Murugan Ramaswamy

List of Publications by Year
in descending order

98	6,782	94433 37	60623 81
papers	citations	h-index	g-index

99	99	99	5148
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fast Lithium Ion Conduction in Garnetâ€Type Li₇La₃Zr₂O₁₂. Angewandte Chemie - International Edition, 2007, 46, 7778-7781.	13.8	2,453
2	Characterization of the interface between LiCoO2 and Li7La3Zr2O12 in an all-solid-state rechargeable lithium battery. Journal of Power Sources, 2011, 196, 764-767.	7.8	326
3	Lithium garnets: Synthesis, structure, Li + conductivity, Li + dynamics and applications. Progress in Materials Science, 2017, 88, 325-411.	32.8	295
4	High lithium ion conductive Li7La3Zr2O12 by inclusion of both Al and Si. Electrochemistry Communications, 2011, 13, 509-512.	4.7	236
5	Lithium ion transport properties of high conductive tellurium substituted Li7La3Zr2O12 cubic lithium garnets. Journal of Power Sources, 2013, 240, 18-25.	7.8	185
6	High conductive yttrium doped Li7La3Zr2O12 cubic lithium garnet. Electrochemistry Communications, 2011, 13, 1373-1375.	4.7	171
7	Influence of sintering additives on densification and Li⁺ conductivity of Al doped Li₇La₃Zr₂O₁₂ lithium garnet. RSC Advances, 2014, 4, 51228-51238.	3.6	128
8	Structure and Li+ dynamics of Sb-doped Li7La3Zr2O12 fast lithium ion conductors. Physical Chemistry Chemical Physics, 2013, 15, 11327.	2.8	127
9	Performance of dye-sensitized solar cells fabricated with extracts from fruits of ivy gourd and flowers of red frangipani as sensitizers. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2013, 104, 35-40.	3.9	123
10	Effect of Simultaneous Substitution of Y and Ta on the Stabilization of Cubic Phase, Microstructure, and Li⁺ Conductivity of Li₇La₃Zr₂O₁₂ Lithium Garnet. ACS Applied Materials & Interfaces, 2014, 6, 17606-17615.	8.0	104
11	Structure and lithium ion conductivity of bismuth containing lithium garnets Li5La3Bi2O12 and Li6SrLa2Bi2O12. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2007, 143, 14-20.	3.5	95
12	Synthesis of cubic Li7La3Zr2O12 by modified solâ€“gel process. Ionics, 2011, 17, 575-580.	2.4	86
13	Electronic and structural properties of zinc chalcogenides ZnX (X=S, Se, Te). Journal of Alloys and Compounds, 2003, 359, 22-26.	5.5	84
14	Li+ transport properties of W substituted Li7La3Zr2O12 cubic lithium garnets. AIP Advances, 2013, 3, .	1.3	84
15	Thermo-Raman spectroscopic studies on polymorphism in Na2SO4. Journal of Physics Condensed Matter, 2000, 12, 677-700.	1.8	80
16	Electrodes-electrolyte interfacial engineering for realizing room temperature lithium metal battery based on garnet structured solid fast Li+ conductors. Journal of Power Sources, 2018, 396, 764-773.	7.8	80
17	Lithium ion conductivity of Li5+x Ba x La3â^'x Ta2O12 (xâ€‰=â€‰0â€“2) with garnet-related structure in dependence of the barium content. Ionics, 2007, 13, 195-203.	2.4	79
18	Lattice Parameter and Sintering Temperature Dependence of Bulk and Grain-Boundary Conduction of Garnet-like Solid Li-Electrolytes. Journal of the Electrochemical Society, 2008, 155, A90.	2.9	73

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19	Electrochemical performance of a garnet solid electrolyte based lithium metal battery with interface modification. Journal of Materials Chemistry A, 2018, 6, 21018-21028.	10.3	71
20	Optimum lithium-ion conductivity in cubic Li7â^'xLa3Hf2â^'xTaxO12. Journal of Power Sources, 2012, 209, 184-188.	7.8	70
21	Optimization of Lithium Content and Sintering Aid for Maximized Li⁺ Conductivity and Density in Taâ€Doped Li₇La₃Zr₂O₁₂. Journal of the American Ceramic Society, 2015, 98, 2039-2046.	3.8	70
22	Phase transformation studies of ceramic BaTiO[sub 3] using thermo-Raman and dielectric constant measurements. Journal of Applied Physics, 2002, 91, 10038.	2.5	68
23	Structure and lithium ion conductivity of garnet-like Li5La3Sb2O12 and Li6SrLa2Sb2O12. Materials Research Bulletin, 2008, 43, 2579-2591.	5.2	66
24	Facile synthesis of high lithium ion conductive cubic phase lithium garnets for electrochemical energy storage devices. RSC Advances, 2015, 5, 96042-96051.	3.6	53
25	Electronic and structural properties of CuMO2 (M = Al, Ga, In). Journal of Alloys and Compounds, 2005, 388, 19-22.	5.5	52
26	Synthesis and characterization of LiNiyCo1â^'yPO4 (y=0â€“1) cathode materials for lithium secondary batteries. Ionics, 2004, 10, 88-92.	2.4	50
27	Green grasses as light harvesters in dye sensitized solar cells. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2015, 135, 947-952.	3.9	48
28	A brief review of recent advances in garnet structured solid electrolyte based lithium metal batteries. Journal of Energy Storage, 2021, 33, 102157.	8.1	48
29	Thermo-Raman investigations on structural transformations in hydrated MoO3. Journal of Materials Chemistry, 2000, 10, 2157-2162.	6.7	47
30	Lithium garnet based free-standing solid polymer composite membrane for rechargeable lithium battery. Journal of Solid State Electrochemistry, 2018, 22, 2989-2998.	2.5	45
31	Investigation on lithium ion conductivity and structural stability of yttrium-substituted Li7La3Zr2O12. Ionics, 2016, 22, 1281-1289.	2.4	44
32	Investigation on ionic conductivity and Raman spectra of Î³-Bi2MoO6. Physica B: Condensed Matter, 2004, 352, 227-232.	2.7	42
33	Structural, morphological and optical properties of Na and K dual doped CdS thin film. Journal of Alloys and Compounds, 2012, 545, 41-45.	5.5	42
34	Synthesis of lithium garnets from La2Zr2O7 pyrochlore. Solid State Ionics, 2015, 283, 123-130.	2.7	42
35	Characterization of PEG: LiClO4+SrBi4Ti4O15 nanocomposite polymer electrolytes for lithium secondary batteries. Journal of Power Sources, 2005, 149, 90-95.	7.8	39
36	Microwave-assisted rapid synthesis of Fe3O4/poly(styrene-divinylbenzene-acrylic acid) polymeric magnetic composites and investigation of their structural and magnetic properties. European Polymer Journal, 2018, 98, 177-190.	5.4	39

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37	Development of stable and conductive interface between garnet structured solid electrolyte and lithium metal anode for high performance solid-state battery. Electrochimica Acta, 2020, 332, 135511.	5.2	38
38	Studies on thermal hysteresis of KNO3 by thermo-Raman spectroscopy. Thermochimica Acta, 2000, 346, 83-90.	2.7	36
39	Garnet structured solid fast Li+ conductor as polysulfide shuttle inhibitor in Li-S battery. Electrochemistry Communications, 2018, 93, 109-113.	4.7	35
40	Interface-Compatible and High-Cyclability Lithiophilic Lithiumâ€“Zinc Alloy Anodes for Garnet-Structured Solid Electrolytes. ACS Applied Energy Materials, 2020, 3, 9010-9017.	5.1	33
41	Electronic structure and structural phase stability of CuAlX2 (X=S, Se, Te) under pressure. Journal of Physics and Chemistry of Solids, 2006, 67, 669-674.	4.0	31
42	Fast ionic conduction in cubic hafnium garnet Li7La3Hf2O12. Ionics, 2010, 16, 855-858.	2.4	31
43	Thermo-Raman Studies on NaH2PO4Â·2H2O for Dehydration, Condensation, and Phase Transformation. Inorganic Chemistry, 2001, 40, 5917-5923.	4.0	30
44	Metal Coated Polypropylene Separator with Enhanced Surface Wettability for High Capacity Lithium Metal Batteries. Scientific Reports, 2019, 9, 16795.	3.3	30
45	Raman studies on ferroelectric phase (phase III) of KNO3. Journal of Applied Physics, 1999, 86, 6779-6788.	2.5	29
46	Influence of lithium concentration on the structure and Li⁺ transport properties of cubic phase lithium garnets. Dalton Transactions, 2015, 44, 539-552.	3.3	27
47	Synthesis of Cu2O microcrystals with morphological evolution from octahedral to microrod through a simple surfactant-free chemical route. CrystEngComm, 2012, 14, 8338.	2.6	26
48	Dielectric properties of Sr0.8Bi2.2(V0.2Nb0.8)2O9 ceramic. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 127, 224-227.	3.5	25
49	Microstructural engineering in lithium garnets by hot isostatic press to cordon lithium dendrite growth and negate interfacial resistance for all solid state battery applications. Electrochimica Acta, 2019, 312, 320-328.	5.2	25
50	An insight into the origin of room-temperature ferromagnetism in SnO₂ and Mn-doped SnO₂ quantum dots: an experimental and DFT approach. Physical Chemistry Chemical Physics, 2018, 20, 6500-6514.	2.8	24
51	Realization of room temperature lithium metal battery with high Li+ conductive lithium garnet solid electrolyte. Ceramics International, 2019, 45, 22610-22616.	4.8	24
52	Review on the critical issues for the realization of all-solid-state lithium metal batteries with garnet electrolyte: interfacial chemistry, dendrite growth, and critical current densities. Ionics, 2021, 27, 4105-4126.	2.4	24
53	Lithium garnet-cathode interfacial chemistry: inclusive insights and outlook towardÂpractical solid-state lithium metal batteries. Materials Today Energy, 2021, 21, 100804.	4.7	23
54	Room temperature dilute magnetism in nanoscale Co and Zn co-doped SnO2. Superlattices and Microstructures, 2016, 89, 7-14.	3.1	19

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55	Plasma assisted decomposition and reforming of greenhouse gases: A review of current status and emerging trends. Renewable and Sustainable Energy Reviews, 2022, 161, 112343.	16.4	18
56	Coupling of thermogravimetric analysis and thermo-Raman spectroscopy for in situ dynamic thermal analysis. Thermochimica Acta, 2001, 374, 45-49.	2.7	17
57	Ionic conductivity and Raman investigations on the phase transformations of Na4P2O7. Journal of Alloys and Compounds, 2002, 340, 95-100.	5.5	17
58	Investigation of structural changes in the phase transformations of Î³-Bi2MoO6. Journal of Physics Condensed Matter, 2002, 14, 4001-4010.	1.8	16
59	Lithium garnet incorporated 3D electrospun fibrous membrane for high capacity lithium-metal batteries. Materials Today Energy, 2020, 16, 100389.	4.7	16
60	Higher Critical Current Density in Lithium Garnets at Room Temperature by Incorporation of an Li₄SiO₄-Related Glassy Phase and Hot Isostatic Pressing. ACS Applied Energy Materials, 2020, 3, 2737-2743.	5.1	16
61	Thermo-Raman studies on dehydration of Na 3 PO 4 Â·12H 2 O. Thermochimica Acta, 2001, 371, 127-135.	2.7	15
62	Li7-xLa3Sn2-xNbxO12 (x=0.25â€“1) cubic lithium garnet. Materials Letters, 2012, 77, 57-59.	2.6	15
63	XANES, EXAFS, EPR, and First-Principles Modeling on Electronic Structure and Ferromagnetism in Mn Doped SnO₂ Quantum Dots. Journal of Physical Chemistry C, 2019, 123, 3067-3075.	3.1	15
64	Electrospun 3D CNFâ€“SiO2 fabricated using non-biodegradable silica gel as prospective anode for lithiumâ€“ion batteries. Ionics, 2019, 25, 5305-5313.	2.4	15
65	Room temperature magnetoelectric coupling in Fe-doped sodium bismuth titanate ceramics. Journal of Alloys and Compounds, 2020, 830, 154679.	5.5	15
66	Polymer-garnet composite electrolyte based on comb-like structured polymer for lithium-metal batteries. Materials Today Energy, 2021, 21, 100836.	4.7	14
67	Dielectric properties of Sr1â^'XBi2+(2/3)X(VXNb1â^'X)2O9 [X=0.1 and 0.2] ceramics. Ceramics International, 2006, 32, 467-470.	4.8	13
68	Room temperature ferromagnetic properties of Cu2O microcrystals. Journal of Alloys and Compounds, 2013, 579, 572-575.	5.5	13
69	Flexible high Li+ conductive lithium garnetâ€“based dry solid polymer electrolyte membrane with enhanced electrochemical performance for lithium metal batteries. Ionics, 2019, 25, 4703-4711.	2.4	13
70	Genesis and tuning of ferromagnetism in SnO2 semiconductor nanostructures: Comprehensive review on size, morphology, magnetic properties and DFT investigations. Progress in Materials Science, 2022, 130, 100970.	32.8	13
71	Room temperature multiferroicity and magnetoelectric coupling in Na-deficient sodium bismuth titanate. Applied Physics Letters, 2019, 114, 062902.	3.3	12
72	Enhanced electrochemical performance of lithiumâ€“sulphur battery by negating polysulphide shuttling and interfacial resistance through aluminium nanolayer deposition on a polypropylene separator. Ionics, 2019, 25, 1645-1657.	2.4	11

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73	Emerging scenario on displacive cubic bismuth pyrochlores (Bi,M)MNO7-Î´ (M = transition metal, N = Nb,) Tj ETQq1 1 0.784314 rgBT /Ov International, 2020, 46, 14346-14360.	4.8	11
74	Lithium garnet oxide dispersed polymer composite membrane for rechargeable lithium batteries. Ionics, 2017, 23, 541-548.	2.4	10
75	Influence of zirconium doping on structure, microstructure, dielectric and impedance properties of strontium bismuth niobate ceramics. Current Applied Physics, 2014, 14, 407-414.	2.4	9
76	ELECTRONIC STRUCTURE, MAGNETIC ORDERING AND PHASE STABILITY OF LiFeX (X =) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 2013, 27, 1350236.	1.9	8
77	Effect of doping and annealing on the electronic structure and magnetic properties of nanoscale Co and Zn co-doped SnO2: An experimental study and first-principles modeling. Journal of Alloys and Compounds, 2019, 799, 433-441.	5.5	8
78	Phase transition, lithium ion conductivity and structural stability of tin substituted lithium garnets. RSC Advances, 2016, 6, 94706-94716.	3.6	7
79	Advances in Electrolytes for High Capacity Rechargeable Lithium-Sulphur Batteries. Current Smart Materials, 2021, 5, 3-37.	0.5	7
80	Dielectric properties of Sr1+XBi2â^'(2/3)X(VXTa1â^'X)2O9 [, 0.1 and 0.2] ceramics. Physica B: Condensed Matter, 2005, 357, 439-444.	2.7	6
81	First principle study on electronic structure, structural phase stability, optical and vibrational properties of Ba2ScMO6 (M = Nb, Ta). International Journal of Modern Physics B, 2016, 30, 1550246.	2.0	6
82	Room temperature magnetoelectric coupling and relaxor-like multiferroic nature in a biphase of cubic pyrochlore and spinel. Journal of Applied Physics, 2019, 126, 044103.	2.5	6
83	Investigation on electronic structure and magnetic properties of Co and Mn incorporated nanoscale SnO2. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	6
84	Origin and control of room temperature ferromagnetism in Co,Zn-doped SnO₂: oxygen vacancies and their local environment. Journal of Materials Chemistry C, 2020, 8, 4902-4908.	5.5	6
85	Electrochemical characteristics of Ge incorporated Li4Ti5O12 as an anode for Li-ion battery applications. Materials Today Communications, 2021, 27, 102273.	1.9	6
86	First-principle study on lithium intercalated antimonides Ag3Sb and Mg3Sb2. Ionics, 2015, 21, 1351-1361.	2.4	5
87	Displacive disorder and spin frustration hosted multiferroic orders in pyrochloreâ€“spinel composites. Journal of Materials Chemistry C, 2016, 4, 7766-7774.	5.5	5
88	First principle calculations on structural, electronic and transport properties of Li2TiS3 and Li3NbS4 positive electrode materials. Materials for Renewable and Sustainable Energy, 2016, 5, 1.	3.6	5
89	Reviewâ€”Microstructural Modification in Lithium Garnet Solid-State Electrolytes: Emerging Trends. Journal of the Electrochemical Society, 2022, 169, 030548.	2.9	5
90	Morphology controlled synthesis of Fe and Mn co-doped In2O3 nanocubes and their Dopant-Atom effects on electronic structure and magnetic properties. Journal of Magnetism and Magnetic Materials, 2022, 560, 169547.	2.3	5

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91	Synthesis of Cu₂O Nanospheres and Cubes: Their Structural, Optical and Magnetic Properties. Advanced Materials Research, 0, 938, 114-117.	0.3	4
92	Magnetic field-induced switching of magnetic ordering in SrFeO3â^'Î´. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	2
93	Electronic and Thermoelectric Properties of SrTiO3. Current Smart Materials, 2017, 2, .	0.5	2
94	Enhanced magnetic ordering transition temperature and broad dielectric relaxation in iron incorporated intergrown pyrochlore-spinel crystals. Journal of Alloys and Compounds, 2018, 763, 409-420.	5.5	2
95	Tunable magnetocaloric effect in Sr1Ââ^'Âx Ca x Mn0.5Ti0.5O3 perovskites. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	2.3	1
96	Effect of vacancy defects on electronic structure and ferromagnetism in pristine In2O3 nanostructures: An experimental study and first-principles modeling. Materials Research Bulletin, 2022, 152, 111853.	5.2	1
97	Interfacial Engineering for Lithium Metal Batteries Based on Garnet Structured Solid Fast Lithium-Ion Conductors. , 2019, , 241-273.		0
98	(Invited) Interface Engineered Lithium Garnets for Lithium-Metal Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0