Leslie G Butler

List of Publications by Year
in descending order

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102 papers	2,068 citations	279798 23 h-index	276875 41 g-index
104 all docs	104 docs citations	104 times ranked	1912 citing authors

#	Article	IF	Citations
1	Heavy Metal Stabilization in Municipal Solid Waste Combustion Dry Scrubber Residue Using Soluble Phosphate. Environmental Science & Technology, 1997, 31, 3330-3338.	10.0	162
2	Immobilization mechanisms in solidifiction/stabilization of cadmium and lead salts using portland cement fixing agents. Environmental Science & Technology, 1990, 24, 867-873.	10.0	129
3	29Si and 27Al MAS-NMR of NaOH-Activated Blast-Furnace Slag. Journal of the American Ceramic Society, 1994, 77, 2363-2368.	3.8	96
4	Translational symmetries in the linear-chain semiconductors K4[Pt2(P2O5H2)4X].cntdot.nH2O (X = Cl,) Tj ETQq0 0 0 rgBT /Overlock 10	13.7	82
5	Nuclear quadrupole coupling constants and hydrogen bonding. Molecular orbital study of oxygen-17 and deuterium field gradients in formaldehyde-water hydrogen bonding. Journal of the American Chemical Society, 1981, 103, 6541-6549.	13.7	78
6	Spectroscopic properties and redox chemistry of the phosphorescent excited state of octahydrotetrakis(phosphorus pentoxide)diplatinate(4-) ion (Pt2(P2O5)4H84-). Journal of the American Chemical Society, 1981, 103, 7796-7797.	13.7	77
7	Structural Characterization of MAO and Related Aluminum Complexes. 1. Solid-State27Al NMR with Comparison to EFG Tensors from ab Initio Molecular Orbital Calculations. Journal of the American Chemical Society, 2001, 123, 12009-12017.	13.7	69
8	Metal-metal interactions in binuclear platinum(II) diphosphite complexes. Resonance Raman spectra of the 1A1g(d.sigma.*)2 and 3A2u(d.sigma.*p.sigma.) electronic states of tetrakis(diphosphonato)diplatinate(4-) ion (Pt2(P2O5H2)44-). Journal of the American Chemical Society, 1983, 105, 5492-5494.	13.7	60
9	Immobilization of As, Cd, Cr and PB-containing soils by using cement or pozzolanic fixing agents. Journal of Hazardous Materials, 1990, 24, 145-155.	12.4	60
10	Methyaluminoxane (MAO) Polymerization Mechanism and Kinetic Model from Ab Initio Molecular Dynamics and Electronic Structure Calculations. Journal of the American Chemical Society, 2006, 128, 16816-16826.	13.7	51
11	Chemistry and spectroscopy of binuclear platinum diphosphite complexes. Inorganic Chemistry, 1985, 24, 4662-4665.	4.0	50
12	Single-Crystal 27Al NMR of Andalusite and Calculated Electric Field Gradients:â€‰ the First Complete NMR Assignment for a 5-Coordinate Aluminum Site. Journal of Physical Chemistry A, 1999, 103, 5246-5252.	2.5	48
13	Characterization and phosphate stabilization of dusts from the vitrification of MSW combustion residues. Waste Management, 1998, 18, 513-524.	7.4	46
14	Deuterium nuclear quadrupole resonance spectra of nonlinear hydrogen bonds. Journal of the American Chemical Society, 1982, 104, 1172-1177.	13.7	43
15	High-resolution neutron microtomography with noiseless neutron counting detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 652, 400-403.	1.6	42
16	The structure of the cornified claw sheath in the domesticated cat (Felis catus): implications for the clawâ€shedding mechanism and the evolution of cornified digital end organs. Journal of Anatomy, 2009, 214, 620-643.	1.5	40
17	Petrographic and spectroscopic characterization of phosphate-stabilized mine tailings from Leadville, Colorado. Waste Management, 2002, 22, 117-135.	7.4	39
18	Neutron imaging of a commercial Li-ion battery during discharge: Application of monochromatic imaging and polychromatic dynamic tomography. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 651, 320-328.	1.6	38

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19	Porosity detection in electron beam-melted Ti-6Al-4V using high-resolution neutron imaging and grating-based interferometry. Progress in Additive Manufacturing, 2017, 2, 125-132.	4.8	36
20	Structure of LiNO3: Point Charge Model and Sign of the 7Li Quadrupole Coupling Constant. Inorganic Chemistry, 1994, 33, 1363-1365.	4.0	32
21	Improved algorithm for processing grating-based phase contrast interferometry image sets. Review of Scientific Instruments, 2014, 85, 013704.	1.3	31
22	Protonâ€poor, galliumâ€and indiumâ€loaded zeolite dehydrogenation catalysts. Catalysis Letters, 1998, 53, 111-118.	2.6	27
23	Oxygen-17 nuclear quadrupole double resonance. 6. Effects of hydrogen bonding. The Journal of Physical Chemistry, 1981, 85, 2738-2740.	2.9	26
24	NMR imaging of anisotropic solid-state chemical reactions using multiple-pulse line-narrowing techniques and proton T1 weighting. Journal of the American Chemical Society, 1992, 114, 125-135.	13.7	24
25	A broadband nuclear magnetic resonance spectrometer: Digital phase shifting and flexible pulse programmer. Review of Scientific Instruments, 1993, 64, 1235-1238.	1.3	24
26	Unusual asymmetry of methyl deuterium EFG in thymine: a solid state deuterium NMR and ab initio MO study. Journal of the American Chemical Society, 1987, 109, 2525-2526.	13.7	23
27	Three-Dimensional Chemical Analysis with Synchrotron Tomography at Multiple X-ray Energies:Â Brominated Aromatic Flame Retardant and Antimony Oxide in Polystyrene. Chemistry of Materials, 2004, 16, 4032-4042.	6.7	23
28	Olefin Rotation in the Solid State: A 13C, 1H, and 2H NMR Study of Rh(acac)(C2H4)2. Journal of the American Chemical Society, 1994, 116, 7445-7446.	13.7	21
29	INTERPRETATION OF ELECTRIC FIELD GRADIENTS AT DEUTERIUM AS MEASURED BY SOLID-STATE NMR SPECTROSCOPY. Journal of Coordination Chemistry, 1994, 32, 121-134.	2.2	21
30	Structural Characterization of Al10O6iBu16(Î¼-H)2, a High Aluminum Content Cluster:Â Further Studies of Methylaluminoxane (MAO) and Related Aluminum Complexes. Inorganic Chemistry, 2007, 46, 44-47.	4.0	21
31	Neutron interferometry detection of early crack formation caused by bending fatigue in additively manufactured SS316 dogbones. Materials and Design, 2018, 140, 420-430.	7.0	21
32	Observation of bridging and terminal metal hydrides by solid-state deuterium NMR spectroscopy: application to bis(cyclopentadienyl)zirconium dideuteride. Inorganic Chemistry, 1987, 26, 1381-1383.	4.0	20
33	Generation of binuclear (d8.d8)p.sigma. platinum and rhodium complexes by pulse radiolysis. Journal of the American Chemical Society, 1984, 106, 5143-5145.	13.7	19
34	High resolution three-dimensional visualization and characterization of coronary atherosclerosisin vitroby synchrotron radiation x-ray microtomography and highly localized x-ray diffraction. Physics in Medicine and Biology, 2002, 47, 4345-4356.	3.0	19
35	Deuterium quadrupole coupling constants and asymmetry parameters in metal hydrides: calculations of model systems representing three modes of metal-hydrogen bonding. Inorganic Chemistry, 1987, 26, 3001-3004.	4.0	18
36	Rotation of the cyclopentadienyl ligand in bis(.mu.-carbonyl)bis(carbonylcyclopentadienyliron)(Fe-Fe) in the solid state as determined from solid-state deuterium NMR spectroscopy. Inorganic Chemistry, 1990, 29, 741-747.	4.0	18

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37	Solid-state deuterium NMR spectroscopy of d5-phenol in white portland cement: a new method for assessing solidification/stabilization. Environmental Science & Technology, 1993, 27, 1426-1433.	10.0	17
38	Deuterium quadrupole coupling constants and asymmetry parameters in bridging metal hydride complexes. Journal of the American Chemical Society, 1991, 113, 9090-9096.	13.7	16
39	Pulsed 81Br Nuclear Quadrupole Resonance Spectroscopy of Brominated Flame Retardants and Associated Polymer Blends. Chemistry of Materials, 1998, 10, 1291-1300.	6.7	16
40	27Al field-swept and frequency-stepped NMR for sites with large quadrupole coupling constants. Solid State Nuclear Magnetic Resonance, 2000, 16, 63-67.	2.3	16
41	Karplus-type relationship for quadrupole coupling constants and asymmetry parameters for substituted acetic acids. Journal of the American Chemical Society, 1988, 110, 343-347.	13.7	15
42	Bond Breaking in the Chemical Vapor Deposition Precursor (1,1,1,5,5,5-Hexafluoro-2,4-pentanedionato)(.eta.2-1,5-cyclooctadiene)copper(I) Studied by Variable-Temperature X-ray Crystallography and Solid-State NMR Spectroscopy. Chemistry of Materials, 1994, 6, 587-595.	6.7	15
43	Solid-State2H MAS NMR Studies of TNT Absorption in Soil and Clays. Environmental Science & Technology, 2001, 35, 2973-2978.	10.0	15
44	The 10B and 11B nuclear quadrupole resonance spectra of boric acid. Journal of Magnetic Resonance, 1981, 42, 120-131.	0.5	14
45	15 T, 4.2 K field-swept 27Al NMR spectroscopy. Chemical Physics Letters, 1994, 221, 65-67.	2.6	14
46	Synchrotron X-ray Microtomography, Electron Probe Microanalysis, and NMR of Toluene Waste in Cement. Environmental Science & Technology, 2000, 34, 3269-3275.	10.0	13
47	Synchrotron X-ray microtomography, X-ray absorption near edge structure, extended X-ray absorption fine structure, and voxel imaging of a cobaltâ€“zeolite-Y complex. Materials Research Bulletin, 2001, 36, 1595-1602.	5.2	12
48	Carbon-13 NMR chemical shielding tensor of the bridging methylene unit in cis-(.mu.-CH2)(.mu.-CO)[FeCp(CO)]2. Journal of the American Chemical Society, 1991, 113, 4831-4838.	13.7	11
49	Nonlinear least-squares fitting procedure for solid-state NMR powder patterns. Concepts in Magnetic Resonance, 1992, 4, 205-226.	1.3	11
50	High-field 19.6T 27Al solid-state MAS NMR of in vitro aluminated brain tissue. Journal of Magnetic Resonance, 2004, 170, 257-262.	2.1	11
51	Determination of the charge on carbon in a bridging methylene iron dimer with solid-state deuterium NMR spectroscopy. Journal of the American Chemical Society, 1987, 109, 5529-5531.	13.7	10
52	Solid-state carbon-13 NMR chemical shift tensors in square-planar tetracyanometalates (M = nickel,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	4.0	10
53	Tools and strategies for processing diffusion-ordered 2D NMR spectroscopy (DOSY) of a broad, featureless resonance: an application to methylaluminoxane (MAO). Analytical and Bioanalytical Chemistry, 2004, 378, 1574-1578.	3.7	10
54	Neutron Radiography, Tomography, and Diffraction of Commercial Lithium-ion Polymer Batteries. Physics Procedia, 2013, 43, 331-336.	1.2	10

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55	Neutron Imaging of Laser Melted SS316 Test Objects with Spatially Resolved Small Angle Neutron Scattering. Journal of Imaging, 2017, 3, 58.	3.0	10
56	Strengthening spatial reasoning: elucidating the attentional and neural mechanisms associated with mental rotation skill development. Cognitive Research: Principles and Implications, 2020, 5, 20.	2.0	10
57	Transient spectroscopy of the lowest excited states of binuclear rhodium(I) isocyanides. The Journal of Physical Chemistry, 1986, 90, 5567-5570.	2.9	9
58	Structures of three related biphenyl compounds: 4,4'-biphenyldiol, 3,3',5,5'-tetra-tert-butyl-4,4'-biphenyldiol, and 3,3',5,5'-tetra-tert-butyl-1,1'-bicyclohexa-2,5-dienylidene-4,4'-dione. Acta Crystallographica Section C: Crystal Structure Communications, 1990, 46, 919-922.	0.4	9
59	Multiple pulse NMR imaging of polymers and chemistry. Magnetic Resonance Imaging, 1992, 10, 789-791.	1.8	9
60	11B imaging with field-cycling NMR as a line narrowing technique. Chemical Physics Letters, 1993, 206, 464-466.	2.6	9
61	Field-Cycling 14N NQR Imaging with Spatial and Frequency Resolution. Journal of Magnetic Resonance Series A, 1995, 112, 92-95.	1.6	9
62	Automated, Web-Based, Second-Chance Homework. Journal of Chemical Education, 2001, 78, 1704.	2.3	9
63	A microtomography beamline at the Louisiana State University Center for Advanced Microstructures and Devices synchrotron. Review of Scientific Instruments, 2002, 73, 1521-1523.	1.3	8
64	Algorithms for three-dimensional chemical analysis via multi-energy synchrotron X-ray tomography. Nuclear Instruments & Methods in Physics Research B, 2007, 262, 117-127.	1.4	8
65	Analysis of Flame Retardancy in Polymer Blends by Synchrotron X-ray K-edge Tomography and Interferometric Phase Contrast Movies. Journal of Physical Chemistry B, 2016, 120, 2612-2624.	2.6	8
66	Early detection of fracture failure in SLM AM tension testing with Talbot-Lau neutron interferometry. Additive Manufacturing, 2018, 22, 658-664.	3.0	8
67	Structure of 4-nitrobenzaldehyde. Acta Crystallographica Section C: Crystal Structure Communications, 1989, 45, 2016-2018.	0.4	7
68	Synchrotron X-ray Tomography for 3D Chemical Distribution Measurement of a Flame Retardant and Synergist in a Fiberglass-Reinforced Polymer Blend. Journal of Physical Chemistry B, 2010, 114, 2-9.	2.6	7
69	Synchrotron X-ray tomography for 3D chemical diffusion measurement of a flame retardant in polystyrene. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 582, 202-204.	1.6	6
70	Ab Initio Calculation of 81Br Nuclear Quadrupole Resonance Transition Frequencies for Brominated Aromatics (Flame Retardants). Journal of Physical Chemistry A, 1999, 103, 8088-8092.	2.5	5
71	Development of grating-based x-ray Talbot interferometry at the advanced photon source. AIP Conference Proceedings, 2012, , .	0.4	5
72	Edge Enhancement in Cold Neutron Imaging: A Comparison of Experiments at Edges and Interfaces with Ray-tracing based on Refraction and Reflection. Physics Procedia, 2013, 43, 149-160.	1.2	5

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73	Highâ€power radio frequency irradiation system with automatic tuning. Review of Scientific Instruments, 1982, 53, 984-988.	1.3	4
74	Structure of a new polymorph of cis-[(Î¼-CH2)(Î¼-CO){Fe(Î·5-C5H5)CO}2]. Acta Crystallographica Section C: Crystal Structure Communications, 1992, 48, 644-650.	0.4	4
75	Low-temperature (4.2 K) 23Na and 27Al swept-field nuclear magnetic resonance spectroscopy of zeolites: observation of framework and non-framework aluminum sites. Microporous Materials, 1995, 4, 265-271.	1.6	4
76	Zeeman-effect studies of the electronic absorption spectrum of octachlorodirhenate(2â^') (Reî—½Re) in pulsed 50-Tesla magnetic fields. Inorganica Chimica Acta, 1996, 243, 309-316.	2.4	4
77	Burning Issues in Tomography Analysis. Computing in Science and Engineering, 2008, 10, 78-81.	1.2	4
78	Boron-10 and boron-11 nuclear quadrupole resonance spectrum of decaborane[14]. Journal of Magnetic Resonance, 1985, 65, 472-480.	0.5	3
79	A karplus-type relationship for deuterium quadrupole coupling constants. II. Inequivalent Cî—¸2H sites in substituted acetic acids. Journal of Magnetic Resonance, 1989, 82, 76-85.	0.5	3
80	The Faraday effect in Cd0.57Mn0.43Te in high magnetic field. Physica B: Condensed Matter, 1998, 246-247, 319-322.	2.7	3
81	Imaging tissue structures: assessment of absorption and phase-contrast x-ray tomography imaging at 2ndand 3rdgeneration synchrotrons. , 2006, 6318, 629.		3
82	Real-time observation of hydrogen absorption by LaNi5 with quasi-dynamic neutron tomography. Nuclear Instruments & Methods in Physics Research B, 2014, 324, 95-101.	1.4	3
83	Wavepy - python package for x-ray grating interferometry with applications in imaging and wavefront characterization. AIP Conference Proceedings, 2019, , .	0.4	3
84	Intact, Commercial Lithium-Polymer Batteries: Spatially Resolved Grating-Based Interferometry Imaging, Bragg Edge Imaging, and Neutron Diffraction. Applied Sciences (Switzerland), 2022, 12, 1281.	2.5	3
85	Learning the Student Names in Large Classes: An Application of Multimedia Technology. Journal of Chemical Education, 1995, 72, 610.	2.3	2
86	Chemical systems for exploration of high magnetic field effects. International Journal of Quantum Chemistry, 1997, 64, 607-611.	2.0	2
87	Study of Morphological Changes in MgH2 Destabilized LiBH4 Systems Using Computed X-ray Microtomography. Materials, 2012, 5, 1740-1751.	2.9	2
88	Non-destructive evaluation of additively manufactured polymer objects using X-ray interferometry. Additive Manufacturing, 2018, 24, 364-372.	3.0	2
89	14N nuclear quadrupole resonance study of the nucleotide base pair 1-methylcytosine hemihydroiodide hemihydrate. Journal of Magnetic Resonance, 1981, 44, 483-487.	0.5	1
90	Displaying the results from NMR pulse sequence simulations as stereo diagrams. Journal of Magnetic Resonance, 1991, 91, 396-399.	0.5	1

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91	Data translation from instrument specific to ASCII. Computers & Chemistry, 1992, 16, 71-72.	1.2	1
92	Resolving two inequivalent sites with deuterium MAS NMR. Journal of Magnetic Resonance, 1992, 99, 292-300.	0.5	1
93	Some aspects of data processing for an optical absorption experiment in a pulsed 1000-Tesla magnet. International Journal of Quantum Chemistry, 1998, 70, 797-804.	2.0	1
94	<title>Synchrotron x-ray microtomography and solid state NMR of environmental wastes in cement</title>. , 1999, , .		1
95	The 3D chemical distribution of a flame retardant in a fiberglass-reinforced polymer blend as measured with synchrotron x-ray tomography. , 2006, , .		1
96	Recent applications of X-ray grating interferometry imaging to evaluate flame retardancy performance of brominated flame retardant. Polymer Degradation and Stability, 2017, 138, 1-11.	5.8	1
97	Structure of the tetrahedral cobalt cluster [Co4(Î·5-C5H5)2(CO)7]. Acta Crystallographica Section C: Crystal Structure Communications, 1987, 43, 2283-2285.	0.4	0
98	Quantum jumps in magneto-optical effects and magnetization of rare-earth compounds in ultrahigh magnetic fields. Physica B: Condensed Matter, 1998, 246-247, 315-318.	2.7	0
99	Tomography at the Louisiana State University CAMD synchrotron: applications to polymer blends. , 2002, 4503, 54.		0
100	Algorithms for three-dimensional chemical analysis with multi-energy tomographic data. , 2004, , .		0
101	A New Tomography Beamline at a Wiggler Port at the Center for Advanced Microstructures and Devices (CAMD) Storage Ring. AIP Conference Proceedings, 2007, , .	0.4	0
102	Improving the workflow of tomography studies for the polymer additives industry. , 2012, , .		0