Luca Vattuone

List of Publications by Year in descending order

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132 papers	3,800 citations	117571 34 h-index	149623 56 g-index
136 all docs	136 docs citations	136 times ranked	2823 citing authors

#	Article	IF	Citations
1	Influence of Defects and Heteroatoms on the Chemical Properties of Supported Graphene Layers. Coatings, 2022, 12, 397.	1.2	9
2	Adsorption of Glutamic acid on clean and hydroxylated rutile TiO₂(110): an XPS and NEXAFS investigation. Journal of Physics Condensed Matter, 2022, , .	0.7	2
3	Boudouard reaction under graphene cover on Ni(1 1 1). Applied Surface Science, 2022, 599, 154065.	3.1	5
4	Correlating hydrophobicity to surface chemistry of microstructured aluminium surfaces. Applied Surface Science, 2021, 542, 148574.	3.1	27
5	Morphological characterization and electronic properties of pristine and oxygen-exposed graphene nanoribbons on Ag(110). Physical Chemistry Chemical Physics, 2021, 23, 7926-7937.	1.3	2
6	Graphene growth on Ni (1 1 1) by CO exposure at near ambient pressure. Chemical Physics Letters, 2021, 774, 138596.	1.2	8
7	Prominence of Terahertz Acoustic Surface Plasmon Excitation in Gasâ€“Surface Interaction with Metals. Journal of Physical Chemistry Letters, 2021, 12, 9894-9898.	2.1	3
8	2D Ni Nanoclusters on Ultrathin MgO/Ag(100). Journal of Physical Chemistry C, 2020, 124, 482-488.	1.5	1
9	Interface Oxygen Induced Internal Structures of Ultrathin MgO Islands Grown on Ag(100). Journal of Physical Chemistry C, 2020, 124, 8834-8842.	1.5	5
10	Vibrational fingerprint of the catalytically-active FeO2-x iron oxide phase on Pt(1Â1Â1). Applied Surface Science, 2020, 512, 145774.	3.1	1
11	Graphene. Springer Handbooks, 2020, , 1171-1198.	0.3	2
12	Energetics of Adsorption: Single Crystal Calorimetry. Springer Handbooks, 2020, , 1005-1033.	0.3	1
13	Plasmons in One and Two Dimensions. Springer Handbooks, 2020, , 557-584.	0.3	1
14	State Resolved Sticking Probability in Gas-Surface Interaction. Springer Handbooks, 2020, , 1053-1084.	0.3	1
15	Chemisorption of CO on N-doped graphene on Ni(111). Applied Surface Science, 2018, 428, 775-780.	3.1	18
16	Synthesis of corrugated C-based nanostructures by Br-corannulene oligomerization. Physical Chemistry Chemical Physics, 2018, 20, 26161-26172.	1.3	9
17	Influence of Defects on Adsorptionâ€"Model Studies With Stepped Surfaces. , 2018, , 138-165.		2
18	Deciphering complex features in STM images of O adatoms on Ag(110). Physical Review B, 2018, 98, .	1.1	6

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19	Influence of growing conditions on the reactivity of Ni supported graphene towards CO. Journal of Chemical Physics, 2017, 146, 104704.	1.2	14
20	Adatom Extraction from Pristine Metal Terraces by Dissociative Oxygen Adsorption: Combined STM and Density Functional Theory Investigation of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">O</mml:mi><mml:mo>/</mml:mo><mml:mi>Ag</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>110</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 682 Td (stretchy="false">)</mm	2.9	11
21	Comment on â€œAdsorption of hydrogen and hydrocarbon molecules on SiC(001)â€•by Pollmann et al. (Surf. Sci. Rep. 69 (2014) 55â€“104). Surface Science, 2016, 644, L170-L171.	0.8	1
22	Phonons in Thin Oxide Films. Springer Series in Materials Science, 2016, , 169-199.	0.4	2
23	CO chemisorption at vacancies of supported graphene films: a candidate for a sensor?. Physical Chemistry Chemical Physics, 2016, 18, 18692-18696.	1.3	15
24	Enhanced Chemical Reactivity of Pristine Graphene Interacting Strongly with a Substrate: Chemisorbed Carbon Monoxide on Graphene/Nickel(1â€‰1â€‰1). ChemCatChem, 2015, 7, 2328-2331.	1.8	36
25	Sticking Probability and Reactivity of Hyperthermal O2 Molecules Impinging on CO Pre-covered Pd(100): Effect of Rotational States with KÂ>Â1. Topics in Catalysis, 2015, 58, 580-590.	1.3	1
26	Spontaneous Oxidation of Ni Nanoclusters on MgO Monolayers Induced by Segregation of Interfacial Oxygen. Journal of Physical Chemistry Letters, 2015, 6, 3104-3109.	2.1	15
27	DFT Atomistic Thermodynamics Applied To Elucidate the Driving Force behind Glutamic Acid Self-Assemblies on Silver (100) Surface. Journal of Physical Chemistry C, 2014, 118, 29874-29879.	1.5	7
28	Anisotropic Dispersion and Partial Localization of Acoustic Surface Plasmons on an Atomically Stepped Surface: Au(788). Physical Review Letters, 2014, 113, 186804.	2.9	13
29	How Growing Conditions and Interfacial Oxygen Affect the Final Morphology of MgO/Ag(100) Films. Journal of Physical Chemistry C, 2014, 118, 26091-26102.	1.5	31
30	Morphology of Monolayer MgO Films on Ag(100): Switching from Corrugated Islands to Extended Flat Terraces. Physical Review Letters, 2014, 112, 126102.	2.9	60
31	High Resolution Electron Energy Loss Spectroscopy (HREELS): A Sensitive and Versatile Surface Tool. Springer Series in Surface Sciences, 2013, , 499-529.	0.3	6
32	Spectroscopic Evidence for Neutral and Anionic Adsorption of (S)-Glutamic Acid on Ag(111). Langmuir, 2013, 29, 6867-6875.	1.6	6
33	Unraveling the Self-Assembly of the (S)-Glutamic Acid â€œFlowerâ€•Structure on Ag(100). Langmuir, 2013, 29, 7876-7884.	1.6	19
34	Hydrogen-induced nanotunnel opening within semiconductor subsurface. Nature Communications, 2013, 4, .	5.8	10
35	Correlated Motion of Electrons on the Au(111) Surface: Anomalous Acoustic Surface-Plasmon Dispersion and Single-Particle Excitations. Physical Review Letters, 2013, 110, 127405.	2.9	46
36	Accretion disc origin of the Earth's water. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20110585.	1.6	14

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37	Supersonic Molecular Beams Studies of Surfaces. Springer Series in Surface Sciences, 2013, , 1-23.	0.3	3
38	The effect of step geometry in copper oxidation by hyperthermal O2 molecular beam: Cu(511) vs Cu(410). Journal of Chemical Physics, 2012, 136, 094704.	1.2	9
39	Coupling scanning tunneling microscope and supersonic molecular beams: A unique tool for in situ investigation of the morphology of activated systems. Review of Scientific Instruments, 2012, 83, 093703.	0.6	6
40	Acoustic Surface Plasmon Dispersion on Nanostructured Cu(111). Plasmonics, 2012, 7, 323-329.	1.8	19
41	(S)-Glutamic Acid on Ag(100): Self-Assembly in the Nonzwitterionic Form. Langmuir, 2011, 27, 2393-2404.	1.6	20
42	Stoichiometry-Dependent Chemical Activity of Supported MgO(100) Films. Journal of Physical Chemistry A, 2011, 115, 7161-7168.	1.1	21
43	Poisoning and non-poisoning oxygen on Cu(410). Journal of Physics Condensed Matter, 2011, 23, 484001.	0.7	1
44	Acoustic surface plasmon on Cu(111). Europhysics Letters, 2010, 90, 57006.	0.7	59
45	Stereoselectivity in catalytic reactions: CO oxidation on Pd(100) by rotationally aligned O2 molecules. European Physical Journal B, 2010, 75, 81-87.	0.6	6
46	Interaction of rotationally aligned and of oriented molecules in gas phase and at surfaces. Progress in Surface Science, 2010, 85, 92-160.	3.8	71
47	Common fingerprint of hydroxylated non-polar steps on MgO smoke and MgO films. Surface Science, 2010, 604, 252-257.	0.8	12
48	O₂dissociation before the onset of added row nucleation on Ag(110): an atomistic scanning tunnelling microscopy view. Journal of Physics Condensed Matter, 2010, 22, 304015.	0.7	9
49	Self-Assembly of (S)-Glutamic Acid on Ag(100): A Combined LT-STM and Ab Initio Investigation. Langmuir, 2010, 26, 7208-7215.	1.6	29
50	Hydrogen-Assisted Transformation of CO₂ on Nickel: The Role of Formate and Carbon Monoxide. Journal of Physical Chemistry Letters, 2010, 1, 402-406.	2.1	111
51	Selective Production of Reactive and Nonreactive Oxygen Atoms on Pd(001) by Rotationally Aligned Oxygen Molecules. Angewandte Chemie - International Edition, 2009, 48, 4845-4848.	7.2	27
52	Ethene Adsorption and Decomposition on the Cu(410) Surface. Journal of Physical Chemistry C, 2009, 113, 20881-20889.	1.5	20
53	Dynamics of Ethene Adsorption on Clean and C-Contaminated Cu(410). Journal of Physical Chemistry C, 2009, 113, 20875-20880.	1.5	13
54	Ethene stabilization on Cu(111) by surface roughness. Journal of Chemical Physics, 2009, 131, 024701.	1.2	17

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55	Bridging the structure gap: Chemistry of nanostructured surfaces at well-defined defects. Surface Science Reports, 2008, 63, 101-168.	3.8	120
56	Initial sticking probability of O2 on Cu(410). Surface Science, 2008, 602, 2689-2692.	0.8	5
57	Band structure effects on the Be(0001) acoustic surface plasmon energy dispersion. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1307-1311.	0.8	19
58	Ethylene Decomposition at Undercoordinated Sites on Cu(410). Journal of the American Chemical Society, 2008, 130, 12552-12553.	6.6	37
59	Carbon Dioxide Hydrogenation on Ni(110). Journal of the American Chemical Society, 2008, 130, 11417-11422.	6.6	151
60	The 12th International Conference on Vibrations at Surfaces (VAS 12) (Erice, 20â€“26 July 2007). Journal of Physics Condensed Matter, 2008, 20, 220301.	0.7	1
61	Oxygen interaction at Ag(511): from chemisorption to the initial stages of oxide formation. Journal of Physics Condensed Matter, 2008, 20, 224006.	0.7	5
62	Tuning the Stoichiometry of Surface Oxide Phases by Step Morphology:<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Ag</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>511</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 467 Td (stretchy="false">)</mm xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Ag</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>210</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 437 Td (stretchy="false">)</mm	2.9	18
63	Interaction of carbon dioxide with Ni(110): A combined experimental and theoretical study. Physical Review B, 2007, 76, .	1.1	78
64	X-ray photoemission study of the temperature-dependent CuO formation on Cu(410) using an energeticO2molecular beam. Physical Review B, 2007, 75, .	1.1	39
65	From adsorption at the surface to incorporation into subsurface sites: the role of steps for O/Ag. Applied Physics A: Materials Science and Processing, 2007, 87, 399-404.	1.1	18
66	High-resolution Electron Energy Loss Spectroscopy Study of O-Cu(410). Journal of Physical Chemistry B, 2007, 111, 1679-1683.	1.2	10
67	Unravelling the Role of Steps in Cu₂O Formation via Hyperthermal O₂ Adsorption at Cu(410). Journal of Physical Chemistry C, 2007, 111, 17340-17345.	1.5	18
68	Pressure and temperature dependence of cuprous oxide nucleation on Cu(410). Journal of Physics Condensed Matter, 2007, 19, 305022.	0.7	9
69	Low-energy acoustic plasmons at metal surfaces. Nature, 2007, 448, 57-59.	13.7	189
70	Subsurface Oxygen Stabilization by a Third Species:â€‰ Carbonates on Ag(210). Journal of Physical Chemistry C, 2007, 111, 10923-10930.	1.5	16
71	Monitoring Super- and Subsurface Oxygen on Ag(210) by High Energy Resolution X-ray Photoelectron Spectroscopy:Â Subsurface Diffusion and Segregation. Journal of Physical Chemistry B, 2006, 110, 942-947.	1.2	18
72	Cooling and alignment of ethylene molecules in supersonic seeded expansions: diagnostic and application to gas phase and surface scattering experiments. European Physical Journal D, 2006, 38, 121-127.	0.6	9

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73	Role of Rotational Alignment in Dissociative Chemisorption and Oxidation: O2 on Bare and CO-Precovered Pd(100). Angewandte Chemie - International Edition, 2006, 45, 6655-6658.	7.2	44
74	Collisionally aligned molecular beams: a tool for stereodynamical studies in the gas phase and at surfaces. Physica Scripta, 2006, 73, C20-C24.	1.2	7
75	STM study of hydroxyl formation atOâˆ•Ag(110). Physical Review B, 2006, 74, .	1.1	19
76	Coverage dependence of the sticking probability of ethylene on Ag(410). Surface Science, 2005, 587, 110-120.	0.8	11
77	Heterolitic photolysis of O2 on Ag(100). Chemical Physics Letters, 2005, 404, 336-340.	1.2	5
78	Dynamics of propene adsorption on Ag(001). Journal of Chemical Physics, 2005, 122, 134701.	1.2	7
79	New insights on the stereodynamics of ethylene adsorption on an oxygen-precovered silver surface. Journal of Chemical Physics, 2005, 123, 224709.	1.2	19
80	Molecular Ordering and Adsorbate Induced Faceting in the Ag{110}âˆ’(S)-Glutamic Acid System. Langmuir, 2005, 21, 9468-9475.	1.6	51
81	Stereodynamic Effects in the Adsorption of Propylene Molecules on Ag(001). Journal of Physical Chemistry B, 2005, 109, 22884-22889.	1.2	18
82	Coverage dependence of the dynamics of ethylene adsorption on Ag(210). Journal of Physics Condensed Matter, 2004, 16, S2929-S2936.	0.7	4
83	A simple and compact mechanical velocity selector of use to analyze/select molecular alignment in supersonic seeded beams. Review of Scientific Instruments, 2004, 75, 349-354.	0.6	22
84	Stereodynamic Effects in the Adsorption of Ethylene onto a Metal Surface. Angewandte Chemie - International Edition, 2004, 43, 5200-5203.	7.2	50
85	Enhanced Reactivity at Metalâˆ’Oxide Interface:Â Water Interaction with MgO Ultrathin Films. Journal of Physical Chemistry B, 2004, 108, 7771-7778.	1.2	40
86	Steering in non-dissociative chemisorption: ethylene on Ag(410). Chemical Physics Letters, 2003, 382, 605-610.	1.2	5
87	Oxygen vibrations in Oâ€“Ag(001). Surface Science, 2003, 530, 26-36.	0.8	17
88	Interaction of ethylene and oxygen with stepped Ag surfaces. Journal of Electron Spectroscopy and Related Phenomena, 2003, 129, 157-164.	0.8	6
89	Enhanced hydrolysis at monolayer MgO films. Journal of Chemical Physics, 2003, 119, 12053-12056.	1.2	27
90	MgO/Ag(100): Confined vibrational modes in the limit of ultrathin films. Physical Review B, 2003, 67, .	1.1	41

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91	Direct Access to Subsurface Sites in Gas-SurfaceO2/Ag(210)Interactions using Supersonic Molecular Beams. Physical Review Letters, 2003, 90, 228302.	2.9	44
92	Surface plasmon dispersion on sputtered and nanostructured Ag(001). Physical Review B, 2003, 67, .	1.1	18
93	Ethylene Adsorption on Clean and Oxygen Covered Flat and Stepped Ag(001). International Journal of Modern Physics B, 2003, 17, 2497-2526.	1.0	17
94	Chemisorption dynamics in the presence of well defined surface defects. Chemical Physics of Solid Surfaces, 2003, , 223-246.	0.3	3
95	Dynamics of the interaction of O2 with stepped and damaged Ag surfaces. Journal of Physics Condensed Matter, 2003, 15, 2231-2231.	0.7	0
96	Electrostatic electron analyzer with 90Â° deflection angle. Review of Scientific Instruments, 2002, 73, 3861-3866.	0.6	8
97	Real-time XPS investigation of the impact-energy dependence ofC2H4adsorption on Ag(100). Physical Review B, 2002, 66, .	1.1	17
98	Dynamics of the interaction of O2 with stepped and damaged Ag surfaces. Journal of Physics Condensed Matter, 2002, 14, 6065-6079.	0.7	12
99	Dynamics of the gasâ€“surface interaction in presence of well defined defects. Surface Science, 2002, 502-503, 331-340.	0.8	16
100	Formation of channels for oxygen migration towards subsurface sites by CO oxidation and growth of the surface oxide phase on Ag(). Surface Science, 2002, 506, 213-222.	0.8	23
101	Substrate reconstruction and electronic surface states: Ag(001). Surface Science, 2001, 486, 65-72.	0.8	20
102	Transient CO adsorption and the catalytic properties of surfaces. Physical Review B, 2001, 63, .	1.1	24
103	Oxygen interaction with disordered and nanostructured Ag(001) surfaces. Journal of Chemical Physics, 2001, 115, 3346-3355.	1.2	47
104	Role of Steps and of Terrace Width in Gas-Surface Interaction:O2/Ag(410). Physical Review Letters, 2001, 87, 276101.	2.9	50
105	Switching from molecular to dissociative adsorption with vibrational energy: ethylene on Ag(001). Chemical Physics Letters, 2000, 331, 177-183.	1.2	18
106	Negative ion resonances of O2adsorbed on Ag surfaces. Journal of Physics Condensed Matter, 2000, 12, R53-R82.	0.7	11
107	Effect of surface interband transitions on surface plasmon dispersion: O/Ag(001). Physical Review B, 2000, 61, 7324-7327.	1.1	20
108	Phase transition of dissociatively adsorbed oxygen on Ag(001). Physical Review B, 2000, 61, 213-227.	1.1	108

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109	Energetics and kinetics of the interaction of acetylene and ethylene with Pd{100} and Ni{100}. Surface Science, 2000, 447, 1-14.	0.8	69
110	Tuning surface reactivity byin situsurface nanostructuring. Journal of Chemical Physics, 2000, 112, 6840-6843.	1.2	43
111	Influence of Rotational Energy on Adsorption Probability for a Physisorbed System:C2H4onAg(001). Physical Review Letters, 1999, 82, 4878-4881.	2.9	45
112	Adsorption and desorption of Oon Ag surfaces. Vacuum, 1998, 50, 445-450.	1.6	9
113	Breakdown of normal energy scaling at high impact energy for O2 on Ag(001). Surface Science, 1998, 408, L693-L697.	0.8	27
114	Collision induced desorption and dissociation of O2 chemisorbed on Ag(001). Journal of Chemical Physics, 1998, 109, 2490-2502.	1.2	33
115	Calorimetric investigation of NO and CO adsorption on Pd{100} and the influence of preadsorbed carbon. Journal of Chemical Physics, 1997, 106, 1990-1996.	1.2	66
116	Calorimetric heats for CO and oxygen adsorption and for the catalytic CO oxidation reaction on Pt{111}. Journal of Chemical Physics, 1997, 106, 392-401.	1.2	327
117	HREELS study of CO oxidation on Ag(001) by O2 or O. Surface Science, 1997, 374, 1-8.	0.8	34
118	HREELS study of O2 molecular chemisorption on Ag(001). Surface Science, 1997, 377-379, 671-675.	0.8	36
119	Enhanced collision induced desorption and dissociation of O2 chemisorbed on Ag(001) at grazing incidence. Chemical Physics Letters, 1997, 278, 245-250.	1.2	24
120	On the equivalence of EELS and IRAS: the case of Oî—¸Ag(110). Surface Science, 1996, 369, 336-342.	0.8	9
121	Lateral interactions as the determinant in the switch from dissociative to molecular chemisorption: NO on Ni{100}. Catalysis Letters, 1996, 41, 119-123.	1.4	27
122	Energetics and kinetics of CO and NO adsorption on Pt{100}: Restructuring and lateral interactions. Journal of Chemical Physics, 1996, 104, 3810-3821.	1.2	116
123	Adatom bond energies and lateral interaction energies from calorimetry: NO, O2, and N2 adsorption on Ni{100}. Journal of Chemical Physics, 1996, 104, 8096-8102.	1.2	59
124	Low-temperature dissocation ofO2on Ag(110): Surface disorder and reconstruction. Physical Review B, 1994, 49, 5113-5116.	1.1	66
125	Initial sticking coefficient of O2 on Ag(110). Journal of Chemical Physics, 1994, 101, 713-725.	1.2	125
126	Influence of electron reflectivity on the analysis of surface processes:O2-Ag(110). Physical Review B, 1994, 49, 14744-14745.	1.1	10

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127	Azimuthal dependence of sticking probability ofO2on Ag(110). Physical Review Letters, 1994, 72, 510-513.	2.9	64
128	Coverage dependence of sticking coefficient of O2 on Ag(110). Journal of Chemical Physics, 1994, 101, 726-730.	1.2	40
129	Anharmonic shift in the stretching frequency of O2 chemisorbed on Ag (110). Surface Science, 1994, 314, L904-L908.	0.8	40
130	Coverage dependence of the O-Ag (110) vibration. Surface Science, 1994, 317, L1120-L1123.	0.8	26
131	Adsorption of molecular oxygen on Ag(110). Journal of Electron Spectroscopy and Related Phenomena, 1993, 64-65, 577-581.	0.8	12
132	NUMERICAL SIMULATION OF ELECTRON TRAJECTORIES FOR EELS. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1992, 11, 85-88.	0.5	14