Christodoulos Chatzichristodoulou

List of Publications by Year
in descending order

62 papers	2,018 citations	279798 23 h-index	243625 44 g-index
64 all docs	64 docs citations	64 times ranked	2324 citing authors

#	ARTICLE	IF	CITATIONS
1	Current understanding of ceria surfaces for CO2 reduction in SOECs and future prospects â€“ A review. Solid State Ionics, 2022, 375, 115833.	2.7	22
2	Reversible Hydrogen and Pd Hydride Reference Electrodes with Electrochemically Supplied H₂ for High Temperature and Pressure Electrochemistry. Journal of the Electrochemical Society, 2022, 169, 054534.	2.9	3
3	Fast relaxation of stresses in solid oxide cells through reduction. Part I: Macro-stresses in the cell layers. International Journal of Hydrogen Energy, 2021, 46, 1548-1559.	7.1	7
4	Development of high-temperature electrochemical TEM and its application on solid oxide electrolysis cells. Microscopy and Microanalysis, 2021, 27, 3138-3139.	0.4	0
5	Combining EIS with in Situ TEM in Characterizing Solid Oxide Cell Components. ECS Meeting Abstracts, 2021, MA2021-02, 1899-1899.	0.0	0
6	Polysulfone-polyvinylpyrrolidone blend membranes as electrolytes in alkaline water electrolysis. Journal of Membrane Science, 2020, 598, 117674.	8.2	44
7	(Invited) Roles of Electrochemistry in a Fully Renewable Energy Society. ECS Meeting Abstracts, 2020, MA2020-01, 1444-1444.	0.0	0
8	(Invited) Electrochemistry Meets Heterogeneous Catalysis for the Conversion of CO2 and N2 to Fuels and Chemicals. ECS Meeting Abstracts, 2020, MA2020-01, 1455-1455.	0.0	0
9	(Invited) Advanced Alkaline Electrolysis Cells for the Production of Sustainable Fuels and Chemicals. ECS Meeting Abstracts, 2020, MA2020-01, 1482-1482.	0.0	0
10	(Invited) Roles of Electrochemistry in a Fully Renewable Energy Society. ECS Meeting Abstracts, 2020, MA2020-02, 2533-2533.	0.0	0
11	Effect of Fe on high performing nanostructured Ni/Gd-doped ceria electrocatalysts. Solid State Ionics, 2019, 340, 115019.	2.7	10
12	The Impact of Strong Cathodic Polarization on Ni|YSZ Microelectrodes. Journal of the Electrochemical Society, 2018, 165, F253-F263.	2.9	7
13	Numerical simulation of kinetic demixing and decomposition in a LaCoO3-Î´ oxygen membrane under an oxygen potential gradient. Journal of Membrane Science, 2018, 548, 526-539.	8.2	9
14	A three dimensional multiphysics model of a solid oxide electrochemical cell: A tool for understanding degradation. International Journal of Hydrogen Energy, 2018, 43, 11913-11931.	7.1	38
15	Oxygen Evolution Activity and Chemical Stability of Ni and Fe Based Perovskites in Alkaline Media. Journal of the Electrochemical Society, 2018, 165, F827-F835.	2.9	15
16	Thermoneutral Operation of Solid Oxide Electrolysis Cells in Potentiostatic Mode. ECS Transactions, 2017, 78, 3077-3088.	0.5	27
17	Ionic/Electronic Conductivity, Thermal/Chemical Expansion and Oxygen Permeation in Pr and Gd Co-Doped Ceria Pr_xGd_{0.1}Ce_{0.9-x}O_{1.95-Î´}. Journal of the Electrochemical Society, 2017, 164, F1354-F1367.	2.9	23
18	Oxygen transport properties of tubular Ce0.9Gd0.1O1.95-La0.6Sr0.4FeO3â^'d composite asymmetric oxygen permeation membranes supported on magnesium oxide. Journal of Membrane Science, 2017, 523, 576-587.	8.2	13

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19	High Temperature Alkaline Electrolysis Cells with Metal Foam Based Gas Diffusion Electrodes. Journal of the Electrochemical Society, 2016, 163, F3036-F3040.	2.9	19
20	Design and optimization of porous ceramic supports for asymmetric ceria-based oxygen transport membranes. Journal of Membrane Science, 2016, 513, 85-94.	8.2	31
21	Evolution of the electrochemical interface in high-temperature fuel cells and electrolysers. Nature Energy, 2016, 1, .	39.5	557
22	An Ag based brazing system with a tunable thermal expansion for the use as sealant for solid oxide cells. Journal of Power Sources, 2016, 315, 339-350.	7.8	46
23	Accelerated creep in solid oxide fuel cell anode supports during reduction. Journal of Power Sources, 2016, 323, 78-89.	7.8	49
24	New Hypothesis for SOFC Ceramic Oxygen Electrode Mechanisms. ECS Transactions, 2016, 72, 93-103.	0.5	4
25	Understanding degradation of solid oxide electrolysis cells through modeling of electrochemical potential profiles. Electrochimica Acta, 2016, 189, 265-282.	5.2	58
26	Need for In Operando Characterization of Electrochemical Interface Features. ECS Transactions, 2015, 66, 3-20.	0.5	13
27	Kinetics of CO/CO₂ and H₂/H₂O reactions at Ni-based and ceria-based solid-oxide-cell electrodes. Faraday Discussions, 2015, 182, 75-95.	3.2	23
28	Enhanced reducibility and electronic conductivity of Nb or W doped Ce0.9Gd0.1O1.95â[~]Î´. Solid State Ionics, 2015, 269, 51-56.	2.7	8
29	Size of oxide vacancies in fluorite and perovskite structured oxides. Journal of Electroceramics, 2015, 34, 100-107.	2.0	81
30	Equilibrium and transient conductivity for gadolium-doped ceria under large perturbations: II. Modeling. Solid State Ionics, 2014, 268, 198-207.	2.7	22
31	Foam Based Gas Diffusion Electrodes for Reversible Alkaline Electrolysis Cells. ECS Transactions, 2014, 64, 1029-1038.	0.5	1
32	Cobalt and molybdenum activated electrodes in foam based alkaline electrolysis cells at 150â€“250ÂÂ°C and 40Âbar. Journal of Power Sources, 2014, 255, 394-403.	7.8	15
33	Electrical conductivity of titanium pyrophosphate between 100 and 400ÂÂ°C: effect of sintering temperature and phosphorus content. Journal of Solid State Electrochemistry, 2014, 18, 39-47.	2.5	14
34	Chemical Expansion: Implications for Electrochemical Energy Storage and Conversion Devices. Annual Review of Materials Research, 2014, 44, 205-239.	9.3	188
35	Composite Fe â€" BaCe_{0.2}Zr_{0.6}Y_{0.2}O_{2.9}Anodes for Proton Conductor Fuel Cells. Journal of the Electrochemical Society, 2014, 161, F833-F837.	2.9	6
36	TOF-SIMS characterization of impurity enrichment and redistribution in solid oxide electrolysis cells during operation. Dalton Transactions, 2014, 43, 14949-14958.	3.3	13

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37	Defining chemical expansion: the choice of units for the stoichiometric expansion coefficient. Physical Chemistry Chemical Physics, 2014, 16, 9229-9232.	2.8	19
38	Equilibrium and transient conductivity for gadolinium-doped ceria under large perturbations: I. Experiments. Solid State Ionics, 2014, 265, 22-28.	2.7	12
39	Fermi Potential across Working Solid Oxide Cells with Zirconia or Ceria Electrolytes. ECS Transactions, 2014, 61, 203-214.	0.5	11
40	High temperature and pressure electrochemical test station. Review of Scientific Instruments, 2013, 84, 054101.	1.3	7
41	CERIA AND ITS USE IN SOLID OXIDE CELLS AND OXYGEN MEMBRANES. Catalytic Science Series, 2013, , 623-782.	0.0	11
42	Enhanced mass diffusion phenomena in highly defective doped ceria. Acta Materialia, 2013, 61, 6290-6300.	7.9	67
43	Infiltration of ionic-, electronic- and mixed-conducting nano particles into La0.75Sr0.25MnO3â€"Y0.16Zr0.84O2 cathodes â€" A comparative study of performance enhancement and stability atÂdifferent temperatures. Journal of Power Sources, 2013, 228, 170-177.	7.8	46
44	Alkaline electrolysis cell at high temperature and pressure of 250ÂÂ°C and 42Âbar. Journal of Power Sources, 2013, 229, 22-31.	7.8	59
45	In situ X-ray and neutron diffraction of the Ruddlesdenâ€"Popper compounds (RE2â^'xSrx)0.98(Fe0.8Co0.2)1â^'yMgyO4â^'Î´ (RE=La, Pr): Structure and CO2 stability. Journal of Solid State Chemistry, 2013, 201, 164-171.	2.9	6
46	Defect chemistry, thermomechanical and transport properties of (RE2â^'xSrx)0.98(Fe0.8Co0.2)1â^'yMgyO4â^'Î´ (RE = La, Pr). Solid State Ionics, 2013, 232, 68-79.	2.7	9
47	Phase Composition and Long-Term Conductivity of Acceptor Doped Ce(PO₃)₄and CeP₂O₇with Variable P/Metal Ratio and of CeP₂O₇-KH₂PO₄Composite. Journal of the Electrochemical Society, 2013, 160, F798-F805.	2.9	13
48	(Invited) Electronic and Ionic Transport in Ce0.8PrxTb0.2-xO2-Â and Evaluation of Performance as Oxygen Permeation Membranes. ECS Transactions, 2012, 45, 45-62.	0.5	1
49	Electronic and Ionic Transport in Ce0.8PrxTb0.2â^'xO2â^'Î´and Evaluation of Performance as Oxygen Permeation Membranes. Journal of the Electrochemical Society, 2012, 159, E162-E170.	2.9	5
50	Electrical conductivity measurements of aqueous and immobilized potassium hydroxide. International Journal of Hydrogen Energy, 2012, 37, 16505-16514.	7.1	54
51	Characterization of impregnated GDC nano structures and their functionality in LSM based cathodes. Solid State Ionics, 2012, 224, 21-31.	2.7	38
52	Determination of redox-active centers in praseodymium doped ceria by in situ-XANES spectroscopy. Chemical Physics Letters, 2012, 537, 80-83.	2.6	3
53	Electronic conductivity of Ce0.9Gd0.1O1.95â^'Î´ and Ce0.8Pr0.2O2â^'Î´: Hebbâ€"Wagner polarisation in the case of redox active dopants and interference. Physical Chemistry Chemical Physics, 2011, 13, 21558.	2.8	29
54	Evaluation of thin film ceria membranes for syngas membrane reactorsâ€"Preparation, characterization and testing. Journal of Membrane Science, 2011, 378, 51-60.	8.2	48

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55	Oxygen Permeation in Thin, Dense Ce_{0.9}Gd_{0.1}O_{1.95-Î´} Membranes II. Experimental Determination. Journal of the Electrochemical Society, 2011, 158, F73-F83.	2.9	26
56	Oxygen Permeation in Thin, Dense Ce0.9Gd0.1O1.95-Î´ Membranes I. Model Study. Journal of the Electrochemical Society, 2011, 158, F61.	2.9	21
57	Densification and grain growth during early-stage sintering of Ce0.9Gd0.1O1.95âˆ'Î´ in a reducing atmosphere. Acta Materialia, 2010, 58, 3860-3866.	7.9	38
58	Phase Formation in the System ZrO₂â€"LaO_{1.5}â€"MnO<i>_x</i> in Air and <i>P</i>âˆ¼1 Pa After 500 h of Annealing at 1200Â° and 1400Â°C. Journal of the American Ceramic Society, 2010, 93, 2884-2890.	3.8	2
59	Experimental determination of the Onsager coefficients of transport for Ce0.8Pr0.2O2âˆ'Î´. Physical Chemistry Chemical Physics, 2010, 12, 9637.	2.8	30
60	Defect Chemistry and Thermomechanical Properties of Ce[sub 0.8]Pr[sub x]Tb[sub 0.2âˆ'x]O[sub 2âˆ'Î´]. Journal of the Electrochemical Society, 2010, 157, B299.	2.9	49
61	Oxygen Nonstoichiometry and Defect Chemistry Modeling of Ce[sub 0.8]Pr[sub 0.2]O[sub 2âˆ'Î´]. Journal of the Electrochemical Society, 2010, 157, B481.	2.9	41
62	Oxygen Nonstoichiometry and Defect Chemistry Modelling of Ce0.8PrxTb0.2-xO2-Î´. ECS Transactions, 2008, 13, 347-359.	0.5	7