

Rajendra Kumar Singh

List of Publications by Year in descending order

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74
papers

2,692
citations

159585

30
h-index

197818

49
g-index

76
all docs

76
docs citations

76
times ranked

2736
citing authors

#	ARTICLE	IF	CITATIONS
1	Ionic liquids confined in porous matrices: Physicochemical properties and applications. Progress in Materials Science, 2014, 64, 73-120.	32.8	264
2	Development of ion conducting polymer gel electrolyte membranes based on polymer PVdF-HFP, BMIMTFSI ionic liquid and the Li-salt with improved electrical, thermal and structural properties. Journal of Materials Chemistry C, 2015, 3, 7305-7318.	5.5	251
3	Thermal, dielectric and conductivity studies on PVA/Ionic liquid [EMIM][EtSO ₄] based polymer electrolytes. Journal of Physics and Chemistry of Solids, 2012, 73, 162-168.	4.0	120
4	Flexible gel polymer electrolyte based on ionic liquid EMIMTFSI for rechargeable battery application. Electrochimica Acta, 2017, 230, 123-131.	5.2	112
5	Studies on polymer electrolyte poly(vinyl pyrrolidone (PVP) complexed with ionic liquid: Effect of complexation on thermal stability, conductivity and relaxation behaviour. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 231-238.	3.5	91
6	Structural and transport studies on polymeric membranes of PEO containing ionic liquid, EMIM-TY: Evidence of complexation. Solid State Ionics, 2011, 183, 32-39.	2.7	87
7	Studies on Imidazolium-Based Ionic Liquids Having a Large Anion Confined in a Nanoporous Silica Gel Matrix. Journal of Physical Chemistry B, 2011, 115, 7505-7514.	2.6	84
8	Thermal, electrical and structural studies on ionic liquid confined in ordered mesoporous MCM-41. Journal of Materials Chemistry A, 2015, 3, 23809-23820.	10.3	73
9	Dielectric relaxation and conductivity studies on (PEO:LiClO ₄) polymer electrolyte with added ionic liquid [BMIM][PF ₆]: Evidence of ion-ion interaction. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 291-300.	2.1	70
10	Studies on an Ionic Liquid Confined in Silica Nanopores: Change in T_g and Evidence of Organic-Inorganic Linkage at the Pore Wall Surface. Journal of Physical Chemistry C, 2014, 118, 1530-1539.	3.1	69
11	Improved electrochemical performance of EMIMFSI ionic liquid based gel polymer electrolyte with temperature for rechargeable lithium battery. Energy, 2018, 150, 890-900.	8.8	64
12	Ion-ion polymer and ion-ion interaction in PEO-based polymer electrolytes having complexing salt LiClO ₄ and/or ionic liquid, [BMIM][PF ₆]. Journal of Raman Spectroscopy, 2011, 42, 2168-2172.	2.5	55
13	Development of ionic liquid mediated novel polymer electrolyte membranes for application in Na-ion batteries. RSC Advances, 2016, 6, 40199-40210.	3.6	54
14	Low density ionogels obtained by rapid gellification of tetraethyl orthosilane assisted by ionic liquids. Dalton Transactions, 2012, 41, 6263.	3.3	50
15	Effect of phosphonium based ionic liquid on structural, electrochemical and thermal behaviour of polymer poly(ethylene oxide) containing salt lithium bis(trifluoromethylsulfonyl)imide. RSC Advances, 2016, 6, 87878-87887.	3.6	50
16	Effect of temperature on electrochemical performance of ionic liquid based polymer electrolyte with Li/LiFePO ₄ electrodes. Solid State Ionics, 2017, 309, 192-199.	2.7	50
17	Properties of Ionic Liquid Confined in Porous Silica Matrix. ChemPhysChem, 2010, 11, 2036-2043.	2.1	49
18	Ionic liquid assisted synthesis of nano-porous TiO ₂ and studies on confined ionic liquid. Materials Letters, 2012, 86, 73-76.	2.6	42

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19	Electrochemical investigations of Na _{0.7} CoO ₂ cathode with PEO-NaTFSI-BMIMTFSI electrolyte as promising material for Na-rechargeable battery. <i>Journal of Solid State Electrochemistry</i> , 2018, 22, 1909-1919.	2.5	41
20	Viscoelastic, Surface, and Volumetric Properties of Ionic Liquids [BMIM][OcSO ₄], [BMIM][PF ₆], and [EMIM][MeSO ₃]. <i>Journal of Chemical & Engineering Data</i> , 2014, 59, 2349-2359.	1.9	40
21	Electrochemical study of Ionic Liquid based polymer electrolyte with graphene oxide coated LiFePO ₄ cathode for Li battery. <i>Solid State Ionics</i> , 2018, 320, 186-192.	2.7	40
22	Dynamics of ionic liquids in bulk and in confinement by means of ¹ H NMR relaxometry in BMIM-OcSO ₄ in a SiO ₂ matrix as an example. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 23184-23194.	2.8	38
23	Performance of EMIMFSI ionic liquid based gel polymer electrolyte in rechargeable lithium metal batteries. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 65, 137-145.	5.8	38
24	Enhanced structural and cycling stability of Li ₂ CuO ₂ -coated LiNi _{0.33} Mn _{0.33} Co _{0.33} O ₂ cathode with flexible ionic liquid-based gel polymer electrolyte for lithium polymer batteries. <i>Electrochimica Acta</i> , 2020, 343, 136122.	5.2	37
25	Solid polymer electrolytes based on Li ⁺ /ionic liquid for lithium secondary batteries. <i>Journal of Solid State Electrochemistry</i> , 2017, 21, 1713-1723.	2.5	36
26	Correlation between ultrasonic velocity, surface tension, density and viscosity of ionic liquids. <i>Fluid Phase Equilibria</i> , 2011, 304, 1-6.	2.5	35
27	Electrochemical performance of Li-rich NMC cathode material using ionic liquid based blend polymer electrolyte for rechargeable Li-ion batteries. <i>Journal of Alloys and Compounds</i> , 2020, 843, 155615.	5.5	35
28	Ion-polymer complexation and ion-pair formation in a polymer electrolyte PEO:LiPF ₆ containing an ionic liquid having same anion: A Raman study. <i>Vibrational Spectroscopy</i> , 2013, 68, 190-195.	2.2	34
29	Dynamical properties of EMIM-SCN confined in a SiO ₂ matrix by means of ¹ H NMR relaxometry. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 32605-32616.	2.8	33
30	Development of ionic liquid and lithium salt immobilized MCM-41 quasi solid-liquid electrolytes for lithium batteries. <i>Journal of Energy Storage</i> , 2018, 15, 283-291.	8.1	33
31	Thermal stability of ionic liquid in confined geometry. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 092001.	2.8	30
32	Electrical, mechanical, structural, and thermal behaviors of polymeric gel electrolyte membranes of poly(vinylidene fluoride-co-hexafluoropropylene) with the ionic liquid 1-butyl-3-methylimidazolium tetrafluoroborate plus lithium tetrafluoroborate. <i>Journal of Applied Polymer Science</i> , 2015, 132, .	2.6	30
33	Conformational States of Ionic Liquid 1-Ethyl-3-methylimidazolium Bis(trifluoromethylsulfonyl)imide in Bulk and Confined Silica Nanopores Probed by Crystallization Kinetics Study. <i>Journal of Physical Chemistry C</i> , 2015, 119, 24381-24392.	3.1	29
34	Mixed anion effect on the ionic transport behavior, complexation and various physicochemical properties of ionic liquid based polymer gel electrolyte membranes. <i>RSC Advances</i> , 2016, 6, 73028-73039.	3.6	29
35	Electrochemical characterization of ionic liquid based gel polymer electrolyte for lithium battery application. <i>Ionics</i> , 2018, 24, 1895-1906.	2.4	28
36	Polar β -Phase PVdF-HFP-Based Freestanding and Flexible Gel Polymer Electrolyte for Better Cycling Stability in a Na Battery. <i>Energy & Fuels</i> , 2021, 35, 15153-15165.	5.1	27

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37	Development of Polymer Electrolyte and Cathode Material for Li-Batteries. Journal of the Electrochemical Society, 2019, 166, A5187-A5192.	2.9	26
38	Changes in dynamical behavior of ionic liquid in silica nano-pores. Ionics, 2014, 20, 507-516.	2.4	25
39	Effect of Ultrasonic Irradiation on Preparation and Properties of Ionogels. Journal of Nanomaterials, 2012, 2012, 1-6.	2.7	24
40	Electrical conductivity studies on composite polymer electrolyte based on ionic liquid. Phase Transitions, 2010, 83, 457-466.	1.3	23
41	Crystallization kinetics behavior of ionic liquid [EMIM][BF ₄] confined in mesoporous silica matrices. RSC Advances, 2014, 4, 22277-22287.	3.6	23
42	High Voltage Nickel-Rich NMC Cathode Material with Ionic-Liquid-Based Polymer Electrolytes for Rechargeable Lithium-Metal Batteries. ChemElectroChem, 2020, 7, 3597-3605.	3.4	22
43	Quasi solid-state electrolytes based on ionic liquid (IL) and ordered mesoporous matrix MCM-41 for supercapacitor application. Journal of Solid State Electrochemistry, 2017, 21, 3365-3371.	2.5	21
44	Thermal and morphological studies of liquid crystalline materials dispersed in a polymer matrix. Liquid Crystals, 2011, 38, 849-859.	2.2	18
45	Preparation and characterisation of ionic liquid confined hybrid porous silica derived from ultrasonic assisted non-hydrolytic sol-gel process. Microporous and Mesoporous Materials, 2014, 195, 143-153.	4.4	18
46	Studies on ionic liquid 1-ethyl-3-methyl imidazolium ethylsulphate complexed with PVA. Phase Transitions, 2011, 84, 231-242.	1.3	17
47	Immobilization induced molecular compression of ionic liquid in ordered mesoporous matrix. Journal Physics D: Applied Physics, 2018, 51, 075301.	2.8	17
48	Fabrication and electrochemical characterization of lithium metal battery using IL-based polymer electrolyte and Ni-rich NCA cathode. Ionics, 2020, 26, 4835-4851.	2.4	17
49	Influence of Lanthanum Doping on Structural and Electrical/Electrochemical Properties of Double Perovskite Sr ₂ CoMoO ₆ as Anode Materials for Intermediate-Temperature Solid Oxide Fuel Cells. ACS Applied Materials & Interfaces, 2019, 11, 24659-24667.	8.0	16
50	Studies on mesoporous silica ionogels prepared by sol-gel method at different gelation temperatures. RSC Advances, 2013, 3, 13869.	3.6	15
51	Dynamics of Ionic Liquids in Confinement by Means of NMR Relaxometry—EMIM-FSI in a Silica Matrix as an Example. Materials, 2020, 13, 4351.	2.9	14
52	Phase diagrams and morphology of polymer-dispersed liquid crystals: An analysis. Liquid Crystals, 2012, 39, 1402-1413.	2.2	12
53	Interface and core relaxation dynamics of IL molecules in nanopores of ordered mesoporous MCM-41: a dielectric spectroscopy study. RSC Advances, 2016, 6, 45147-45157.	3.6	12
54	Influence of synthesis route on the structure and electrochemical performance of biphasic (O ₃ /O ₃): NaNi _{0.815} Co _{0.15} Al _{0.035} O ₂ cathode for sodium-ion batteries. Electrochimica Acta, 2022, 419, 140403.	5.2	11

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55	Ionic liquid template assisted synthesis of porous nano-silica nails. RSC Advances, 2014, 4, 39978-39983.	3.6	10
56	Studies of dispersed liquid crystals in binary mixtures with ionic liquid and their excitation by electric signals. RSC Advances, 2015, 5, 86291-86302.	3.6	10
57	Lithium salt assisted enhanced performance of supercapacitor based on quasi solid-state electrolyte. Journal of Saudi Chemical Society, 2018, 22, 838-845.	5.2	10
58	Dead Ashoka (Saraca asoca) leaves-derived porous activated carbons and flexible iongel polymer electrolyte for high-energy-density electric double-layer capacitors. Materials Today Sustainability, 2021, 11-12, 100062.	4.1	10
59	Improved High Voltage Performance of Li-ion Conducting Coated Ni-rich NMC Cathode Materials for Rechargeable Li Battery. ACS Applied Energy Materials, 2021, 4, 13878-13889.	5.1	10
60	Temperature dependent physical effects of ultrasonic wave in beryllium chalcogenides. Applied Acoustics, 2010, 71, 328-334.	3.3	9
61	Acoustical and elastic properties of transition metal nitrides. Physica B: Condensed Matter, 2009, 404, 95-99.	2.7	7
62	Role of reduced precursor and solvolytic reagent molar ratio on preparation and properties of ionogel. Journal of Solid State Chemistry, 2016, 242, 29-37.	2.9	7
63	Behaviour of ionic liquid adsorbed on the surface of nano silica particles and in confined system of silica matrices. Surface Science, 2020, 701, 121701.	1.9	7
64	Temperature dependent acoustical characterization of alkaline earth monochalcogenides in B1 and B2 phase. Physica B: Condensed Matter, 2010, 405, 77-84.	2.7	6
65	Diffusion mechanism in a sodium superionic sulfide-based solid electrolyte: Na ₁₁ Sn ₂ As ₁₂ . Journal Physics D: Applied Physics, 2022, 55, 355503.	2.8	6
66	Ionic liquid mediated nano-composite polymer gel electrolyte for rechargeable battery application. Polymer-Plastics Technology and Materials, 2020, 59, 952-958.	1.3	5
67	Momentous past and key advancements in ionic liquid mediated polymer electrolyte for application in energy storage. International Journal of Energy Research, 2021, 45, 15646-15675.	4.5	5
68	Theoretical study of temperature dependent lattice anharmonicity in TlCl and TlBr. Current Applied Physics, 2010, 10, 1053-1058.	2.4	4
69	A new technique for determination of melting temperature of poly(ethylene glycol) by ultrasonic velocimetry. Phase Transitions, 2009, 82, 599-606.	1.3	2
70	Acoustic wave propagation in barium monochalcogenides in the B1 phase. Acoustical Physics, 2009, 55, 186-191.	1.0	1
71	Theoretical study of temperature dependent acoustic attenuation and non-linearity parameters in alkali metal hydride and deuteride. Materials Chemistry and Physics, 2010, 124, 575-579.	4.0	1
72	Effect of Ionic Liquids on the Crystallization Kinetics of Various Polymers and Polymer Electrolytes. , 2018, , 509-533.		1

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73	High-Voltage Li/MnO_2 -Driven $\text{Li}_2\text{Mn}_6\text{Ni}_0$ Ni_0 Co_0 . Energy Storage, 0, , .	4.3	1
74	Phosphite-Based Electrodes. ACS Symposium Series, 0, , 39-55.	0.5	0