

Murugan Ramaswamy

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98
papers

5,170
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32
h-index

71
g-index

99
ext. papers

5,891
ext. citations

5.3
avg, IF

5.96
L-index

#	Paper	IF	Citations
98	Fast lithium ion conduction in garnet-type $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$. <i>Angewandte Chemie - International Edition</i> , 2007 , 46, 7778-81	16.4	1876
97	Characterization of the interface between LiCoO_2 and $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ in an all-solid-state rechargeable lithium battery. <i>Journal of Power Sources</i> , 2011 , 196, 764-767	8.9	253
96	Lithium garnets: Synthesis, structure, Li + conductivity, Li + dynamics and applications. <i>Progress in Materials Science</i> , 2017 , 88, 325-411	42.2	216
95	High lithium ion conductive $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ by inclusion of both Al and Si. <i>Electrochemistry Communications</i> , 2011 , 13, 509-512	5.1	201
94	Lithium ion transport properties of high conductive tellurium substituted $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ cubic lithium garnets. <i>Journal of Power Sources</i> , 2013 , 240, 18-25	8.9	143
93	High conductive yttrium doped $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ cubic lithium garnet. <i>Electrochemistry Communications</i> , 2011 , 13, 1373-1375	5.1	127
92	Schnelle Lithiumionenleitung in granatartigem $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$. <i>Angewandte Chemie</i> , 2007 , 119, 7925-7928	3.6	116
91	Performance of dye-sensitized solar cells fabricated with extracts from fruits of ivy gourd and flowers of red frangipani as sensitizers. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2013 , 104, 35-40	4.4	103
90	Influence of sintering additives on densification and Li^+ conductivity of Al doped $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ lithium garnet. <i>RSC Advances</i> , 2014 , 4, 51228-51238	3.7	99
89	Structure and Li^+ dynamics of Sb-doped $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ fast lithium ion conductors. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 11327-38	3.6	97
88	Structure and lithium ion conductivity of bismuth containing lithium garnets $\text{Li}_5\text{La}_3\text{Bi}_2\text{O}_{12}$ and $\text{Li}_6\text{SrLa}_2\text{Bi}_2\text{O}_{12}$. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2007 , 143, 14-20	3.1	84
87	Effect of simultaneous substitution of Y and Ta on the stabilization of cubic phase, microstructure, and Li^+ conductivity of $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ lithium garnet. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 17606-15	9.5	79
86	Electronic and structural properties of zinc chalcogenides ZnX ($\text{X}=\text{S}, \text{Se}, \text{Te}$). <i>Journal of Alloys and Compounds</i> , 2003 , 359, 22-26	5.7	77
85	Synthesis of cubic $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ by modified sol-gel process. <i>Ionics</i> , 2011 , 17, 575-580	2.7	76
84	Lithium ion conductivity of $\text{Li}_{5+x}\text{Ba}_x\text{La}_3\text{Ta}_2\text{O}_{12}$ ($x = 0-2$) with garnet-related structure in dependence of the barium content. <i>Ionics</i> , 2007 , 13, 195-203	2.7	70
83	Phase transformation studies of ceramic BaTiO_3 using thermo-Raman and dielectric constant measurements. <i>Journal of Applied Physics</i> , 2002 , 91, 10038	2.5	65
82	Thermo-Raman spectroscopic studies on polymorphism in Na_2SO_4 . <i>Journal of Physics Condensed Matter</i> , 2000 , 12, 677-700	1.8	65

81	Lattice Parameter and Sintering Temperature Dependence of Bulk and Grain-Boundary Conduction of Garnet-like Solid Li-Electrolytes. <i>Journal of the Electrochemical Society</i> , 2008 , 155, A90	3.9	64
80	Li+ transport properties of W substituted Li7La3Zr2O12 cubic lithium garnets. <i>AIP Advances</i> , 2013 , 3, 082115	1.5	63
79	Optimum lithium-ion conductivity in cubic Li7La3Hf2TaO12. <i>Journal of Power Sources</i> , 2012 , 209, 184-188	8.9	60
78	Structure and lithium ion conductivity of garnet-like Li5La3Sb2O12 and Li6SrLa2Sb2O12. <i>Materials Research Bulletin</i> , 2008 , 43, 2579-2591	5.1	58
77	Electrodes-electrolyte interfacial engineering for realizing room temperature lithium metal battery based on garnet structured solid fast Li+ conductors. <i>Journal of Power Sources</i> , 2018 , 396, 764-773	8.9	53
76	Optimization of Lithium Content and Sintering Aid for Maximized Li+ Conductivity and Density in Ta-Doped Li7La3Zr2O12. <i>Journal of the American Ceramic Society</i> , 2015 , 98, 2039-2046	3.8	50
75	Synthesis and characterization of LiNiyCo1-yPO4 (y=0-1) cathode materials for lithium secondary batteries. <i>Ionics</i> , 2004 , 10, 88-92	2.7	48
74	Electronic and structural properties of CuMO2 (M = Al, Ga, In). <i>Journal of Alloys and Compounds</i> , 2005 , 388, 19-22	5.7	45
73	Thermo-Raman investigations on structural transformations in hydrated MoO3. <i>Journal of Materials Chemistry</i> , 2000 , 10, 2157-2162		41
72	Electrochemical performance of a garnet solid electrolyte based lithium metal battery with interface modification. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 21018-21028	13	41
71	Green grasses as light harvesters in dye sensitized solar cells. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2015 , 135, 947-52	4.4	40
70	Investigation on ionic conductivity and Raman spectra of Bi2MoO6. <i>Physica B: Condensed Matter</i> , 2004 , 352, 227-232	2.8	38
69	Lithium garnet based free-standing solid polymer composite membrane for rechargeable lithium battery. <i>Journal of Solid State Electrochemistry</i> , 2018 , 22, 2989-2998	2.6	36
68	Characterization of PEG: LiClO4 + SrBi4Ti4O15 nanocomposite polymer electrolytes for lithium secondary batteries. <i>Journal of Power Sources</i> , 2005 , 149, 90-95	8.9	34
67	Microwave-assisted rapid synthesis of Fe3O4/poly(styrene-divinylbenzene-acrylic acid) polymeric magnetic composites and investigation of their structural and magnetic properties. <i>European Polymer Journal</i> , 2018 , 98, 177-190	5.2	33
66	Facile synthesis of high lithium ion conductive cubic phase lithium garnets for electrochemical energy storage devices. <i>RSC Advances</i> , 2015 , 5, 96042-96051	3.7	32
65	Structural, morphological and optical properties of Na and K dual doped CdS thin film. <i>Journal of Alloys and Compounds</i> , 2012 , 545, 41-45	5.7	29
64	Fast ionic conduction in cubic hafnium garnet Li7La3Hf2O12. <i>Ionics</i> , 2010 , 16, 855-858	2.7	29

63	Synthesis of lithium garnets from La ₂ Zr ₂ O ₇ pyrochlore. <i>Solid State Ionics</i> , 2015 , 283, 123-130	3.3	28
62	Electronic structure and structural phase stability of CuAlX ₂ (X=S, Se, Te) under pressure. <i>Journal of Physics and Chemistry of Solids</i> , 2006 , 67, 669-674	3.9	27
61	Studies on thermal hysteresis of KNO ₃ by thermo-Raman spectroscopy. <i>Thermochimica Acta</i> , 2000 , 346, 83-90	2.9	27
60	Garnet structured solid fast Li ⁺ conductor as polysulfide shuttle inhibitor in Li-S battery. <i>Electrochemistry Communications</i> , 2018 , 93, 109-113	5.1	26
59	Investigation on lithium ion conductivity and structural stability of yttrium-substituted Li ₇ La ₃ Zr ₂ O ₁₂ . <i>Ionics</i> , 2016 , 22, 1281-1289	2.7	25
58	Synthesis of Cu ₂ O microcrystals with morphological evolution from octahedral to microrod through a simple surfactant-free chemical route. <i>CrystEngComm</i> , 2012 , 14, 8338	3.3	25
57	Raman studies on ferroelectric phase (phase III) of KNO ₃ . <i>Journal of Applied Physics</i> , 1999 , 86, 6779-6788	2.5	24
56	Thermo-Raman studies on NaH ₂ PO ₄ -H ₂ O for dehydration, condensation, and phase transformation. <i>Inorganic Chemistry</i> , 2001 , 40, 5917-23	5.1	23
55	Development of stable and conductive interface between garnet structured solid electrolyte and lithium metal anode for high performance solid-state battery. <i>Electrochimica Acta</i> , 2020 , 332, 135511	6.7	23
54	Dielectric properties of Sr _{0.8} Bi _{2.2} (V _{0.2} Nb _{0.8}) ₂ O ₉ ceramic. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2006 , 127, 224-227	3.1	22
53	Influence of lithium concentration on the structure and Li ⁺ transport properties of cubic phase lithium garnets. <i>Dalton Transactions</i> , 2015 , 44, 539-52	4.3	21
52	An insight into the origin of room-temperature ferromagnetism in SnO and Mn-doped SnO quantum dots: an experimental and DFT approach. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 6500-6514	3.6	17
51	Room temperature dilute magnetism in nanoscale Co and Zn co-doped SnO ₂ . <i>Superlattices and Microstructures</i> , 2016 , 89, 7-14	2.8	17
50	Microstructural engineering in lithium garnets by hot isostatic press to cordon lithium dendrite growth and negate interfacial resistance for all solid state battery applications. <i>Electrochimica Acta</i> , 2019 , 312, 320-328	6.7	16
49	Interface-Compatible and High-Cyclability Lithiophilic Lithium-Zinc Alloy Anodes for Garnet-Structured Solid Electrolytes. <i>ACS Applied Energy Materials</i> , 2020 , 3, 9010-9017	6.1	16
48	Coupling of thermogravimetric analysis and thermo-Raman spectroscopy for in situ dynamic thermal analysis. <i>Thermochimica Acta</i> , 2001 , 374, 45-49	2.9	15
47	A brief review of recent advances in garnet structured solid electrolyte based lithium metal batteries. <i>Journal of Energy Storage</i> , 2021 , 33, 102157	7.8	14
46	Metal Coated Polypropylene Separator with Enhanced Surface Wettability for High Capacity Lithium Metal Batteries. <i>Scientific Reports</i> , 2019 , 9, 16795	4.9	13

45	Dielectric properties of Sr _{1-x} Bi _{2+(2/3)x} (VxNb _{1-x}) ₂ O ₉ [X=0.1 and 0.2] ceramics. <i>Ceramics International</i> , 2006 , 32, 467-470	5.1	13
44	Thermo-Raman studies on dehydration of Na ₃ PO ₄ · 2H ₂ O. <i>Thermochimica Acta</i> , 2001 , 371, 127-135	2.9	13
43	Ionic conductivity and Raman investigations on the phase transformations of Na ₄ P ₂ O ₇ . <i>Journal of Alloys and Compounds</i> , 2002 , 340, 95-100	5.7	13
42	Realization of room temperature lithium metal battery with high Li ⁺ conductive lithium garnet solid electrolyte. <i>Ceramics International</i> , 2019 , 45, 22610-22616	5.1	12
41	Investigation of structural changes in the phase transformations of Bi ₂ MoO ₆ . <i>Journal of Physics Condensed Matter</i> , 2002 , 14, 4001-4010	1.8	12
40	Li _{7-x} La ₃ Sn _{2-x} Nb _x O ₁₂ (x = 0.25) cubic lithium garnet. <i>Materials Letters</i> , 2012 , 77, 57-59	3.3	11
39	Room temperature ferromagnetic properties of Cu ₂ O microcrystals. <i>Journal of Alloys and Compounds</i> , 2013 , 579, 572-575	5.7	11
38	Lithium garnet incorporated 3D electrospun fibrous membrane for high capacity lithium-metal batteries. <i>Materials Today Energy</i> , 2020 , 16, 100389	7	10
37	Lithium garnet-cathode interfacial chemistry: inclusive insights and outlook toward practical solid-state lithium metal batteries. <i>Materials Today Energy</i> , 2021 , 21, 100804	7	9
36	Electrospun 3D CNFBiO ₂ fabricated using non-biodegradable silica gel as prospective anode for lithium-ion batteries. <i>Ionics</i> , 2019 , 25, 5305-5313	2.7	8
35	Flexible high Li ⁺ conductive lithium garnet-based dry solid polymer electrolyte membrane with enhanced electrochemical performance for lithium metal batteries. <i>Ionics</i> , 2019 , 25, 4703-4711	2.7	8
34	Enhanced electrochemical performance of lithium-sulphur battery by negating polysulphide shuttling and interfacial resistance through aluminium nanolayer deposition on a polypropylene separator. <i>Ionics</i> , 2019 , 25, 1645-1657	2.7	8
33	Higher Critical Current Density in Lithium Garnets at Room Temperature by Incorporation of an Li ₄ SiO ₄ -Related Glassy Phase and Hot Isostatic Pressing. <i>ACS Applied Energy Materials</i> , 2020 , 3, 2737-2743	6.1	8
32	Influence of zirconium doping on structure, microstructure, dielectric and impedance properties of strontium bismuth niobate ceramics. <i>Current Applied Physics</i> , 2014 , 14, 407-414	2.6	8
31	Lithium garnet oxide dispersed polymer composite membrane for rechargeable lithium batteries. <i>Ionics</i> , 2017 , 23, 541-548	2.7	8
30	XANES, EXAFS, EPR, and First-Principles Modeling on Electronic Structure and Ferromagnetism in Mn Doped SnO ₂ Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 3067-3075	3.8	7
29	Dielectric properties of Sr _{1-x} Bi _{2+(2/3)x} (VxTa _{1-x}) ₂ O ₉ [0.1 and 0.2] ceramics. <i>Physica B: Condensed Matter</i> , 2005 , 357, 439-444	2.8	6
28	Phase transition, lithium ion conductivity and structural stability of tin substituted lithium garnets. <i>RSC Advances</i> , 2016 , 6, 94706-94716	3.7	6

27	Advances in Electrolytes for High Capacity Rechargeable Lithium-Sulphur Batteries. <i>Current Smart Materials</i> , 2021 , 5, 3-37	1	6
26	Polymer-garnet composite electrolyte based on comb-like structured polymer for lithium-metal batteries. <i>Materials Today Energy</i> , 2021 , 21, 100836	7	6
25	Effect of doping and annealing on the electronic structure and magnetic properties of nanoscale Co and Zn co-doped SnO ₂ : An experimental study and first-principles modeling. <i>Journal of Alloys and Compounds</i> , 2019 , 799, 433-441	5.7	5
24	Room temperature multiferroicity and magnetoelectric coupling in Na-deficient sodium bismuth titanate. <i>Applied Physics Letters</i> , 2019 , 114, 062902	3.4	5
23	Room temperature magnetoelectric coupling in Fe-doped sodium bismuth titanate ceramics. <i>Journal of Alloys and Compounds</i> , 2020 , 830, 154679	5.7	5
22	Origin and control of room temperature ferromagnetism in Co,Zn-doped SnO ₂ : oxygen vacancies and their local environment. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 4902-4908	7.1	5
21	Displacive disorder and spin frustration hosted multiferroic orders in pyrochlore-spinel composites. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 7766-7774	7.1	5
20	Emerging scenario on displacive cubic bismuth pyrochlores (Bi,M)MNO ₇ - η (M = transition metal, N = Nb, Ta, Sb) in context of their fascinating structural, dielectric and magnetic properties. <i>Ceramics International</i> , 2020 , 46, 14346-14360	5.1	4
19	First principle study on electronic structure, structural phase stability, optical and vibrational properties of Ba ₂ ScMO ₆ (M = Nb, Ta). <i>International Journal of Modern Physics B</i> , 2016 , 30, 1550246	1.1	4
18	Room temperature magnetoelectric coupling and relaxor-like multiferroic nature in a biphasic of cubic pyrochlore and spinel. <i>Journal of Applied Physics</i> , 2019 , 126, 044103	2.5	4
17	First-principle study on lithium intercalated antimonides Ag ₃ Sb and Mg ₃ Sb ₂ . <i>Ionics</i> , 2015 , 21, 1351-1361	2.7	4
16	ELECTRONIC STRUCTURE, MAGNETIC ORDERING AND PHASE STABILITY OF LiFeX (X = P, As and Sb) UNDER PRESSURE. <i>Modern Physics Letters B</i> , 2013 , 27, 1350236	1.6	4
15	Investigation on electronic structure and magnetic properties of Co and Mn incorporated nanoscale SnO ₂ . <i>Applied Physics A: Materials Science and Processing</i> , 2020 , 126, 1	2.6	3
14	Synthesis of Cu ₂ O Nanospheres and Cubes: Their Structural, Optical and Magnetic Properties. <i>Advanced Materials Research</i> , 2014 , 938, 114-117	0.5	3
13	Electrochemical characteristics of Ge incorporated Li ₄ Ti ₅ O ₁₂ as an anode for Li-ion battery applications. <i>Materials Today Communications</i> , 2021 , 27, 102273	2.5	3
12	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. <i>Ionics</i> , 2021 , 27, 4105-4126	2.7	3
11	First principle calculations on structural, electronic and transport properties of Li ₂ TiS ₃ and Li ₃ NbS ₄ positive electrode materials. <i>Materials for Renewable and Sustainable Energy</i> , 2016 , 5, 1	4.7	2
10	Enhanced magnetic ordering transition temperature and broad dielectric relaxation in iron incorporated intergrown pyrochlore-spinel crystals. <i>Journal of Alloys and Compounds</i> , 2018 , 763, 409-420	5.7	2

9	Plasma assisted decomposition and reforming of greenhouse gases: A review of current status and emerging trends. <i>Renewable and Sustainable Energy Reviews</i> , 2022 , 161, 112343	16.2	2
8	Tunable magnetocaloric effect in Sr _{1-x} Ca _x Mn _{0.5} Ti _{0.5} O ₃ perovskites. <i>Applied Physics A: Materials Science and Processing</i> , 2017 , 123, 1	2.6	1
7	Electronic and Thermoelectric Properties of SrTiO ₃ . <i>Current Smart Materials</i> , 2017 , 2,	1	1
6	Magnetic field-induced switching of magnetic ordering in SrFeO ₃ . <i>Applied Physics A: Materials Science and Processing</i> , 2016 , 122, 1	2.6	1
5	Morphology Controlled Synthesis of Fe and Mn co-doped In ₂ O ₃ Nanocubes and Their Dopant-Atom Effects on Electronic Structure and Magnetic Properties. <i>Journal of Magnetism and Magnetic Materials</i> , 2022 , 169547	2.8	1
4	Review Microstructural Modification in Lithium Garnet Solid-State Electrolytes: Emerging Trends. <i>Journal of the Electrochemical Society</i> , 2022 , 169, 030548	3.9	0
3	Genesis and tuning of ferromagnetism in SnO ₂ semiconductor nanostructures: comprehensive review on size, morphology, magnetic properties and DFT investigations. <i>Progress in Materials Science</i> , 2022 , 100970	42.2	0
2	Interfacial Engineering for Lithium Metal Batteries Based on Garnet Structured Solid Fast Lithium-Ion Conductors 2019 , 241-273		
1	Effect of vacancy defects on electronic structure and ferromagnetism in pristine In ₂ O ₃ nanostructures: An experimental study and first-principles modeling. <i>Materials Research Bulletin</i> , 2022 , 152, 111853	5.1	