jet ballasts", \(2005\) AIChE Annual Meeting, Conference Proceedings, pp 7886-7899](#)
- [4] [Tahar B., Small J., Kwong S., Bond A., Paulley A., "Application of a coupled groundwater flow - Reactive chemical model to a permeable reactive barrier", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 495-500](#)
- [5] [Grundy C.L., Bond A., Watts L.G., Whitton J., Paulley A., "Integrated framework for site end point management", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 1772-1781](#)
- [6] [Maul P.R., Kwong S., Benbow S.J., Paulley A., Bond A., Penfold J.S.S., Robinson P.C., Watson C.E., Walke R.C., Watson S.P., "SimER: An advanced computer code for the simulation of environmental risks associated with site end points", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 475-480](#)
- [7] [Hebditch D.J., Harrison M.T., Streatfield R.E., Stephen C.E., "Applicability of high temperature processes for the treatment of a wide range of Magnox reactor wastes", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 601-608](#)
- [8] [George M., Goddard D.T., "Characterization of the contact between particles by Atomic Force Microscopy \(AFM\)", \(2005\) Powders and Grains 2005 - Proceedings of the 5th International Conference on Micromechanics of Granular Media, 2, pp 1237-1240](#)
- [9] [Thomson J.B., Dowley J.G., "Supporting innovation and acceleration in decommissioning - The impact of operational research methods", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 371-379](#)

- [10] [Pankov A.S., Ojovan M.I., Lee W.E., Scales C.R., "ION-exchange and diffusion parameters of simulant British \(Magnox, 75/25 Blended waste\) and Russian \(K-26\) glasses at 40-60°C", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 637-643](#)
- [11] [Jones T.F., Pachowko A.D., Harbottle D., Rhodes D., Biggs S.R., "Key parameters for retrieval of radioactive waste", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 1962-1967](#)
- [12] [Harbottle D., Pachowko A., Mahmud T., Mason L., McKendrick D., Biggs S., "The study of hydraulic transportation and re-suspension velocity of chalk powder in a small diameter pipe", \(2005\) Proceedings - 10th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'05, 2005, pp 1968-1973](#)