

# Jan Ilavsky

## List of Publications by Year in descending order

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250  
papers

10,448  
citations

50276

46  
h-index

39675

94  
g-index

253  
all docs

253  
docs citations

253  
times ranked

11625  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | <i>irena</i> : tool suite for modeling and analysis of small-angle scattering. <i>Journal of Applied Crystallography</i> , 2009, 42, 347-353.   | 4.5  | 1,337     |
| 2  | Anisotropic self-assembly of spherical polymer-grafted nanoparticles. <i>Nature Materials</i> , 2009, 8, 354-359.   | 27.5 | 925       |
| 3  | <i>Nika</i> : software for two-dimensional data reduction. <i>Journal of Applied Crystallography</i> , 2012, 45, 324-328.   | 4.5  | 757       |
| 4  | Glassy Carbon as an Absolute Intensity Calibration Standard for Small-Angle Scattering. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010, 41, 1151-1158.                                   | 2.2  | 350       |
| 5  | Ultra-small-angle X-ray scattering at the Advanced Photon Source. <i>Journal of Applied Crystallography</i> , 2009, 42, 469-479.  | 4.5  | 260       |
| 6  | “Gel-like” Mechanical Reinforcement in Polymer Nanocomposite Melts. <i>Macromolecules</i> , 2010, 43, 1003-1010.  | 4.8  | 209       |
| 7  | Comprehensive microstructural characterization and predictive property modeling of plasma-sprayed zirconia coatings. <i>Acta Materialia</i> , 2003, 51, 2457-2475.  | 7.9  | 207       |
| 8  | Column Formation in Suspension Plasma-Sprayed Coatings and Resultant Thermal Properties. <i>Journal of Thermal Spray Technology</i> , 2011, 20, 817-828.  | 3.1  | 194       |
| 9  | Protection of organic carbon in soil microaggregates via restructuring of aggregate porosity and filling of pores with accumulating organic matter. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 4725-4744.                             | 3.9  | 157       |
| 10 | Ultra-Small-Angle X-ray Scattering Instrument at the Advanced Photon Source: History, Recent Development, and Current Status. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013, 44, 68-76. | 2.2  | 139       |
| 11 | A Phase Diagram for Polymer-Grafted Nanoparticles in Homopolymer Matrices. <i>Macromolecules</i> , 2012, 45, 4007-4011.   | 4.8  | 135       |
| 12 | SAXS Study of the Nucleation of Glycine Crystals from a Supersaturated Solution. <i>Crystal Growth and Design</i> , 2005, 5, 523-527.   | 3.0  | 133       |
| 13 | Development of combined microstructure and structure characterization facility for <i>in situ</i> and <i>operando</i> studies at the Advanced Photon Source. <i>Journal of Applied Crystallography</i> , 2018, 51, 867-882.                   | 4.5  | 129       |
| 14 | Phase composition and its changes during annealing of plasma-sprayed YSZ. <i>Surface and Coatings Technology</i> , 2000, 127, 120-129.  | 4.8  | 126       |
| 15 | Mitigation of PEM Fuel Cell Catalyst Degradation with Porous Carbon Supports. <i>Journal of the Electrochemical Society</i> , 2019, 166, F198-F207.   | 2.9  | 126       |
| 16 | Microstructural characterization of yttria-stabilized zirconia plasma-sprayed deposits using multiple small-angle neutron scattering. <i>Acta Materialia</i> , 2001, 49, 1661-1675.   | 7.9  | 117       |
| 17 | Monitoring simultaneously the growth of nanoparticles and aggregates by <i>in situ</i> ultra-small-angle x-ray scattering. <i>Journal of Applied Physics</i> , 2005, 97, 054309.  | 2.5  | 113       |
| 18 | Three-Dimensional Coherent X-Ray Diffraction Imaging of a Ceramic Nanofoam: Determination of Structural Deformation Mechanisms. <i>Physical Review Letters</i> , 2008, 101, 055501.   | 7.8  | 106       |

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|----|--|------|-----------|
| 19 | Influence of Spray Angle on the Pore and Crack Microstructure of Plasma-Sprayed Deposits. Journal of the American Ceramic Society, 1997, 80, 733-742.  | 3.8  | 97        |
| 20 | Investigation of the Interaction between Nafion Ionomer and Surface Functionalized Carbon Black Using Both Ultrasmall Angle X-ray Scattering and Cryo-TEM. ACS Applied Materials & Interfaces, 2017, 9, 6530-6538. | 8.0  | 89        |
| 21 | Evolution of the void structure in plasma-sprayed YSZ deposits during heating. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 272, 215-221.             | 5.6  | 88        |
| 22 | Dehydration Effect on the Pore Size, Porosity, and Fractal Parameters of Shale Rocks: Ultrasmall-Angle X-ray Scattering Study. Energy & Fuels, 2014, 28, 6772-6779.  | 5.1  | 84        |
| 23 | Effective pinhole-collimated ultrasmall-angle x-ray scattering instrument for measuring anisotropic microstructures. Review of Scientific Instruments, 2002, 73, 1660-1662.  | 1.3  | 81        |
| 24 | Structure and dispersion of carbon nanotubes. Journal of Applied Crystallography, 2003, 36, 553-557.   | 4.5  | 80        |
| 25 | Size-range analysis of diesel soot with ultra-small angle X-ray scattering. Combustion and Flame, 2004, 137, 63-72.  | 5.2  | 79        |
| 26 | Small-angle X-ray and neutron scattering. Nature Reviews Methods Primers, 2021, 1, .   | 21.2 | 77        |
| 27 | Effect of silica nanoparticles on morphology of segmented polyurethanes. Polymer, 2004, 45, 4285-4295.   | 3.8  | 75        |
| 28 | X-ray scattering and spectroscopy studies on diesel soot from oxygenated fuel under various engine load conditions. Carbon, 2005, 43, 2588-2599.   | 10.3 | 71        |
| 29 | Ultrahigh Molecular Weight Linear Block Copolymers: Rapid Access by Reversible-Deactivation Radical Polymerization and Self-Assembly into Large Domain Nanostructures. Macromolecules, 2016, 49, 3733-3738.        | 4.8  | 70        |
| 30 | Changes in Pore Size Distribution upon Thermal Cycling of TATB-based Explosives Measured by Ultra-Small Angle X-Ray Scattering. Propellants, Explosives, Pyrotechnics, 2006, 31, 466-471.                          | 1.6  | 69        |
| 31 | Super-Stable, Highly Monodisperse Plasmonic Au <sub>500</sub> (SR) <sub>120</sub> Nanocrystals with 500 Gold Atoms: Journal of the American Chemical Society, 2014, 136, 7410-7417.                                | 13.7 | 67        |
| 32 | Assessing the potential for CO <sub>2</sub> adsorption in a subbituminous coal, Huntly Coalfield, New Zealand, using small angle scattering techniques. International Journal of Coal Geology, 2009, 77, 54-68.    | 5.0  | 63        |
| 33 | Investigation of a Catalyst Ink Dispersion Using Both Ultra-Small-Angle X-ray Scattering and Cryogenic TEM. Langmuir, 2010, 26, 19199-19208.   | 3.5  | 62        |
| 34 | In situ mechanical reinforcement of polymer hydrogels via metal-coordinated crosslink mineralization. Nature Communications, 2021, 12, 667.  | 12.8 | 60        |
| 35 | In situ small-angle x-ray scattering study of nanostructure evolution during decomposition of arc evaporated TiAlN coatings. Applied Physics Letters, 2009, 94, .  | 3.3  | 59        |
| 36 | Edible oil structures at low and intermediate concentrations. II. Ultra-small angle X-ray scattering of in situ tristearin solids in triolein. Journal of Applied Physics, 2013, 114, .                            | 2.5  | 59        |

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|----|---|-----|-----------|
| 37 | NIST Standard Reference Material 3600: Absolute Intensity Calibration Standard for Small-Angle X-ray Scattering. <i>Journal of Applied Crystallography</i> , 2017, 50, 462-474.   | 4.5 | 57        |
| 38 | Relationship between Self-Association of Glycine Molecules in Supersaturated Solutions and Solid State Outcome. <i>Physical Review Letters</i> , 2007, 99, 115702.  | 7.8 | 55        |
| 39 | Measurement of carbon condensates using small-angle x-ray scattering during detonation of the high explosive hexanitrostilbene. <i>Journal of Applied Physics</i> , 2015, 117, .  | 2.5 | 55        |
| 40 | Fast-responding bio-based shape memory thermoplastic polyurethanes. <i>Polymer</i> , 2017, 121, 26-37.  | 3.8 | 53        |
| 41 | Measurements of droplet size in shear-driven atomization using ultra-small angle x-ray scattering. <i>International Journal of Multiphase Flow</i> , 2017, 92, 131-139.   | 3.4 | 53        |
| 42 | Dedicated full-field X-ray imaging beamline at Advanced Photon Source. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 582, 77-79. | 1.6 | 52        |
| 43 | Mesoscale evolution of voids and microstructural changes in HMX-based explosives during heating through the $\beta$ - $\gamma$ phase transition. <i>Journal of Applied Physics</i> , 2015, 118, .                                 | 2.5 | 52        |
| 44 | Well-Ordered Polymer Melts with 5 nm Lamellar Domains from Blends of a Disordered Block Copolymer and a Selectively Associating Homopolymer of Low or High Molar Mass. <i>Macromolecules</i> , 2008, 41, 7978-7985.               | 4.8 | 51        |
| 45 | Advanced Microstructural Characterization of Plasma-Sprayed Zirconia Coatings Over Extended Length Scales. <i>Journal of Thermal Spray Technology</i> , 2005, 14, 239-250.  | 3.1 | 50        |
| 46 | Quantification of void networks of as-sprayed and annealed nanostructured yttria-stabilized zirconia (YSZ) deposits manufactured by suspension plasma spraying. <i>Surface and Coatings Technology</i> , 2010, 205, 683-689.      | 4.8 | 50        |
| 47 | Porous Architecture of SPS Thick YSZ Coatings Structured at the Nanometer Scale (~50Ånm). <i>Journal of Thermal Spray Technology</i> , 2010, 19, 198-206.   | 3.1 | 49        |
| 48 | In situ structural characterization of ageing kinetics in aluminum alloy 2024 across angstrom-to-micrometer length scales. <i>Acta Materialia</i> , 2016, 111, 385-398.   | 7.9 | 49        |
| 49 | Thermal Spray Yttria-Stabilized Zirconia Phase Changes during Annealing. <i>Journal of Thermal Spray Technology</i> , 2001, 10, 497-501.  | 3.1 | 47        |
| 50 | Phase structure in segmented polyurethanes having fatty acid-based soft segments. <i>Polymer</i> , 2013, 54, 372-380.   | 3.8 | 47        |
| 51 | Challenges and opportunities in complex materials: silica-reinforced elastomers. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 314, 686-695.   | 2.6 | 46        |
| 52 | Microstructural characterization studies to relate the properties of thermal-spray coatings to feedstock and spray conditions. <i>Surface and Coatings Technology</i> , 2001, 146-147, 544-552.                                   | 4.8 | 44        |
| 53 | Alumina-base plasma-sprayed materialsâ€”Part II: Phase transformations in aluminas. <i>Journal of Thermal Spray Technology</i> , 1997, 6, 439-444.  | 3.1 | 42        |
| 54 | Mechanisms for Lithium Nucleation and Dendrite Growth in Selected Carbon Allotropes. <i>Chemistry of Materials</i> , 2017, 29, 6205-6213.   | 6.7 | 42        |

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|----|--|------|-----------|
| 55 | Advanced neutron and X-ray techniques for insights into the microstructure of EB-PVD thermal barrier coatings. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 426, 43-52.   | 5.6  | 41        |
| 56 | Quantitative Measurement of Nanoparticle Halo Formation around Colloidal Microspheres in Binary Mixtures. <i>Langmuir</i> , 2008, 24, 6504-6508.   | 3.5  | 41        |
| 57 | Microstructure-Property Correlations in Industrial Thermal Barrier Coatings. <i>Journal of the American Ceramic Society</i> , 2004, 87, 1294-1300.   | 3.8  | 40        |
| 58 | High-energy ultra-small-angle X-ray scattering instrument at the Advanced Photon Source. <i>Journal of Applied Crystallography</i> , 2012, 45, 1318-1320.  | 4.5  | 39        |
| 59 | Quantification of void network architectures of suspension plasma-sprayed (SPS) yttria-stabilized zirconia (YSZ) coatings using Ultra-small-angle X-ray scattering (USAXS). <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 528, 91-102. | 5.6  | 37        |
| 60 | Ultra-Small-Angle X-ray Scattering of Polymers. <i>Polymer Reviews</i> , 2010, 50, 59-90.  | 10.9 | 37        |
| 61 | Understanding Solvothermal Crystallization of Mesoporous Anatase Beads by In Situ Synchrotron PXRD and SAXS. <i>Chemistry of Materials</i> , 2014, 26, 4563-4571.  | 6.7  | 37        |
| 62 | Nano-sized precipitate stability and its controlling factors in a NiAl-strengthened ferritic alloy. <i>Scientific Reports</i> , 2015, 5, 16081.  | 3.3  | 37        |
| 63 | Impact of an Emergent Hierarchical Filler Network on Nanocomposite Dynamics. <i>Macromolecules</i> , 2018, 51, 7893-7904.  | 4.8  | 37        |
| 64 | The Microstructure of TATB-Based Explosive Formulations During Temperature Cycling Using Ultra-small-Angle X-ray Scattering. <i>Propellants, Explosives, Pyrotechnics</i> , 2009, 34, 406-414.   | 1.6  | 36        |
| 65 | Mercury intrusion porosimetry of plasma-sprayed ceramic. <i>Journal of Materials Science</i> , 1997, 32, 3925-3932.  | 3.7  | 35        |
| 66 | The Absolute Calibration of a Small-Angle Scattering Instrument with a Laboratory X-ray Source. <i>Journal of Physics: Conference Series</i> , 2010, 247, 012005.  | 0.4  | 34        |
| 67 | In-flight oxidation of high-alloy steels during plasma spraying. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 272, 199-206.   | 5.6  | 33        |
| 68 | Polyphenols Weaken Pea Protein Gel by Formation of Large Aggregates with Diminished Noncovalent Interactions. <i>Biomacromolecules</i> , 2021, 22, 1001-1014.  | 5.4  | 33        |
| 69 | Dispersing Grafted Nanoparticle Assemblies into Polymer Melts through Flow Fields. <i>ACS Macro Letters</i> , 2013, 2, 1051-1055.  | 4.8  | 32        |
| 70 | Mesoscale Effects in Electrochemical Conversion: Coupling of Chemistry to Atomic- and Nanoscale Structure in Iron-Based Electrodes. <i>Journal of the American Chemical Society</i> , 2014, 136, 6211-6214.  | 13.7 | 32        |
| 71 | Duplex Precipitates and Their Effects on the Room-temperature Fracture Behaviour of a NiAl-Strengthened Ferritic Alloy. <i>Materials Research Letters</i> , 2015, 3, 128-134.  | 8.7  | 31        |
| 72 | Quantification of the coarsening kinetics of $\text{Ni}_3\text{Al}$ precipitates in Waspaloy microstructures with different prior homogenizing treatments. <i>Acta Materialia</i> , 2009, 57, 4658-4670.   | 7.9  | 30        |

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|----|---|-----|-----------|
| 73 | Location and distribution of inorganic material in a low ash yield, subbituminous coal. <i>International Journal of Coal Geology</i> , 2012, 94, 173-181.   | 5.0 | 30        |
| 74 | Ordered array of $\text{TiO}_2$ particles in $\text{TiO}_2$ -Ti matrix studied by small-angle X-ray scattering. <i>Acta Materialia</i> , 2014, 81, 71-82.   | 7.9 | 30        |
| 75 | Time- $\infty$ connectivity superposition and the gel/glass duality of weak colloidal gels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .                                       | 7.1 | 30        |
| 76 | Low-temperature structural phase transition and incommensurate lattice modulation in the spin-gap compound $\text{BaCuSi}_2\text{O}_6$ . <i>Physical Review B</i> , 2006, 73, .   | 3.2 | 28        |
| 77 | Selective imaging of nano-particle contrast agents by a single-shot x-ray diffraction technique. <i>Optics Express</i> , 2010, 18, 13271.   | 3.4 | 28        |
| 78 | Effects of Ink Formulation on Construction of Catalyst Layers for High-Performance Polymer Electrolyte Membrane Fuel Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 37004-37013.                                      | 8.0 | 28        |
| 79 | Effect of chemical structure on the volume-phase transition in neutral and weakly charged poly(N-alkyl(meth)acrylamide) hydrogels studied by ultrasmall-angle x-ray scattering. <i>Journal of Chemical Physics</i> , 2006, 124, 234911. | 3.0 | 27        |
| 80 | Thermoplastic polyurethanes with controlled morphology based on methylenediphenyl diisocyanate/isosorbide/butanediol hard segments. <i>Polymer International</i> , 2015, 64, 1607-1616.   | 3.1 | 27        |
| 81 | Experimental and Computational Investigation of Subcritical Near-Nozzle Spray Structure and Primary Atomization in the Engine Combustion Network Spray D. <i>SAE International Journal of Fuels and Lubricants</i> , 0, 11, 337-352.    | 0.2 | 27        |
| 82 | Porous architecture and thermal properties of thermal barrier coatings deposited by suspension plasma spray. <i>Surface and Coatings Technology</i> , 2020, 386, 125462.  | 4.8 | 27        |
| 83 | Mechanical reinforcement of polymer nanocomposites: theory and ultra-small angle X-ray scattering (USAXS) studies. <i>Soft Matter</i> , 2011, 7, 2725.  | 2.7 | 26        |
| 84 | Hydration kinetics and morphology of cement pastes with pozzolanic volcanic ash studied via synchrotron-based techniques. <i>Journal of Materials Science</i> , 2018, 53, 1743-1757.  | 3.7 | 26        |
| 85 | Structural Characterization of RDX-Based Explosive Nanocomposites. <i>Propellants, Explosives, Pyrotechnics</i> , 2013, 38, 386-393.  | 1.6 | 25        |
| 86 | Effects of Ionic Strength, Salt, and pH on Aggregation of Boehmite Nanocrystals: Tumbler Small-Angle Neutron and X-ray Scattering and Imaging Analysis. <i>Langmuir</i> , 2018, 34, 15839-15853.  | 3.5 | 25        |
| 87 | Polychromatic microdiffraction analysis of defect self-organization in shock deformed single crystals. <i>International Journal of Plasticity</i> , 2009, 25, 2081-2093.  | 8.8 | 24        |
| 88 | Quantification of the physical structure of fats in 20 minutes: Implications for formulation. <i>Lipid Technology</i> , 2014, 26, 223-226.  | 0.3 | 24        |
| 89 | Characterization of zein assemblies by ultra-small-angle X-ray scattering. <i>Soft Matter</i> , 2017, 13, 3053-3060.  | 2.7 | 24        |
| 90 | <i>In situ</i> ultra-small-angle X-ray scattering study of the solution-mediated formation and growth of nanocrystalline ceria. <i>Journal of Applied Crystallography</i> , 2008, 41, 918-929.  | 4.5 | 23        |

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|-----|--|------|-----------|
| 91  | Atomic Structure of Au <sub>329</sub> (SR) <sub>84</sub> Faradaurate Plasmonic Nanomolecules. Journal of Physical Chemistry C, 2015, 119, 11260-11266.   | 3.1  | 23        |
| 92  | Reference diffraction patterns, microstructure, and pore-size distribution for the copper (II) benzene-1,3,5-tricarboxylate metal organic framework (Cu-BTC) compounds. Powder Diffraction, 2015, 30, 2-13.  | 0.2  | 23        |
| 93  | Supported Silver Nanoparticle and Near-Interface Solution Dynamics in a Deep Eutectic Solvent. Journal of Physical Chemistry C, 2016, 120, 1534-1545.  | 3.1  | 23        |
| 94  | An <i>in situ</i> USAXS/SAXS/WAXS study of precipitate size distribution evolution in a model Ni-based alloy. Journal of Applied Crystallography, 2017, 50, 734-740.   | 4.5  | 23        |
| 95  | Ultrasound-based formation of nano-Pickering emulsions investigated via in-situ SAXS. Journal of Colloid and Interface Science, 2019, 536, 281-290.  | 9.4  | 23        |
| 96  | Lattice strain and damage evolution of 9%Cr ferritic/martensitic steel during in situ tensile test by X-ray diffraction and small angle scattering. Journal of Nuclear Materials, 2010, 407, 10-15.          | 2.7  | 22        |
| 97  | Analysis of textural properties of CaO-based CO <sub>2</sub> sorbents by ex situ USAXS. Chemical Engineering Journal, 2019, 355, 760-776.  | 12.7 | 22        |
| 98  | Femtosecond quantification of void evolution during rapid material failure. Science Advances, 2020, 6, .   | 10.3 | 22        |
| 99  | Development of ultra-small-angle X-ray scattering/X-ray photon correlation spectroscopy. Journal of Applied Crystallography, 2011, 44, 200-212.  | 4.5  | 21        |
| 100 | Enhancement of scattering and reflectance properties of plasma-sprayed alumina coatings by controlling the porosity. Surface and Coatings Technology, 2013, 220, 80-84.                                      | 4.8  | 21        |
| 101 | Structural and dynamical studies of acid-mediated conversion in amorphous-calcium-phosphate based dental composites. Dental Materials, 2014, 30, 1113-1125.  | 3.5  | 21        |
| 102 | Programmable Anisotropy and Percolation in Supramolecular Patchy Particle Gels. ACS Nano, 2020, 14, 17018-17027.   | 14.6 | 21        |
| 103 | Rapid structural and chemical characterization of ternary phase diagrams using synchrotron radiation. Journal of Materials Research, 2003, 18, 2522-2527.  | 2.6  | 20        |
| 104 | Phase behavior of SEBS triblock copolymer gels. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 1479-1491.  | 2.1  | 20        |
| 105 | A thermal model to describe kinetic dispersion in rubber nanocomposites: The effect of mixing time on dispersion. Polymer, 2019, 175, 272-282.   | 3.8  | 19        |
| 106 | Mechanisms of Ti <sub>3</sub> Al precipitation in hcp Ti. Acta Materialia, 2021, 212, 116811.  | 7.9  | 19        |
| 107 | Structure of Low-Density Nanoporous Dielectrics Revealed by Low-Vacuum Electron Microscopy and Small-Angle X-ray Scattering. Langmuir, 2007, 23, 353-356.  | 3.5  | 18        |
| 108 | Nanocrystallization in spark plasma sintered Fe <sub>48</sub> Cr <sub>15</sub> Mo <sub>14</sub> Y <sub>2</sub> C <sub>15</sub> B <sub>6</sub> bulk amorphous alloy. Journal of Applied Physics, 2013, 114, . | 2.5  | 18        |



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|-----|---|------|-----------|
| 109 | Characterization of porosity in sulfide ore minerals: A USANS/SANS study. <i>American Mineralogist</i> , 2014, 99, 2398-2404.   | 1.9  | 18        |
| 110 | Thermoplastic polyurethanes with isosorbide chain extender. <i>Journal of Applied Polymer Science</i> , 2015, 132, .  | 2.6  | 18        |
| 111 | Use of small-angle X-ray scattering to resolve intracellular structure changes of <i>Escherichia coli</i> cells induced by antibiotic treatment. <i>Journal of Applied Crystallography</i> , 2016, 49, 2210-2216.   | 4.5  | 18        |
| 112 | Resolving Detonation Nanodiamond Size Evolution and Morphology at Sub-Microsecond Timescales during High-Explosive Detonations. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19153-19164.  | 3.1  | 18        |
| 113 | Correlating inter-particle forces and particle shape to shear-induced aggregation/fragmentation and rheology for dilute anisotropic particle suspensions: A complementary study via capillary rheometry and in-situ small and ultra-small angle X-ray scattering. <i>Journal of Colloid and Interface Science</i> , 2020, 576, 47-58. | 9.4  | 18        |
| 114 | Fast nanoparticle rotational and translational diffusion in synovial fluid and hyaluronic acid solutions. <i>Science Advances</i> , 2021, 7, .  | 10.3 | 18        |
| 115 | Heat accelerates degradation of $\beta$ -lactoglobulin fibrils at neutral pH. <i>Food Hydrocolloids</i> , 2022, 124, 107291.  | 10.7 | 18        |
| 116 | Water-Barrier Properties of Mixed Bis[trimethoxysilylpropyl]amine and Vinyltriacetoxysilane Films. <i>Journal of Physical Chemistry B</i> , 2007, 111, 7041-7051.   | 2.6  | 17        |
| 117 | Application of USAXS analysis and non-interacting approximation to determine the influence of process parameters and ageing on the thermal conductivity of electron-beam physical vapor deposited thermal barrier coatings. <i>Surface and Coatings Technology</i> , 2007, 201, 4781-4788.  | 4.8  | 17        |
| 118 | Microstructural evolution of 7wt.% $\text{Y}_2\text{O}_3\text{-ZrO}_2$ thermal barrier coatings due to stress relaxation at elevated temperatures and the concomitant changes in thermal conductivity. <i>Surface and Coatings Technology</i> , 2010, 205, 57-65.   | 4.8  | 17        |
| 119 | Wellbore Cement Porosity Evolution in Response to Mineral Alteration during CO <sub>2</sub> Flooding. <i>Environmental Science &amp; Technology</i> , 2017, 51, 692-698.  | 10.0 | 17        |
| 120 | The effects of burial diagenesis on multiscale porosity in the St. Peter Sandstone: An imaging, small-angle, and ultra-small-angle neutron scattering analysis. <i>Marine and Petroleum Geology</i> , 2018, 92, 352-371.  | 3.3  | 17        |
| 121 | Multiscale operando X-ray investigations provide insights into electro-chemo-mechanical behavior of lithium intercalation cathodes. <i>Applied Energy</i> , 2021, 299, 117315.  | 10.1 | 17        |
| 122 | Depth-Resolved Porosity Investigation of EB-PVD Thermal Barrier Coatings Using High-Energy X-rays. <i>Journal of the American Ceramic Society</i> , 2004, 87, 268-274.  | 3.8  | 16        |
| 123 | Self-assembly of carbon black into nanowires that form a conductive three dimensional micronetwork. <i>Applied Physics Letters</i> , 2007, 90, 014101.  | 3.3  | 16        |
| 124 | High-temperature multifunctional magnetoactive nickel graphene polyimide nanocomposites. <i>Polymer</i> , 2013, 54, 2776-2784.  | 3.8  | 16        |
| 125 | Quantification of Dispersion for Weakly and Strongly Correlated Nanofillers in Polymer Nanocomposites. <i>Macromolecules</i> , 2020, 53, 2235-2248.   | 4.8  | 16        |
| 126 | Spatial heterogeneity analyses of pore structure and mineral composition of Barnett Shale using X-ray scattering techniques. <i>Marine and Petroleum Geology</i> , 2021, 134, 105354.   | 3.3  | 16        |



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|-----|---|-----|-----------|
| 127 | Characterization of the closed porosity in plasma-sprayed alumina. <i>Journal of Materials Science</i> , 1997, 32, 3407-3410.   | 3.7 | 15        |
| 128 | Extended hierarchical solvent perturbations from curved surfaces of mesoporous silica particles in a deep eutectic solvent. <i>Journal of Colloid and Interface Science</i> , 2018, 520, 81-90.   | 9.4 | 15        |
| 129 | Extended range X-ray pair distribution functions. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2020, 955, 163318.   | 1.6 | 15        |
| 130 | Influence of Silane Coupling Agents on Filler Network Structure and Stress-Induced Particle Rearrangement in Elastomer Nanocomposites. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 47891-47901.   | 8.0 | 15        |
| 131 | Particle size analysis and characterization of nanodiamond dispersions in water and dimethylformamide by various scattering and diffraction methods. <i>Journal of Nanoparticle Research</i> , 2020, 22, 1.   | 1.9 | 15        |
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