

# Constantinos G Vayenas

## List of Publications by Year in descending order

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76  
papers

3,224  
citations

126907

33  
h-index

149698

56  
g-index

78  
all docs

78  
docs citations

78  
times ranked

1280  
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinetic study of CO <sub>2</sub> hydrogenation on Ru/ YSZ catalyst using a monolithic electropromoted reactor (MEPR). Chemical Engineering Journal, 2022, 430, 132967.	12.7	9
2	Hadronization via gravitational confinement of fast neutrinos: Mechanics at fm distances. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2022, 102, .	1.6	3
3	Non-Faradaic Electrochemical Promotion of Brønsted Acid-Catalyzed Dehydration Reactions over Molybdenum Oxide. ACS Catalysis, 2022, 12, 906-912.	11.2	6
4	Electrochemical promotion of CO <sub>2</sub> hydrogenation in a monolithic electrochemically promoted reactor (MEPR). Applied Catalysis B: Environmental, 2021, 284, 119695.	20.2	14
5	The role of the promoting ionic species in electrochemical promotion and in metal-support interactions. Catalysis Today, 2021, 363, 122-127.	4.4	9
6	Electrochemical promotion of methane oxidation over nanodispersed Pd/Co <sub>3</sub> O <sub>4</sub> catalysts. Catalysis Today, 2020, 355, 910-920.	4.4	20
7	Computation of the masses, energies and internal pressures of hadrons, mesons and bosons via the Rotating Lepton Model. Physica A: Statistical Mechanics and Its Applications, 2020, 545, 123679.	2.6	5
8	Tuning the RWGS Reaction via EPOC and In Situ Electro-oxidation of Cobalt Nanoparticles. ACS Catalysis, 2020, 10, 14916-14927.	11.2	24
9	Electrochemical promotion of Ru nanoparticles deposited on a proton conductor electrolyte during CO <sub>2</sub> hydrogenation. Applied Catalysis B: Environmental, 2020, 276, 119148.	20.2	34
10	Proton internal pressure distribution suggests a simple proton structure. Journal of the Mechanical Behavior of Materials, 2019, 28, 1-7.	1.8	2
11	Electrochemical promotion of nanodispersed Ru-Co catalysts for the hydrogenation of CO <sub>2</sub> . Applied Catalysis B: Environmental, 2018, 232, 60-68.	20.2	27
12	On the mass and thermodynamics of the Higgs boson. Physica A: Statistical Mechanics and Its Applications, 2018, 492, 737-746.	2.6	8
13	Steady State Multiplicities in Low Temperature PEM Fuel Cells. Materials Today: Proceedings, 2018, 5, 27397-27405.	1.8	1
14	Electrochemical promotion of methane oxidation on Pd nanoparticles deposited on YSZ. Materials Today: Proceedings, 2018, 5, 27345-27352.	1.8	6
15	Catalysis and autocatalysis of chemical synthesis and of hadronization. Applied Catalysis B: Environmental, 2017, 203, 582-590.	20.2	9
16	Gravitationally confined relativistic neutrinos. Journal of Physics: Conference Series, 2017, 888, 012174.	0.4	0
17	Hadronization via gravitational confinement. Journal of Physics: Conference Series, 2017, 936, 012078.	0.4	0
18	Computation of masses and binding energies of some hadrons and bosons according to the rotating lepton model and the relativistic Newton equation. Journal of Physics: Conference Series, 2016, 738, 012080.	0.4	2

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19	Fuel cells are a commercially viable alternative for the production of clean energy. <i>Ambio</i> , 2016, 45, 32-37.	5.5	55
20	On the structure, mass and thermodynamics of the $Z^9$ bosons. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 461, 231-240.	2.6	9
21	On the structure, mass and thermodynamics of the $Z^{27}$ bosons. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 450, 37-48.	2.6	14
22	Comparative study of the electrochemical promotion of CO <sub>2</sub> hydrogenation on Ru using Na <sup>+</sup> , K <sup>+</sup> , H <sup>+</sup> and O <sub>2</sub> <sup>-</sup> conducting solid electrolytes. <i>Surface Science</i> , 2016, 646, 194-203.	1.9	38
23	Gravitational mass and Newton's universal gravitational law under relativistic conditions. <i>Journal of Physics: Conference Series</i> , 2015, 633, 012033.	0.4	2
24	Microscopic black hole stabilization via the uncertainty principle. <i>Journal of Physics: Conference Series</i> , 2015, 574, 012059.	0.4	2
25	Electrochemical promotion of the hydrogenation of CO <sub>2</sub> on Ru deposited on a BZY proton conductor. <i>Journal of Catalysis</i> , 2015, 331, 98-109.	6.2	44
26	Electrochemical promotion of CO <sub>2</sub> hydrogenation on Ru catalyst-electrodes supported on a K <sup>+</sup> Al <sub>2</sub> O <sub>3</sub> solid electrolyte. <i>Electrochimica Acta</i> , 2015, 179, 556-564.	5.2	21
27	Comparative Study of the Electrochemical Promotion of CO <sub>2</sub> Hydrogenation over Ru <sup>+</sup> Supported Catalysts using Electronegative and Electropositive Promoters. <i>ChemElectroChem</i> , 2014, 1, 254-262.	3.4	21
28	A Bohr-type model of a composite particle using gravity as the attractive force. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 405, 360-379.	2.6	17
29	Electrochemical Promotion for the Abatement of Gaseous Pollutants. , 2014, , 548-554.		0
30	Electrochemical promotion of methane oxidation on Pd catalyst-electrodes deposited on Y <sub>2</sub> O <sub>3</sub> -stabilized-ZrO <sub>2</sub> . <i>Applied Catalysis B: Environmental</i> , 2012, 128, 48-54.	20.2	19
31	Methane oxidation on Pd/YSZ by electrochemical promotion. <i>Solid State Ionics</i> , 2012, 225, 376-381.	2.7	14
32	Gravity, Special Relativity, and the Strong Force. , 2012, , .		16
33	The role of Nafion content in sputtered IrO <sub>2</sub> based anodes for low temperature PEM water electrolysis. <i>Journal of Electroanalytical Chemistry</i> , 2011, 662, 116-122.	3.8	34
34	Electrochemical impedance spectroscopy of fully hydrated Nafion membranes at high and low hydrogen partial pressures. <i>Electrochimica Acta</i> , 2011, 56, 10582-10592.	5.2	17
35	Note on "The Electrochemical Promotion of Ethylene Oxidation at a Pt/YSZ Catalyst". <i>ChemPhysChem</i> , 2011, 12, 1761-1763.	2.1	9
36	Note on "Electrochemical promotion of catalytic reactions". <i>Progress in Surface Science</i> , 2011, 86, 83-93.	8.3	10

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37	Electrochemical promotion of Pt(111)/YSZ(111) and Pt $\alpha$ -FeO $\alpha$ /YSZ(111) thin catalyst films: Electrochemical, catalytic and morphological studies. Applied Catalysis B: Environmental, 2010, 100, 328-337.	20.2	24
38	Electrochemical promotion of the CO $2$ hydrogenation reaction using thin Rh, Pt and Cu films in a monolithic reactor at atmospheric pressure. Catalysis Today, 2009, 146, 336-344.	4.4	51
39	Electrochemical promotion of the CO $2$ hydrogenation on Pd/YSZ and Pd $\alpha$ -Al $2$ O $3$ catalyst-electrodes. Solid State Ionics, 2008, 179, 1391-1395.	2.7	38
40	First principles analytical prediction of the conductivity of Nafion membranes. Electrochimica Acta, 2007, 52, 2244-2256.	5.2	20
41	Electrochemical promotion in a monolith electrochemical plate reactor applied to simulated and real automotive pollution control. Topics in Catalysis, 2007, 44, 481-486.	2.8	21
42	The effect of membrane thickness on the conductivity of Nafion. Electrochimica Acta, 2006, 51, 2743-2755.	5.2	89
43	Potential-dependent electrolyte resistance and steady-state multiplicities of PEM fuel cells. Solid State Ionics, 2006, 177, 2397-2401.	2.7	10
44	Rules of chemical promotion. Applied Catalysis B: Environmental, 2006, 68, 109-124.	20.2	94
45	The role of potential-dependent electrolyte resistance in the performance, steady-state multiplicities and oscillations of PEM fuel cells: Experimental investigation and macroscopic modelling. Electrochimica Acta, 2005, 50, 5132-5143.	5.2	34
46	Proton tunneling-induced bistability, oscillations and enhanced performance of PEM fuel cells. Applied Catalysis B: Environmental, 2005, 56, 251-258.	20.2	29
47	Comparative isotope-aided investigation of electrochemical promotion and metal $\alpha$ -support interactions. CO oxidation by $^{18}$ O $2$ on electropromoted Pt films deposited on YSZ and on nanodispersed Pt/YSZ catalysts. Journal of Catalysis, 2004, 226, 197-209.	6.2	45
48	Novel monolithic electrochemically promoted catalytic reactor for environmentally important reactions. Applied Catalysis B: Environmental, 2004, 52, 181-196.	20.2	65
49	Thermodynamic analysis of the electrochemical promotion of catalysis. Solid State Ionics, 2004, 168, 321-326.	2.7	16
50	Comparative isotope-aided investigation of electrochemical promotion and metal $\alpha$ -support interactions 1. $^{18}$ O $2$ TPD of electropromoted Pt films deposited on YSZ and of dispersed Pt/YSZ catalysts. Journal of Catalysis, 2004, 222, 192-206.	6.2	70
51	The double-layer approach to promotion, electrocatalysis, electrochemical promotion, and metal $\alpha$ -support interactions. Journal of Catalysis, 2003, 216, 487-504.	6.2	95
52	Electrochemical promotion of an oxidation reaction using a proton conductor. Electrochimica Acta, 2003, 48, 3779-3788.	5.2	23
53	Rules and Mathematical Modeling of Electrochemical and Chemical Promotion. Journal of Catalysis, 2001, 203, 329-350.	6.2	124
54	Electrochemical Promotion and Metal $\alpha$ -Support Interactions. Journal of Catalysis, 2001, 204, 23-34.	6.2	144

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55	On the work function of the gas exposed electrode surfaces in solid state electrochemistry. Journal of Electroanalytical Chemistry, 2000, 486, 85-90.	3.8	31
56	Electrochemical promotion (NEMCA) of CH <sub>4</sub> and C <sub>2</sub> H <sub>4</sub> oxidation on Pd/YSZ and investigation of the origin of NEMCA via AC impedance spectroscopy. Solid State Ionics, 2000, 136-137, 863-872.	2.7	68
57	On the work function of the gas-exposed electrode surfaces in solid state electrolyte cells. Surface Science, 2000, 467, 23-34.	1.9	39
58	Temperature-Programmed Desorption of Oxygen from Pt Films Interfaced with Y <sub>2</sub> O <sub>3</sub> -Doped ZrO <sub>2</sub> . Journal of Catalysis, 1998, 178, 414-428.	6.2	47
59	Electrochemical Promotion of a Dispersed Platinum Catalyst. Journal of Catalysis, 1998, 178, 429-440.	6.2	50
60	Direct STM, XPS and TPD observation of spillover phenomena over mm distances on metal catalyst films interfaced with solid electrolytes. Studies in Surface Science and Catalysis, 1997, 112, 39-47.	1.5	23
61	Support-induced promotional effects on the activity of automotive exhaust catalysts <sup>1</sup> . The case of oxidation of light hydrocarbons (C <sub>2</sub> H <sub>4</sub> ). Applied Catalysis B: Environmental, 1997, 14, 161-173.	20.2	75
62	In Situ Controlled Promotion of Catalyst Surfaces via NEMCA: The Effect of Na on the Pt-Catalyzed NO Reduction by H <sub>2</sub> . Journal of Catalysis, 1997, 166, 218-228.	6.2	45
63	Atomic resolution STM imaging of electrochemically controlled reversible promoter dosing of catalysts. Surface Science, 1996, 369, 351-359.	1.9	86
64	Non-Faradaic Electrochemical Modification of Catalytic Activity. Journal of Catalysis, 1996, 159, 189-203.	6.2	75
65	Quantum-Chemical Study of Electrochemical Promotion in Catalysis. The Journal of Physical Chemistry, 1996, 100, 16653-16661.	2.9	76
66	In Situ Controlled Promotion of Catalyst Surfaces Via Solid Electrolytes: The NEMCA Effect. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1995, 99, 1393-1401.	0.9	5
67	In Situ controlled promotion of catalyst surfaces via NEMCA: The effect of Na on the Pt-catalyzed CO oxidation. Journal of Catalysis, 1994, 146, 292-305.	6.2	121
68	Electrochemical enhancement of a catalytic reaction in aqueous solution. Nature, 1994, 370, 45-47.	27.8	134
69	Non-Faradaic Electrochemical Modification of Catalytic Activity. Journal of Catalysis, 1993, 140, 53-70.	6.2	69
70	Non-faradaic electrochemical modification of catalytic activity: A status report. Catalysis Today, 1992, 11, 303-438.	4.4	336
71	Work function measurements on catalyst films subject to in situ electrochemical promotion. Surface Science, 1991, 251-252, 1062-1068.	1.9	75
72	Solid electrolyte cyclic voltammetry for in situ investigation of catalyst surfaces. Journal of Catalysis, 1991, 129, 67-87.	6.2	63

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73	Non-faradaic electrochemical modification of catalytic activity 4. The use of $\beta$ -Al <sub>2</sub> O <sub>3</sub> as the solid electrolyte. Journal of Catalysis, 1991, 128, 415-435.	6.2	91
74	Non-Faradaic Electrochemical Modification of Catalytic Activity: Partial Oxidation of C <sub>2</sub> H <sub>4</sub> On Ag And CH <sub>3</sub> OH On Pt. Studies in Surface Science and Catalysis, 1990, , 643-652.	1.5	2
75	Non-faradaic electrochemical modification of catalytic activity 1. The case of ethylene oxidation on Pt. Journal of Catalysis, 1989, 118, 125-146.	6.2	197
76	Speeds of Wave Propagation in Ideal Gaseous Molecular and Neutrino Media. Journal of Physical Chemistry B, 0, , .	2.6	0