

Brian E Hayden

List of Publications by Year in descending order

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66234

42
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88477

70
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135
all docs

135
docs citations

135
times ranked

4345
citing authors

#	ARTICLE	IF	CITATIONS
1	An infrared study of the adsorption of CO on a stepped platinum surface. <i>Surface Science</i> , 1985, 149, 394-406.	0.8	274
2	Coupled translational-vibrational activation in dissociative hydrogen adsorption on Cu(110). <i>Physical Review Letters</i> , 1989, 63, 1823-1825.	2.9	239
3	Dipole coupling and chemical shifts in IRAS of CO adsorbed on Cu(110). <i>Surface Science</i> , 1982, 123, 397-412.	0.8	209
4	An iras study of formic acid and surface formate adsorbed on Cu(110). <i>Surface Science</i> , 1983, 133, 589-604.	0.8	204
5	Alkali metal-induced reconstruction of Ag(110). <i>Solid State Communications</i> , 1983, 48, 325-328.	0.9	203
6	An infra-red reflection absorption study of the adsorption of NO on Pt(111). <i>Surface Science</i> , 1983, 131, 419-432.	0.8	190
7	Combinatorial Electrochemical Screening of Fuel Cell Electrocatalysts. <i>ACS Combinatorial Science</i> , 2004, 6, 149-158.	3.3	164
8	Fourier Transform Reflection Absorption IR Spectroscopy Study of Formate Adsorption on TiO ₂ (110). <i>Journal of Physical Chemistry B</i> , 1999, 103, 203-208.	1.2	147
9	Particle Size and Support Effects in Electrocatalysis. <i>Accounts of Chemical Research</i> , 2013, 46, 1858-1866.	7.6	142
10	An infrared spectroscopic study of CO on Cu(111): The linear, bridging and physisorbed species. <i>Surface Science</i> , 1985, 155, 553-566.	0.8	127
11	Stepped single-crystal surfaces as models for small catalyst particles. <i>Surface Science</i> , 1985, 152-153, 338-345.	0.8	117
12	The electro-oxidation of carbon monoxide on ruthenium modified Pt(). <i>Surface Science</i> , 2002, 496, 110-120.	0.8	112
13	The role of steps in the dynamics of hydrogen dissociation on Pt(533). <i>Journal of Chemical Physics</i> , 2000, 112, 7660-7668.	1.2	101
14	Electro-oxidation of Carbon Monoxide on Well-Ordered Pt(111)/Sn Surface Alloys. <i>Journal of the American Chemical Society</i> , 2003, 125, 7738-7742.	6.6	100
15	The early stages of oxidation of magnesium single crystal surfaces. <i>Surface Science</i> , 1981, 111, 26-38.	0.8	98
16	Vibrational and translational energy partition and the barrier to dissociative H ₂ and D ₂ adsorption on Cu(110). <i>Surface Science</i> , 1991, 243, 31-42.	0.8	95
17	Physical Vapor Deposition Method for the High-Throughput Synthesis of Solid-State Material Libraries. <i>ACS Combinatorial Science</i> , 2006, 8, 66-73.	3.3	94
18	The modification of Pt(110) by ruthenium: CO adsorption and electro-oxidation. <i>Surface Science</i> , 2000, 467, 118-130.	0.8	87

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19	The electrooxidation of carbon monoxide on ruthenium modified Pt(110). <i>Electrochimica Acta</i> , 1998, 44, 1181-1190.	2.6	86
20	A Combinatorial Approach to the Study of Particle Size Effects on Supported Electrocatalysts: Oxygen Reduction on Gold. <i>ACS Combinatorial Science</i> , 2006, 8, 679-686.	3.3	81
21	Electrocatalytic Reduction of Nitrate on Activated Rhodium Electrode Surfaces. <i>Journal of Applied Electrochemistry</i> , 2004, 34, 781-796.	1.5	73
22	High-Throughput Synthesis and Screening of Ternary Metal Alloys for Electrocatalysis. <i>Journal of Physical Chemistry B</i> , 2006, 110, 14355-14362.	1.2	71
23	The adsorption of carbon monoxide on TiO ₂ (110) supported palladium. <i>Surface Science</i> , 1996, 360, 61-73.	0.8	66
24	Enhanced Activity for Electrocatalytic Oxidation of Carbon Monoxide on Titania-Supported Gold Nanoparticles. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 3530-3532.	7.2	66
25	The influence of support and particle size on the platinum catalysed oxygen reduction reaction. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 9141.	1.3	64
26	The energy and angular dependence of dissociative hydrogen adsorption on Cu(110). <i>Chemical Physics Letters</i> , 1989, 160, 331-334.	1.2	61
27	The dynamics of O ₂ adsorption on Pt(533): Step mediated molecular chemisorption and dissociation. <i>Journal of Chemical Physics</i> , 2000, 113, 10333-10343.	1.2	61
28	Platinum catalysed nanoporous titanium dioxide electrodes in H ₂ SO ₄ solutions. <i>Electrochemistry Communications</i> , 2001, 3, 395-399.	2.3	59
29	CO Oxidation on Gold in Acidic Environments: Particle Size and Substrate Effects. <i>Journal of Physical Chemistry C</i> , 2007, 111, 17044-17051.	1.5	59
30	High throughput optimisation of PdCu alloy electrocatalysts for the reduction of nitrate ions. <i>Journal of Catalysis</i> , 2013, 305, 27-35.	3.1	59
31	A TPD and IR study of co-adsorption of NO and oxygen on Ru(001). <i>Surface Science</i> , 1983, 125, 366-376.	0.8	58
32	UHV and electrochemical transfer studies on Pt(110)-(1 Å ⁻²): the influence of bismuth on hydrogen and oxygen adsorption, and the electro-oxidation of carbon monoxide. <i>Journal of Electroanalytical Chemistry</i> , 1996, 409, 51-63.	1.9	57
33	The interaction of oxygen with aluminium: Mainly ellipsometric aspects. <i>Surface Science</i> , 1981, 109, 207-220.	0.8	56
34	The chemistry of rhodium on TiO ₂ (110) deposited by MOCVD of [Rh(CO)2Cl] ₂ and MVD. <i>Surface Science</i> , 1994, 301, 61-82.	0.8	56
35	Early stages in the oxidation of magnesium, aluminium and magnesium/aluminium alloys. <i>Surface Science</i> , 1981, 102, 207-226.	0.8	53
36	Infrared-Active Combination Band in a Surface Formate Species. <i>Physical Review Letters</i> , 1983, 51, 475-478.	2.9	52

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37	A vibrational study of the hydrogen induced reconstructions on Cu(110). <i>Surface Science</i> , 1990, 239, 119-126.	0.8	52
38	The dynamics of the dissociative adsorption of methane on Pt(533). <i>Journal of Chemical Physics</i> , 2003, 118, 3334-3341.	1.2	48
39	The hydrogen evolution reaction and hydrogen oxidation reaction on thin film PdAu alloy surfaces. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 11398.	1.3	48
40	The Particle Size Dependence of the Oxygen Reduction Reaction for Carbon-Supported Platinum and Palladium. <i>ChemSusChem</i> , 2013, 6, 1973-1982.	3.6	48
41	Precursor dynamics in dissociative hydrogen adsorption on W (100). <i>Chemical Physics Letters</i> , 1994, 217, 423-429.	1.2	44
42	The influence of Pt particle size on the surface oxidation of titania supported platinum. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 1564.	1.3	44
43	Reversible perovskite electrocatalysts for oxygen reduction/oxygen evolution. <i>Chemical Science</i> , 2019, 10, 4609-4617.	3.7	41
44	Adsorbate induced phase changes of rhodium on TiO ₂ (110). <i>Surface Science</i> , 1992, 279, L159-L164.	0.8	40
45	Roadmap on inorganic perovskites for energy applications. <i>JPhys Energy</i> , 2021, 3, 031502.	2.3	40
46	Combinatorial Approach to the Study of Particle Size Effects in Electrocatalysis: Synthesis of Supported Gold Nanoparticles. <i>ACS Combinatorial Science</i> , 2006, 8, 791-798.	3.3	38
47	High Throughput Methodology for Synthesis, Screening, and Optimization of Solid State Lithium Ion Electrolytes. <i>ACS Combinatorial Science</i> , 2011, 13, 375-381.	3.8	38
48	In Situ STM Study of CdTe ECALE Bilayers on Gold. <i>Journal of Physical Chemistry B</i> , 1998, 102, 4897-4905.	1.2	37
49	Electrode coatings from sprayed titanium dioxide nanoparticles – behaviour in NaOH solutions. <i>Electrochemistry Communications</i> , 2001, 3, 390-394.	2.3	35
50	Hydrogen Evolution and Hydrogen Oxidation on Palladium Bismuth Alloys. <i>Topics in Catalysis</i> , 2011, 54, 77-82.	1.3	35
51	Synthesis and Screening of Phase Change Chalcogenide Thin Film Materials for Data Storage. <i>ACS Combinatorial Science</i> , 2017, 19, 478-491.	3.8	35
52	A molecular beam study of the O ₂ /Pt(111) interaction. <i>Surface Science</i> , 1992, 272, 256-263.	0.8	34
53	An IR reflection-absorption study of the CO/Ni(100) adsorption system. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1986, 38, 187-195.	0.8	33
54	Rhodium geminal dicarbonyl on TiO ₂ (110). <i>Journal of the American Chemical Society</i> , 1992, 114, 6912-6913.	6.6	33

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55	A High-Throughput Approach Developing Lithium-Niobium-Tantalum Oxides as Electrolyte/Cathode Interlayers for High-Voltage All-Solid-State Lithium Batteries. <i>Journal of the Electrochemical Society</i> , 2015, 162, A722-A726.	1.3	32
56	Stoichiometric Engineering of Chalcogenide Semiconductor Alloys for Nanophotonic Applications. <i>Advanced Materials</i> , 2019, 31, e1807083.	11.1	32
57	In-Situ STM Study of Te UPD Layers on Low Index Planes of Gold. <i>Journal of Physical Chemistry B</i> , 1997, 101, 7751-7757.	1.2	31
58	The reaction of hydrogen with TiO ₂ (110) supported rhodium gem-dicarbonyl. <i>Surface Science</i> , 1998, 397, 306-313.	0.8	31
59	A comparison of the chemistry of Rh(acac)(CO) ₂ and Rh(CO) ₂ Cl adsorbed on TiO ₂ [110]: development of particulate Rh and oxidative disruption by CO. <i>Surface Science</i> , 2000, 462, 169-180.	0.8	31
60	The mechanism of the poisoning of ammonia synthesis catalysts by oxygenates O ₂ , CO and H ₂ O: an in situ method for active surface determination. <i>Catalysis Letters</i> , 1994, 24, 197-210.	1.4	30
61	The alignment of a surface species determined by FT-RAIRS: rhodium gem-dicarbonyl on TiO ₂ (110). <i>Chemical Physics Letters</i> , 1997, 269, 485-488.	1.2	27
62	The mechanism of sticking trapping and direct dissociation of carbon monoxide on Cu(110). <i>Surface Science</i> , 1990, 232, 24-34.	0.8	26
63	Rotational excitation in scattering of hyperthermal NO from Pt(111). <i>Journal of Chemical Physics</i> , 1995, 102, 3835-3847.	1.2	26
64	The blocking of the step-mediated indirect channel to hydrogen dissociation by oxygen on Pt(533). <i>Surface Science</i> , 2002, 512, 165-172.	0.8	26
65	Innovative catalyst supports to address fuel cell stack durability. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 640-645.	3.8	25
66	Multibeam Dual-Circularly Polarized Reflectarray for Connected and Autonomous Vehicles. <i>IEEE Transactions on Vehicular Technology</i> , 2019, 68, 3574-3585.	3.9	25
67	Bismuth adsorption on Pt(110) and the coadsorption of carbon monoxide. <i>Surface Science</i> , 1993, 294, 33-42.	0.8	24
68	An ellipsometric study of potassium adsorption on TiO ₂ (110). <i>Surface Science</i> , 1992, 274, 277-286.	0.8	23
69	The indirect channel to hydrogen dissociation on W(100)-c(2 $\sqrt{2}$ –2)Cu. Evidence for a dynamical precursor. <i>Chemical Physics Letters</i> , 1995, 232, 542-546.	1.2	22
70	Single crystal and high area titania supported rhodium: the interaction of supported Rh(CO) ₂ with NO. <i>Journal of Molecular Catalysis A</i> , 2001, 167, 33-46.	4.8	22
71	High-Throughput Synthesis and Screening of Hydrogen-Storage Alloys. <i>ACS Combinatorial Science</i> , 2008, 10, 37-43.	3.3	22
72	A simultaneous screening of the corrosion resistance of Ni–W thin film alloys. <i>Electrochimica Acta</i> , 2013, 111, 930-936.	2.6	22

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73	Oxygen reduction and oxygen evolution on SrTi _{1-x} FexO _{3-y} (STFO) perovskite electrocatalysts. <i>Journal of Electroanalytical Chemistry</i> , 2018, 819, 275-282.	1.9	21
74	Scattering and dissociation of H ₂ /D ₂ at Fe(110). <i>Faraday Discussions</i> , 1993, 96, 161.	1.6	20
75	Adsorption and thermal decomposition of Mo(CO) ₆ on TiO ₂ (110). <i>Journal of the Chemical Society, Faraday Transactions</i> , 1996, 92, 4733.	1.7	20
76	Photoemission band mapping via surface umklapp. <i>Solid State Communications</i> , 1984, 52, 937-940.	0.9	19
77	Rotational rainbows in NO scattering from Pt(111). <i>Faraday Discussions</i> , 1993, 96, 297.	1.6	19
78	The promotion of CO electro-oxidation on platinum-bismuth as a model for surface mediated oxygen transfer. <i>Catalysis Today</i> , 1997, 38, 473-481.	2.2	19
79	High-Throughput Synthesis and Characterization of (Ba _x Sr _{1-x}) _{1-y} Ti ₃ O ₇ and (Ba _x Sr _{1-x}) _{1-y} Ti ₃ O ₇ Perovskite Thin Films. <i>Crystal Growth and Design</i> , 2014, 14, 522-532.	1.4	19
80	The dynamics of hydrogen dissociation on W(100)-c(2 Å × 2)Cu. <i>Surface Science</i> , 1995, 337, 67-78.	0.8	18
81	Growth of amorphous, anatase and rutile phase TiO ₂ thin films on Pt/TiO ₂ /SiO ₂ /Si (SSTOP) substrate for resistive random access memory (ReRAM) device application. <i>Ceramics International</i> , 2020, 46, 16310-16320.	2.3	16
82	Survival mechanism for rotational rainbows in highly attractive molecule-surface systems: NO scattering from Pt(111). <i>Chemical Physics Letters</i> , 1993, 216, 93-99.	1.2	15
83	Non-Noble Intertransition Binary Metal Alloy Electrocatalyst for Hydrogen Oxidation and Hydrogen Evolution. <i>Journal of Physical Chemistry C</i> , 2011, 115, 19226-19230.	1.5	15
84	The adsorption of CO on Pt(111) studied by infrared-reflection-adsorption spectroscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1983, 30, 51.	0.8	14
85	Molecular beam scattering of CO from Cu(110): the effect of incident translational energy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1987, 45, 351-359.	0.8	14
86	On the mechanism of poisoning and promotion of ammonia synthesis. <i>Topics in Catalysis</i> , 1994, 1, 295-301.	1.3	14
87	The high throughput electrochemical screening of the corrosion resistance of Ni-Cr thin film alloys. <i>Electrochimica Acta</i> , 2012, 76, 389-393.	2.6	14
88	Ellipsometric study of oxygen on a Ag(110) surface around the plasma frequency of silver. <i>Surface Science</i> , 1982, 118, 649-658.	0.8	12
89	Dissociation dynamics on ordered surface alloys. <i>Journal of Physics Condensed Matter</i> , 1999, 11, 8397-8415.	0.7	12
90	High throughput physical vapour deposition and dielectric and ferroelectric screening of (Bi,Na)TiO ₃ thin-film libraries. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	12

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91	Optical Response of Nanohole Arrays Filled with Chalcogenide Low-ε Media. <i>Advanced Optical Materials</i> , 2018, 6, 1800395.	3.6	12
92	Compositionally controlled plasmonics in amorphous semiconductor metasurfaces. <i>Optics Express</i> , 2018, 26, 20861.	1.7	12
93	A Monte Carlo simulation of two-point adsorption on binary metal alloy surfaces. <i>Surface Science</i> , 1979, 80, 401-411.	0.8	11
94	Dynamics of hydrogen adsorption on clean and alkali-metal covered Cu(110). <i>Faraday Discussions of the Chemical Society</i> , 1991, 91, 415.	2.2	10
95	The stability and electro-oxidation of carbon monoxide on model electrocatalysts: Pt(111)-Sn(2Å-2) and Pt(111)-Sn(3Å-3)R3O ^o . <i>Journal of Molecular Catalysis A</i> , 2005, 228, 55-65.	4.8	10
96	Ellipsometric evidence for optical anisotropy of oxygen covered silver (110) surfaces. <i>Surface Science</i> , 1983, 135, 374-382.	0.8	9
97	Dissociative hydrogen adsorption and its reaction with oxygen on Cu(110). <i>Journal of Physics Condensed Matter</i> , 1989, 1, SB33-SB37.	0.7	9
98	Dynamics of direct and indirect channels to dissociative adsorption. <i>Topics in Catalysis</i> , 1994, 1, 343-351.	1.3	9
99	High throughput synthesis and characterization of the PbnNb2O5+n (0.5<n<4.1) system on a single chip. <i>Acta Materialia</i> , 2011, 59, 2201-2209.	3.8	9
100	Combinatorial synthesis and screening of (Ba,Sr)(Ti,Mn)O ₃ thin films for optimization of tunable co-planar waveguides. <i>Journal of Materials Chemistry C</i> , 2018, 6, 6222-6228.	2.7	9
101	Application of spectroscopic ellipsometry to the adsorption of oxygen on silver (110). <i>Surface Science</i> , 1982, 117, 331-341.	0.8	8
102	Structural, dielectric and ferroelectric properties of (Bi,Na)TiO3-BaTiO3 system studied by high throughput screening. <i>Thin Solid Films</i> , 2016, 603, 108-114.	0.8	8
103	ABO ₃ and A _{1-x} C _x B _{1-y} D _y (O _{1-z} E _z) ₃ : review of experimental optimisation of thin film perovskites by high-throughput evaporative physical vapour deposition. <i>Chemical Communications</i> , 2019, 55, 10047-10055.	2.2	8
104	An infra-red study of CO adsorption on potassium-doped pt(110)-(1 Å- 2); the long range potassium-CO interaction. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1987, 44, 297-304.	0.8	7
105	Substrate-Mediated Oxidation of Carbon Residues by TiO2{110}-Supported Model Catalysts: Metal-, Precursor-, and Treatment-Dependent Labilization of Framework Oxygen. <i>Journal of Physical Chemistry B</i> , 2000, 104, 8548-8553.	1.2	7
106	Support and Particle Size Effects in Electrocatalysis. , 0, , 567-592.		7
107	The particle size dependence of CO oxidation on model planar titania supported gold catalysts measured by parallel thermographic imaging. <i>Journal of Catalysis</i> , 2019, 369, 175-180.	3.1	7
108	The adsorption of NO on Ru(001) and its co-adsorption with oxygen studied by vibrational spectroscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1983, 29, 261.	0.8	6

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109	A high resolution vibrational spectroscopic study of the formate intermediate on Cu(110). <i>Vacuum</i> , 1983, 33, 876-877.	1.6	6
110	Vibrational Spectroscopy at Oxide Surfaces. <i>Chemical Physics of Solid Surfaces</i> , 2001, , 514-549.	0.3	6
111	Promotion in ammonia synthesis: A pressure dependent phenomenon. <i>Topics in Catalysis</i> , 1994, 1, 43-61.	1.3	5
112	TiO ₂ (110)-(1 \times 1) supported Cu particles: An FT-RAIRS investigation. <i>Surface Science</i> , 2011, 605, 174-178.	0.8	5
113	High-Throughput Synthesis and Characterization of Eu Doped Ba _x Sr _{2-x} SiO ₄ Thin Film Phosphors. <i>ACS Combinatorial Science</i> , 2018, 20, 451-460.	3.8	5
114	The dynamics of nitrogen dissociation on W(100)-c(2 \times 2)Cu. <i>Surface Science</i> , 1995, 342, 21-28.	0.8	4
115	Origin of improved tunability and loss in N_2 annealed barium strontium titanate films. <i>Physical Review Materials</i> , 2020, 4, .	0.9	4
116	Evidence for molecular reorientation of CO from RAIRS intensity measurements. <i>Vacuum</i> , 1988, 38, 357-359.	1.6	3
117	Hayden and Lamont reply. <i>Physical Review Letters</i> , 1990, 65, 2834-2834.	2.9	3
118	High-Throughput Structure/Function Screening of Materials and Catalysts with Multiple Spectroscopic Techniques. <i>AIP Conference Proceedings</i> , 2007, , .	0.3	3
119	Novel metal gates for high $\hat{\nu}$ applications. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	3
120	The Structure and Reactivity of TiO ₂ (110) Supported Palladium and Rhodium. , 1997, , 215-235.		3
121	Adsorbate-mediated resonant energy transfer during inelastic scattering from Cu(110). <i>Chemical Physics Letters</i> , 1989, 158, 18-23.	1.2	2
122	Direct and indirect channels to molecular dissociation at metal and metal alloy surfaces. <i>Chemical Physics of Solid Surfaces</i> , 2003, 11, 177-221.	0.3	2
123	Electronically Beam-steerable Dual-band Reflectarray for Satellite Communications. , 2019, , .		2
124	Adsorbate induced phase changes of rhodium on TiO ₂ (110). <i>Surface Science Letters</i> , 1992, 279, L159-L164.	0.1	1
125	Combinatorial Electrochemical Screening of Fuel Cell Electrocatalysts.. <i>ChemInform</i> , 2004, 35, no.	0.1	1
126	High-Throughput Synthesis and Characterization of Thin Film High Entropy Alloys Based on the Fe-Ni-Co-Cu-Ga System. , 2015, , 1139-1146.		1

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127	An IR study of the $\hat{\text{E}}$ -CO CO-adsorption state in the system CO/H/Ni(100). Surface Science Letters, 1987, 183, L279-L284.	0.1	0
128	Single-Crystal Surfaces as Model Platinum-Based Hydrogen Fuel Cell Electrocatalysts. , 2003, , .		0
129	Synthesis of the Ferroelectric Solid Solution, $\text{Pb}(\text{Zr}1\hat{\sim}\text{xTi}\text{x})\text{O}_3$ on a Single Substrate Using a Modified Molecular Beam Epitaxy Technique. Materials Research Society Symposia Proceedings, 2007, 1034, 134.	0.1	0
130	Photonic Metamaterials: Optical Response of Nanohole Arrays Filled with Chalcogenide Low-Epsilon Media (Advanced Optical Materials 22/2018). Advanced Optical Materials, 2018, 6, 1870088.	3.6	0
131	Material Optimisation for Optical Data Storage. , 2005, , .		0
132	ELLIPSOMETRIC STUDY OF OXYGEN ON A Ag(110) SURFACE AROUND THE PLASMA FREQUENCY OF SILVER. Journal De Physique Colloque, 1983, 44, C10-393-C10-393.	0.2	0