Sangtae Kim

List of Publications by Year
in descending order

49 papers	3,274 citations	304743 22 h-index	182427 51 g-index
51 all docs	51 docs citations	51 times ranked	4712 citing authors

#	Article	IF	Citations
1	Trivalent Dopant Size Influences Electrostrictive Strain in Ceria Solid Solutions. ACS Applied Materials & Interfaces, 2021, 13, 20269-20276.	8.0	9
2	Dopant Concentration Controls Quasi-Static Electrostrictive Strain Response of Ceria Ceramics. ACS Applied Materials & Interfaces, 2020, 12, 39381-39387.	8.0	16
3	The Rate-Dependence of Supercapacitor Performance: Quantitative Evaluation Using Peukertâ€™s Constant. Journal of the Electrochemical Society, 2020, 167, 130506.	2.9	4
4	Complete Mechanistic Elucidation of Currentâ€“Voltage Characteristics of Grain Boundaries in a Proton-Conducting Solid Electrolyte. Journal of Physical Chemistry C, 2019, 123, 4396-4400.	3.1	4
5	The exceptionally large height of the potential barrier at the grain boundary of a LaGaO₃-based solid solution deduced from a linear diffusion model. Physical Chemistry Chemical Physics, 2018, 20, 8719-8723.	2.8	5
6	Applicability of a linear diffusion model to determination of the height of the potential barrier at the grain boundaries of Fe-doped SrTiO₃. Physical Chemistry Chemical Physics, 2018, 20, 19250-19256.	2.8	3
7	Rapid sintering protocol produces dense ceriaâ€based ceramics. Journal of the American Ceramic Society, 2018, 101, 4968-4975.	3.8	12
8	Observation of a Phonon Softening Effect on Li Ion Conduction in Mixed-Anion Chalcogenide Glasses. Chemistry of Materials, 2018, 30, 5896-5903.	6.7	10
9	Fast Li-Ion Dynamics in Stoichiometric Li2Sâ€“Ga2Se3â€“GeSe2 Glasses. Chemistry of Materials, 2017, 29, 8704-8710.	6.7	20
10	Determination of Peukertâ€™s Constant Using Impedance Spectroscopy: Application to Supercapacitors. Journal of Physical Chemistry Letters, 2016, 7, 5101-5104.	4.6	8
11	AC-Impedance Spectroscopic Analysis on the Charge Transport in CVD-Grown Graphene Devices with Chemically Modified Substrates. ACS Applied Materials & Interfaces, 2016, 8, 27421-27425.	8.0	5
12	Fast firing of bismuth doped yttria-stabilized zirconia for enhanced densification and ionic conductivity. Journal of the Ceramic Society of Japan, 2016, 124, 370-374.	1.1	6
13	Elastic moduli of pure and gadolinium doped ceria revisited: Sound velocity measurements. Scripta Materialia, 2016, 123, 86-89.	5.2	41
14	Isn't the space-charge potential in ceria-based solid electrolytes largely overestimated?. Physical Chemistry Chemical Physics, 2016, 18, 19787-19791.	2.8	17
15	Hydrogen generation enhanced by nano-forest structures. RSC Advances, 2016, 6, 12953-12958.	3.6	8
16	On determining the height of the potential barrier at grain boundaries in ion-conducting oxides. Physical Chemistry Chemical Physics, 2016, 18, 3023-3031.	2.8	30
17	Electrochemically driven mechanical energy harvesting. Nature Communications, 2016, 7, 10146.	12.8	123
18	Communication: Dimensionality of the ionic conduction pathways in glass and the mixed-alkali effect. Journal of Chemical Physics, 2015, 143, 241104.	3.0	6

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19	Highly Stable Operation of Metal Oxide Nanowire Transistors in Ambient Humidity, Water, Blood, and Oxygen. ACS Applied Materials & Interfaces, 2015, 7, 16296-16302.	8.0	21
20	Direct Determination of Field Emission across the Heterojunctions in a ZnO/Graphene Thin-Film Barristor. ACS Applied Materials & Interfaces, 2015, 7, 18300-18305.	8.0	13
21	A linear diffusion model for ion current across blocking grain boundaries in oxygen-ion and proton conductors. Physical Chemistry Chemical Physics, 2014, 16, 14961-14968.	2.8	18
22	Fast Na-Ion Conduction in a Chalcogenide Glassâ€“Ceramic in the Ternary System Na₂Seâ€“Ga₂Se₃â€“GeSe₂. Chemistry of Materials, 2014, 26, 5695-5699.	6.7	58
23	Investigation of the Potential Energy Landscape for Vacancy Dynamics in Sc-Doped CeO2. Chemistry of Materials, 2014, 26, 1918-1924.	6.7	13
24	The Role of Point Defects in the Mechanical Behavior of Doped Ceria Probed by Nanoindentation. Advanced Functional Materials, 2013, 23, 6076-6081.	14.9	37
25	How to interpret currentâ€“voltage relationships of blocking grain boundaries in oxygen ionic conductors. Physical Chemistry Chemical Physics, 2013, 15, 8716.	2.8	22
26	A comparison of destabilization mechanisms of the layered NaxMO2 and LixMO2 compounds upon alkali de-intercalation. Physical Chemistry Chemical Physics, 2012, 14, 15571.	2.8	158
27	Currentâ€“voltage characteristics of grain boundaries in polycrystalline Sr-doped LaGaO3. Physical Chemistry Chemical Physics, 2012, 14, 9047.	2.8	8
28	Influence of Gd content on the room temperature mechanical properties of Gd-doped ceria. Scripta Materialia, 2012, 66, 155-158.	5.2	33
29	On the origin of the blocking effect of grain-boundaries on proton transport in yttrium-doped barium zirconates. Journal of Materials Chemistry, 2011, 21, 5435.	6.7	89
30	Direct evidence of potential barriers at grain boundaries in Y-doped BaZrO3 from dc-bias dependence measurements. Journal of Materials Chemistry, 2011, 21, 16517.	6.7	80
31	Voltage, stability and diffusion barrier differences between sodium-ion and lithium-ion intercalation materials. Energy and Environmental Science, 2011, 4, 3680.	30.8	1,236
32	Direct Observation of Defect Dynamics in Nanocrystalline CaF₂: Results from ¹⁹F MAS NMR Spectroscopy. Journal of Physical Chemistry Letters, 2010, 1, 1126-1129.	4.6	18
33	Protonic conductivity of nano-structured yttria-stabilized zirconia: dependence on grain size. Journal of Materials Chemistry, 2010, 20, 990-994.	6.7	59
34	Room-temperature protonic conduction in nanocrystalline films of yttria-stabilized zirconia. Journal of Materials Chemistry, 2010, 20, 6235.	6.7	46
35	Strong immobilization of charge carriers near the surface of a solid oxide electrolyte. Journal of Materials Chemistry, 2010, 20, 3855.	6.7	21
36	Oxygen Transport in Sc-Doped CeO₂: Cation (⁴⁵Sc) NMR as a Probe of Anionic Conductivity. Chemistry of Materials, 2010, 22, 893-897.	6.7	23

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37	Grain boundaries in dense nanocrystalline ceria ceramics: exclusive pathways for proton conduction at room temperature. Journal of Materials Chemistry, 2010, 20, 10110.	6.7	57
38	The intrinsic origin of the grain-boundary resistance in Sr-doped LaGaO3. Monatshefte FÃ¼r Chemie, 2009, 140, 1053-1057.	1.8	10
39	Dopant-concentration dependence of grain-boundary conductivity in ceria: A space-charge analysis. Journal of Materials Chemistry, 2009, 19, 4837.	6.7	125
40	Anomalous Electrical Conductivity of Nanosheaves of CeO₂. Chemistry of Materials, 2009, 21, 1182-1186.	6.7	39
41	On the conduction pathway for protons in nanocrystalline yttria-stabilized zirconia. Physical Chemistry Chemical Physics, 2009, 11, 3035.	2.8	93
42	The enhanced electronic transference number at the grain boundaries in Sr-doped LaGaO3. Solid State Ionics, 2008, 179, 1329-1332.	2.7	17
43	Direct spectroscopic observation of size-dependent vacancy distribution in Y-doped CeO2. Journal of Materials Chemistry, 2008, 18, 3915.	6.7	26
44	A direct measurement of the local resistances in a ZnO tetrapod by means of impedance spectroscopy: The role of the junction in the overall resistance. Applied Physics Letters, 2008, 93, 042111.	3.3	19
45	Space Charge Effects on the Interfacial Conduction in Sr-Doped Lanthanum Gallates:â€‰ A Quantitative Analysis. Journal of Physical Chemistry C, 2007, 111, 14903-14910.	3.1	42
46	Synthesis and Characterization of Ce1?xGdxO2??Nanorods. Journal of the American Ceramic Society, 2007, 90, 661-663.	3.8	8
47	The effect of segregated transition metal ions on the grain boundary resistivity of gadolinium doped ceria: Alteration of the space charge potential. Solid State Ionics, 2006, 177, 3075-3080.	2.7	103
48	Space charge conduction: Simple analytical solutions for ionic and mixed conductors and application to nanocrystalline ceria. Physical Chemistry Chemical Physics, 2003, 5, 2268-2273.	2.8	154
49	On the Conductivity Mechanism of Nanocrystalline Ceria. Journal of the Electrochemical Society, 2002, 149, J73.	2.9	295