

Josef W Zwanziger

List of Publications by Year in descending order

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115
papers

7,773
citations

117625

34
h-index

49909

87
g-index

118
all docs

118
docs citations

118
times ranked

8134
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | The Relative Thermodynamic Stability of Diamond and Graphite. <i>Angewandte Chemie</i> , 2021, 133, 1570-1573. | 2.0 | 0 |
| 2 | A New Solid-State Proton Conductor: The Salt Hydrate Based on Imidazolium and 12-Tungstophosphate. <i>Journal of the American Chemical Society</i> , 2021, 143, 13895-13907. | 13.7 | 28 |
| 3 | The Relative Thermodynamic Stability of Diamond and Graphite. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 1546-1549. | 13.8 | 8 |
| 4 | The Abinitproject: Impact, environment and recent developments. <i>Computer Physics Communications</i> , 2020, 248, 107042. | 7.5 | 369 |
| 5 | The Czjzek distribution in solid-state NMR: Scaling properties of central and satellite transitions. <i>Journal of Non-Crystalline Solids</i> , 2020, 550, 120383. | 3.1 | 14 |
| 6 | ABINIT: Overview and focus on selected capabilities. <i>Journal of Chemical Physics</i> , 2020, 152, 124102. | 3.0 | 179 |
| 7 | Solid-state nuclear magnetic resonance investigation of synthetic phlogopite and lepidolite samples. <i>Magnetic Resonance in Chemistry</i> , 2020, 58, 1099-1108. | 1.9 | 0 |
| 8 | The influence of intermetallic ordering on wear and indentation properties of TiC-Ni3Al cermets. <i>Wear</i> , 2019, 426-427, 390-400. | 3.1 | 18 |
| 9 | Network Connectivity and Crystallization in the Transparent Ferroelectric Nanocomposite LaBGeO ₅ . <i>Journal of Physical Chemistry C</i> , 2019, 123, 11860-11873. | 3.1 | 8 |
| 10 | Understanding the elastic and thermal response in TiC-based ceramic-metal composite systems: First-principles and mechanical studies. <i>Journal of Alloys and Compounds</i> , 2019, 789, 712-719. | 5.5 | 13 |
| 11 | Nuclear Magnetic Resonance and Electron Paramagnetic Resonance Studies of Glass. <i>Springer Handbooks</i> , 2019, , 955-995. | 0.6 | 2 |
| 12 | Tuning the creep rates of binary Al alloys by considering the effects of the stacking faults, alloying elements, and elastic moduli: a first-principles study. <i>Canadian Journal of Chemistry</i> , 2018, 96, 755-759. | 1.1 | 0 |
| 13 | ¹²⁵ Te NMR Probes of Tellurium Oxide Crystals: Shielding-Structure Correlations. <i>Inorganic Chemistry</i> , 2018, 57, 892-898. | 4.0 | 14 |
| 14 | Zero stress-optic bismuth oxide-based glass. <i>Journal of Non-Crystalline Solids</i> , 2018, 479, 82-89. | 3.1 | 16 |
| 15 | Anisotropic stress in laser-written LaBGeO ₅ glass-ceramic composites. <i>Journal of Applied Physics</i> , 2018, 124, . | 2.5 | 2 |
| 16 | Structural Differences between the Glass and Crystal Forms of the Transparent Ferroelectric Nanocomposite, LaBGeO ₅ , from Neutron Diffraction and NMR Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2018, 122, 20963-20980. | 3.1 | 10 |
| 17 | Short-Range Structure of TeO ₂ Glass. <i>Journal of Physical Chemistry C</i> , 2017, 121, 28117-28124. | 3.1 | 30 |
| 18 | Computation of NMR observables: Consequences of projector-augmented wave sphere overlap. <i>Solid State Nuclear Magnetic Resonance</i> , 2016, 80, 14-18. | 2.3 | 4 |

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|----|--|-----|-----------|
| 19 | Nanoindentation Study of the Surface of Ion-Exchanged Lithium Silicate Glass. Journal of Physical Chemistry C, 2016, 120, 5585-5598. | 3.1 | 11 |
| 20 | Recent developments in the ABINIT software package. Computer Physics Communications, 2016, 205, 106-131. | 7.5 | 662 |
| 21 | Elasto-Optic Coefficients of Borate, Phosphate, and Silicate Glasses: Determination by Brillouin Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 21802-21810. | 3.1 | 10 |
| 22 | Relationships between elastic anisotropy and thermal expansion in $A_{23}MO_{12}$ materials. Physical Chemistry Chemical Physics, 2016, 18, 30652-30661. | 2.8 | 21 |
| 23 | Designing glass with non-dispersive stress-optic response. Journal of Non-Crystalline Solids, 2016, 433, 82-86. | 3.1 | 10 |
| 24 | Self-Assembled Gyroidal Mesoporous Polymer-Derived High Temperature Ceramic Monoliths. Chemistry of Materials, 2016, 28, 2131-2137. | 6.7 | 29 |
| 25 | Topological constraints and the Makishima-Mackenzie model. Journal of Non-Crystalline Solids, 2015, 429, 20-23. | 3.1 | 19 |
| 26 | The heat capacities of thermomiotic ScF_3 and ScF_3 - YF_3 solid solutions. Journal of Materials Science, 2015, 50, 3409-3415. | 3.7 | 24 |
| 27 | Temperature dependent lattice misfit and coherency of Al_3X ($X = Sc, Zr, Ti$ and Nb) particles in an Al matrix. Acta Materialia, 2015, 89, 109-115. | 7.9 | 80 |
| 28 | Zero Thermal Expansion in $ZrMgMo_3O_{12}$: NMR Crystallography Reveals Origins of Thermoelastic Properties. Chemistry of Materials, 2015, 27, 2633-2646. | 6.7 | 90 |
| 29 | Relating ^{139}La Quadrupolar Coupling Constants to Polyhedral Distortion in Crystalline Structures. Journal of Physical Chemistry C, 2015, 119, 25508-25517. | 3.1 | 15 |
| 30 | Crystal and Electronic Structures of Complex Bismuth Iodides $A_3Bi_2I_9$ ($A = K, Rb, Cs$) Related to Perovskite: Aiding the Rational Design of Photovoltaics. Chemistry of Materials, 2015, 27, 7137-7148. | 6.7 | 413 |
| 31 | YMo_3 | 3.2 | 34 |
| 32 | Correlating structure with stress-optic response in non-oxide glasses. Journal of Non-Crystalline Solids, 2014, 404, 1-6. | 3.1 | 4 |
| 33 | Elastic properties of ternary $(Al_x, Mg_{1-x})Sc$ random alloys from first principles methods. Journal of Alloys and Compounds, 2014, 610, 138-142. | 5.5 | 6 |
| 34 | On the mechanical properties of lead borate glass. Journal of Non-Crystalline Solids, 2013, 381, 29-34. | 3.1 | 29 |
| 35 | Compositional dependence of the stress-optic response in zinc tellurite glasses. Journal of Non-Crystalline Solids, 2013, 381, 48-53. | 3.1 | 17 |
| 36 | Multinuclear NMR Study of Zinc Dicyanide. Zeitschrift Fur Physikalische Chemie, 2012, 226, 1205-1218. | 2.8 | 8 |

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|----|--|------|-----------|
| 37 | Generalized Routes to Mesostructured Silicates with High Metal Content. Zeitschrift Fur Physikalische Chemie, 2012, 226, 1219-1228. | 2.8 | 6 |
| 38 | Structure and properties of NaPO ₃ •ZnO•Nb ₂ O ₅ •Al ₂ O ₃ glasses. Journal of Non-Crystalline Solids, 2012, 358, 1795-1805. | 3.1 | 32 |
| 39 | Finite homogeneous electric fields in the projector augmented wave formalism: Applications to linear and nonlinear response. Computational Materials Science, 2012, 58, 113-118. | 3.0 | 16 |
| 40 | A silica sol-gel design strategy for nanostructured metallic materials. Nature Materials, 2012, 11, 460-467. | 27.5 | 112 |
| 41 | Structural aspects of the photoelastic response in lead borate glasses. Journal of Non-Crystalline Solids, 2011, 357, 2120-2125. | 3.1 | 42 |
| 42 | Density-operator theory of orbital magnetic susceptibility in periodic insulators. Physical Review B, 2011, 84, . | 3.2 | 30 |
| 43 | Correlation of Structure and Photoelastic Response in Tin Phosphate Glass. International Journal of Applied Glass Science, 2011, 2, 282-289. | 2.0 | 15 |
| 44 | A ⁴³ Ca and ¹³ C NMR study of the chemical interaction between poly(ethylene vinyl acetate) and white cement during hydration. Solid State Nuclear Magnetic Resonance, 2011, 40, 78-83. | 2.3 | 9 |
| 45 | Design and applications of an in situ electrochemical NMR cell. Journal of Magnetic Resonance, 2011, 208, 136-147. | 2.1 | 41 |
| 46 | Correlation of network structure with devitrification mechanism in lithium and sodium diborate glasses. Journal of Non-Crystalline Solids, 2010, 356, 2641-2644. | 3.1 | 16 |
| 47 | First-principles study of the nuclear quadrupole resonance parameters and orbital ordering in LaTiO_3 . Physical Review B, 2009, 79, . | 3.2 | 10 |
| 48 | Computation of Mössbauer isomer shifts from first principles. Journal of Physics Condensed Matter, 2009, 21, 195501. | 1.8 | 13 |
| 49 | ABINIT: First-principles approach to material and nanosystem properties. Computer Physics Communications, 2009, 180, 2582-2615. | 7.5 | 2,297 |
| 50 | Structural investigation of bismuth borate glasses and crystalline phases. Journal of Non-Crystalline Solids, 2009, 355, 45-53. | 3.1 | 102 |
| 51 | Structural Similarity on Multiple Length Scales and Its Relation to Devitrification Mechanism: A Solid-State NMR Study of Alkali Diborate Glasses and Crystals. Journal of Physical Chemistry C, 2009, 113, 20725-20732. | 3.1 | 22 |
| 52 | First-Principles Calculation of Electric Field Gradients in Metals, Semiconductors, and Insulators. Applied Magnetic Resonance, 2008, 33, 447-456. | 1.2 | 18 |
| 53 | Amorphous orientation and its relationship to processing stages of blended polypropylene/polyethylene fibers. Journal of Applied Polymer Science, 2008, 108, 4047-4057. | 2.6 | 10 |
| 54 | Glass-former/glass-modifier interactions and the stress-optic response. Journal of Non-Crystalline Solids, 2008, 354, 79-83. | 3.1 | 8 |

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|----|--|-----|-----------|
| 55 | Observable effects of mechanical stress induced by sample spinning in solid state nuclear magnetic resonance. <i>Journal of Chemical Physics</i> , 2008, 128, 052304. | 3.0 | 12 |
| 56 | Intermediate-Range Order of Alkali Disilicate Glasses and Its Relation to the Devitrification Mechanism. <i>Journal of Physical Chemistry C</i> , 2008, 112, 6151-6159. | 3.1 | 23 |
| 57 | Zero stress-optic barium tellurite glass. <i>Journal of Non-Crystalline Solids</i> , 2007, 353, 1662-1664. | 3.1 | 23 |
| 58 | Phonon dispersion and Grüneisen parameters of zinc dicyanide and cadmium dicyanide from first principles: Origin of negative thermal expansion. <i>Physical Review B</i> , 2007, 76, . | 3.2 | 62 |
| 59 | Zero-Stress Optic Glass without Lead. <i>Chemistry of Materials</i> , 2007, 19, 286-290. | 6.7 | 67 |
| 60 | Composition and Morphology Control in Ordered Mesosstructured High-Temperature Ceramics from Block Copolymer Mesophases. <i>Macromolecular Chemistry and Physics</i> , 2007, 208, 2096-2108. | 2.2 | 22 |
| 61 | Solid Polymer Single-Ion Conductors: Synthesis and Properties. <i>Chemistry of Materials</i> , 2006, 18, 708-715. | 6.7 | 39 |
| 62 | A Neutron Scattering and Nuclear Magnetic Resonance Study of the Structure of GeO ₂ -P ₂ O ₅ Glasses. <i>Journal of Physical Chemistry B</i> , 2006, 110, 20123-20128. | 2.6 | 30 |
| 63 | Stress, strain, and NMR. <i>Solid State Nuclear Magnetic Resonance</i> , 2006, 29, 113-118. | 2.3 | 13 |
| 64 | Residual internal stress in partially crystallized photothermorefractive glass: Evaluation by nuclear magnetic resonance spectroscopy and first principles calculations. <i>Journal of Applied Physics</i> , 2006, 99, 083511. | 2.5 | 21 |
| 65 | The NMR response of boroxol rings: a density functional theory study. <i>Solid State Nuclear Magnetic Resonance</i> , 2005, 27, 5-9. | 2.3 | 25 |
| 66 | ¹⁷ O NMR Spectroscopy of Li^+TeO_2 and Na_2TeO_3 . <i>Journal of the American Ceramic Society</i> , 2005, 88, 2325-2327. | 3.8 | 3 |
| 67 | Spectral Similarity of Bridging and Nonbridging Oxygen in Tellurites.. <i>ChemInform</i> , 2005, 36, no. | 0.0 | 0 |
| 68 | On the Spectral Similarity of Bridging and Nonbridging Oxygen in Tellurites. <i>Journal of Physical Chemistry A</i> , 2005, 109, 7636-7641. | 2.5 | 17 |
| 69 | Structural Study of Inorganic Oxides in a Hybrid Organic-Inorganic Solid Polymer Electrolyte. <i>Journal of Physical Chemistry B</i> , 2004, 108, 5851-5858. | 2.6 | 9 |
| 70 | Powder second-harmonic generation study of (K ₂ O) ₁₅ (Nb ₂ O ₅) ₁₅ (TeO ₂) ₇₀ glass ceramic. <i>Applied Physics Letters</i> , 2004, 85, 938-939. | 3.3 | 31 |
| 71 | Design of organic-inorganic solid polymer electrolytes: synthesis, structure, and properties. <i>Journal of Materials Chemistry</i> , 2004, 14, 1812-1820. | 6.7 | 51 |
| 72 | Dependence of Conductivity on the Interplay of Structure and Polymer Dynamics in a Composite Polymer Electrolyte. <i>Journal of Physical Chemistry B</i> , 2004, 108, 918-928. | 2.6 | 12 |

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|----|--|------|-----------|
| 73 | Structure and properties of Ge _{2.5} PS _x glasses. <i>Journal of Non-Crystalline Solids</i> , 2004, 333, 28-36. | 3.1 | 7 |
| 74 | The crystalline phase of (K ₂ O) ₁₅ (Nb ₂ O ₅) ₁₅ (TeO ₂) ₇₀ glass ceramic is a polymorph of K ₂ Te ₄ O ₉ . <i>Journal of Non-Crystalline Solids</i> , 2004, 337, 48-53. | 3.1 | 8 |
| 75 | Functional Polymer Colloids with Ordered Interior. <i>Langmuir</i> , 2004, 20, 1100-1110. | 3.5 | 4 |
| 76 | The Structure of GeS ₂ -P ₂ S ₅ Glasses.. <i>ChemInform</i> , 2003, 34, no. | 0.0 | 0 |
| 77 | Non-adiabatic rapid passage. <i>Chemical Physics Letters</i> , 2003, 375, 429-434. | 2.6 | 12 |
| 78 | The glass forming ability of tellurites: a rigid polytope approach. <i>Journal of Non-Crystalline Solids</i> , 2003, 316, 273-280. | 3.1 | 15 |
| 79 | Controlled Synthesis of Novel Metalated Poly(aminoethyl)-(aminopropyl)silsesquioxane Colloids. <i>Langmuir</i> , 2003, 19, 7071-7083. | 3.5 | 22 |
| 80 | The Structure of GeS ₂ -P ₂ S ₅ Glasses. <i>Journal of Physical Chemistry B</i> , 2002, 106, 11093-11101. | 2.6 | 18 |
| 81 | Synthesis of Metal-Loaded Poly(aminoethyl)(aminopropyl)silsesquioxane Colloids and Their Self-Organization into Dendrites. <i>Nano Letters</i> , 2002, 2, 873-876. | 9.1 | 26 |
| 82 | Optical Implications of Crystallite Symmetry and Structure in Potassium Niobate Tellurite Glass Ceramics. <i>Chemistry of Materials</i> , 2002, 14, 4422-4429. | 6.7 | 21 |
| 83 | Solid Hybrid Polymer Electrolyte Networks: Nano-Structurable Materials for Lithium Batteries. <i>Advanced Materials</i> , 2002, 14, 1134. | 21.0 | 44 |
| 84 | Structure and Ionic Interactions of Organic-Inorganic Composite Polymer Electrolytes Studied by Solid-State NMR and Raman Spectroscopy. <i>Solid State Nuclear Magnetic Resonance</i> , 2002, 22, 235-246. | 2.3 | 14 |
| 85 | The Structure of Alkali Tellurite Glasses. <i>Journal of Physical Chemistry B</i> , 2001, 105, 67-75. | 2.6 | 99 |
| 86 | Platinum-Containing Hyper-Cross-Linked Polystyrene as a Modifier-Free Selective Catalyst for l-Sorbose Oxidation. <i>Journal of the American Chemical Society</i> , 2001, 123, 10502-10510. | 13.7 | 116 |
| 87 | Nanostructured Inorganic-Organic Composites as a Basis for Solid Polymer Electrolytes with Enhanced Properties. <i>Chemistry of Materials</i> , 2001, 13, 3678-3684. | 6.7 | 84 |
| 88 | The structure of tellurite glass: a combined NMR, neutron diffraction, and X-ray diffraction study. <i>Journal of Non-Crystalline Solids</i> , 2000, 274, 1-8. | 3.1 | 79 |
| 89 | The ring structure of boron trioxide glass. <i>Journal of Non-Crystalline Solids</i> , 2000, 261, 282-286. | 3.1 | 47 |
| 90 | Investigation of Sodium Distribution in Phosphate Glasses Using Spin-Echo ²³ Na NMR. <i>Journal of Physical Chemistry B</i> , 2000, 104, 1464-1472. | 2.6 | 28 |

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|-----|--|------|-----------|
| 91 | Off-angle correlation spectroscopy applied to spin-1/2 and quadrupolar nuclei. Solid State Nuclear Magnetic Resonance, 1999, 13, 245-254. | 2.3 | 35 |
| 92 | Borate Glass Structure Probed with Dynamic Angle Spinning NMR. ACS Symposium Series, 1999, , 242-255. | 0.5 | 0 |
| 93 | Structure, Mobility, and Interface Characterization of Self-Organized Organic-Inorganic Hybrid Materials by Solid-State NMR. Journal of the American Chemical Society, 1999, 121, 5727-5736. | 13.7 | 156 |
| 94 | Structure and chemical modification in oxide glasses. International Reviews in Physical Chemistry, 1998, 17, 65-90. | 2.3 | 27 |
| 95 | Sodium distribution in sodium tellurite glasses probed with spin-echo NMR. Physical Review B, 1997, 56, 5243-5249. | 3.2 | 33 |
| 96 | Crystal Structures of Potassium Tetratellurite, K ₂ Te ₄ O ₉ , and Potassium Ditellurite, K ₂ Te ₂ O ₅ , and Structural Trends in Solid Alkali Tellurites. Inorganic Chemistry, 1997, 36, 5559-5564. | 4.0 | 42 |
| 97 | Crystal Structure of Sodium Ditellurite, Na ₄ Te ₄ O ₁₀ .. Acta Chemica Scandinavica, 1997, 51, 118-121. | 0.7 | 21 |
| 98 | High Resolution and Multidimensional Nuclear Magnetic Resonance Probes of Glass Structure. , 1997, , 245-254. | | 0 |
| 99 | Intermediate Range Order in Sodium Tellurite Glasses. Materials Research Society Symposia Proceedings, 1996, 455, 405. | 0.1 | 0 |
| 100 | Network Modification in Potassium Borate Glasses: Structural Studies with NMR and Raman Spectroscopies. The Journal of Physical Chemistry, 1996, 100, 16720-16728. | 2.9 | 99 |
| 101 | A Comparison of Strategies for Obtaining High-Resolution NMR Spectra of Quadrupolar Nuclei. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1996, 51, 321-329. | 1.5 | 25 |
| 102 | Short-and Intermediate-Range Structural Ordering in Glassy Boron Oxide. Science, 1995, 269, 1416-1420. | 12.6 | 132 |
| 103 | On the Formation of Tetracoordinate Boron in Rubidium Borate Glasses. Journal of the American Chemical Society, 1995, 117, 1397-1402. | 13.7 | 43 |
| 104 | Crystal Structure and Sodium Environments in Sodium Tetratellurite, Na ₂ Te ₄ O ₉ , and Sodium Tellurite, Na ₂ TeO ₃ , by X-ray Crystallography and Sodium-23 NMR. Chemistry of Materials, 1994, 6, 1884-1889. | 6.7 | 43 |
| 105 | Multiple boron sites in borate glass detected with dynamic angle spinning nuclear magnetic resonance. Journal of Non-Crystalline Solids, 1994, 168, 293-297. | 3.1 | 125 |
| 106 | Theoretical aspects of higher-order truncations in solid-state nuclear magnetic resonance. Journal of Chemical Physics, 1992, 97, 8947-8960. | 3.0 | 98 |
| 107 | Measuring the geometric component of the transition probability in a two-level system. Physical Review A, 1991, 43, 3232-3240. | 2.5 | 60 |
| 108 | Quantization of a classical analog for the E ₂ -Jahn-Teller system at intermediate couplings. Journal of Chemical Physics, 1989, 90, 2357-2362. | 3.0 | 5 |

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|-----|--|------|-----------|
| 109 | Oxygen-17 NMR in solids by dynamic-angle spinning and double rotation. Nature, 1989, 339, 42-43. | 27.8 | 244 |
| 110 | Structure and dynamics of $3s\sigma^2$ cyclopropane: A very fluxional multimode Jahn-Teller system. Journal of Chemical Physics, 1988, 89, 4012-4022. | 3.0 | 11 |
| 111 | New Information on the Structure and Dynamics of Molecular Cations from Experiments on The Spectroscopy of Polyatomic Rydberg States. , 1988, , 293-307. | | 0 |
| 112 | Topological phase in molecular bound states: Application to the $E\tilde{g}-e$ system. Journal of Chemical Physics, 1987, 87, 2954-2964. | 3.0 | 125 |
| 113 | Assignment of the vibronic level structure of trimeric copper (Cu_3) ground state. The Journal of Physical Chemistry, 1986, 90, 3298-3301. | 2.9 | 29 |
| 114 | Fractional Quantization of Molecular Pseudorotation in Na_3 . Physical Review Letters, 1986, 56, 2598-2601. | 7.8 | 293 |
| 115 | Semiclassical quantization of a classical analog for the Jahn-Teller $E\tilde{g}-e$ system. Journal of Chemical Physics, 1986, 85, 2089-2098. | 3.0 | 26 |