

# Matti Alatalo

## List of Publications by Year in descending order

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64  
papers

2,303  
citations

304743

22  
h-index

214800

47  
g-index

64  
all docs

64  
docs citations

64  
times ranked

2124  
citing authors

#	ARTICLE	IF	CITATIONS
1	Increased Elemental Specificity of Positron Annihilation Spectra. <i>Physical Review Letters</i> , 1996, 77, 2097-2100.	7.8	522
2	Theoretical and experimental study of positron annihilation with core electrons in solids. <i>Physical Review B</i> , 1996, 54, 2397-2409.	3.2	242
3	Identification of vacancy defects in compound semiconductors by core-electron annihilation: Application to InP. <i>Physical Review B</i> , 1995, 51, 4176-4185.	3.2	200
4	High temperature oxidation of Fe-Al and Fe-Cr-Al alloys: The role of Cr as a chemically active element. <i>Corrosion Science</i> , 2010, 52, 3394-3404.	6.6	154
5	Vacancy Defects as Compensating Centers in Mg-Doped GaN. <i>Physical Review Letters</i> , 2003, 90, 137402.	7.8	117
6	Size and Shape Dependence of the Electronic and Spectral Properties in TiO <sub>2</sub> Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2011, 115, 8484-8493.	3.1	71
7	Stability of Zr-Al alloys. <i>Physical Review B</i> , 1998, 57, R2009-R2012.	3.2	69
8	Calculation of the Doppler broadening of the electron-positron annihilation radiation in defect-free bulk materials. <i>Physical Review B</i> , 2000, 61, 10092-10099.	3.2	65
9	First-principles study of He in Si. <i>Physical Review B</i> , 1992, 46, 12806-12809.	3.2	52
10	Crystals from metallic clusters: A first-principles calculation. <i>Physical Review B</i> , 1993, 48, 1981-1983.	3.2	39
11	Catalytic oxidation of CO on Pd(111). <i>Surface Science</i> , 2002, 516, 247-253.	1.9	38
12	The contribution made by lattice vacancies to the Wigner effect in radiation-damaged graphite. <i>Journal of Physics Condensed Matter</i> , 2013, 25, 135403.	1.8	37
13	On-surface and sub-surface oxygen on ideal and reconstructed Cu(100). <i>Surface Science</i> , 2005, 584, 62-69.	1.9	36
14	Metastable defect complexes in GaAs. <i>Physical Review B</i> , 1996, 54, 7909-7916.	3.2	33
15	Energetics and diffusion paths of gallium and arsenic adatoms on flat and stepped GaAs(001) surfaces. <i>Surface Science</i> , 1999, 425, 31-47.	1.9	32
16	Metallic Contact between MoS <sub>2</sub> and Ni via Au Nanoglue. <i>Small</i> , 2018, 14, e1704526.	10.0	32
17	Light harvesting properties of ferrocenyl based sensitizer with sulfur rich dithiocarbamates and xanthate as anchoring group. <i>Solar Energy</i> , 2014, 108, 560-569.	6.1	31
18	Adsorption of atomic and molecular oxygen on Cu(100). <i>Catalysis Today</i> , 2005, 100, 403-406.	4.4	30

#	ARTICLE	IF	CITATIONS
19	Phosphorus vacancy in InP: A negative-U-center. Physical Review B, 1993, 47, 6381-6384.	3.2	29
20	Ternary transition-metal aluminide alloy formation: The BiF <sub>3</sub> structure. Physical Review B, 1998, 57, 12134-12139.	3.2	28
21	Charge-state-dependent relaxation and positron states at vacancy defects in GaAs. Journal of Physics Condensed Matter, 1991, 3, 7217-7224.	1.8	23
22	Ab initio studies of stepped Pd surfaces with and without S. Physical Review B, 2003, 67, .	3.2	22
23	Adsorption dynamics of O <sub>2</sub> on Cu(100). Surface Science, 2006, 600, 1574-1578.	1.9	22
24	Refractive Index Functions of TiO <sub>2</sub> Nanoparticles. Journal of Physical Chemistry C, 2013, 117, 3503-3512.	3.1	22
25	Adsorption, diffusion, and vibration of oxygen on Ag(110). Physical Review B, 2015, 92, .	3.2	21
26	Oxidation states of binary oxides from data analytics of the electronic structure. Computational Materials Science, 2019, 161, 403-414.	3.0	21
27	Correlations in coupled electron and hole layers of finite thickness. Physical Review B, 1995, 52, 7845-7848.	3.2	20
28	Effect of lattice structure on the positron annihilation with inner shell electrons. Journal of Physics and Chemistry of Solids, 1998, 59, 55-59.	4.0	18
29	Modeling TiO <sub>2</sub> 's refractive index function from bulk to nanoparticles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 167, 105-118.	2.3	17
30	Site selectivity in chemisorption of C on Pd(211). Physical Review B, 2004, 70, .	3.2	16
31	Adsorption dynamics of O <sub>2</sub> on Cu(1 0 0): The role of vacancies, steps and adatoms in dissociative chemisorption of O <sub>2</sub> . Chemical Physics Letters, 2008, 456, 211-214.	2.6	16
32	First principles study of vacancies in Si. Computational Materials Science, 1993, 1, 151-160.	3.0	15
33	From x-ray-absorption near-edge structures to the d-hole population in Pd-Ag alloys. Physical Review B, 1999, 60, 4659-4664.	3.2	15
34	Synthesis, characterization and light harvesting properties of nickel(II) diimine dithiolate complexes. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2013, 115, 106-110.	3.9	15
35	Positron annihilation at paramagnetic defects in semiconductors. Journal of Physics Condensed Matter, 1993, 5, L307-L314.	1.8	13
36	The momentum distribution of annihilating positron-electron pairs in aluminum. Applied Surface Science, 1997, 116, 278-282.	6.1	13

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37	Ab initio study of the surface properties of austenitic stainless steel alloys. Surface Science, 2013, 609, 190-194.	1.9	13
38	O <sub>2</sub> dissociation on Pd(211) and Cu(211) surfaces. Surface Science, 2007, 601, 3774-3777.	1.9	12
39	Adatom Extraction from Pristine Metal Terraces by Dissociative Oxygen Adsorption: Combined STM and Density Functional Theory Investigation of $O_{\text{ads}}$ on Ag(110) and TiO <sub>2</sub> (110) Surfaces. Physical Chemistry Chemical Physics, 2016, 18, 33068-33076.	7.8	11
40	Simple method for collective excitations in multicomponent mixtures of quantum fluids. Physical Review B, 1990, 42, 10727-10729.	3.2	10
41	Variational calculations for semiconductor superlattices and multilayer systems. Physical Review B, 1994, 49, 8277-8289.	3.2	9
42	Oxygen induced segregation of copper to Ag/Cu(100) surface. Surface Science, 2006, 600, 4103-4107.	1.9	9
43	Structure and reactivity of Pd doped Ag surfaces. Surface Science, 2003, 529, 403-409.	1.9	8
44	Sulphur adsorption on Au{110}: DFT and LEED study. Surface Science, 2010, 604, 797-803.	1.9	8
45	Truncated pseudopotentials for alloy calculations. Physical Review B, 1999, 60, 7680-7683.	3.2	7
46	A DFT study of the effect of SO <sub>4</sub> groups on the properties of TiO <sub>2</sub> nanoparticles. Physical Chemistry Chemical Physics, 2016, 18, 33068-33076.	2.8	7
47	Surface Morphology and Sulfur Reduction Pathways of MoS <sub>2</sub> Mo Edges of the Monolayer and (100) and (103) Surfaces by Molecular Hydrogen: A DFT Study. ACS Omega, 2019, 4, 4023-4028.	3.5	7
48	Ab initio study of hydrogen sensing in Pd and Pt functionalized GaN [0001] nanowires. Applied Surface Science, 2020, 512, 146019.	6.1	7
49	Deciphering complex features in STM images of O adatoms on Ag(110). Physical Review B, 2018, 98, .	3.2	6
50	Synergistic effect of NiAg rutile TiO <sub>2</sub> ternary nanocomposite for efficient visible-light-driven photocatalytic activity. RSC Advances, 2020, 10, 36930-36940.	3.6	6
51	Correlation effects for positron annihilation with core and semicore electrons. Applied Surface Science, 1997, 116, 283-286.	6.1	5
52	Characteristics of S adsorption on Pd vicinal surfaces. Surface Science, 2003, 532-535, 154-159.	1.9	5
53	A DFT study of the effect of OH groups on the optical, electronic, and structural properties of TiO <sub>2</sub> nanoparticles. Physical Chemistry Chemical Physics, 2015, 17, 5321-5327.	2.8	5
54	Collective excitations, pressure, and compressibility in multilayer systems. Physical Review B, 1993, 48, 1665-1668.	3.2	4

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55	Surface core-level shift of Pd at the AgPd111 surface: Nonlinear subsurface effects. Surface Science, 2007, 601, 5419-5423.	1.9	4
56	Unoccupied titanium 3d states due to subcluster formation in stoichiometric TiO <sub>2</sub> nanoparticles. International Journal of Quantum Chemistry, 2015, 115, 1175-1180.	2.0	4
57	LEED IV and DFT study of the co-adsorption of chlorine and water on Cu(100). Surface Science, 2017, 657, 51-57.	1.9	4
58	The role of preadsorbed sulphur and oxygen in O <sub>2</sub> dissociation on Pd(100). Surface Science, 2008, 602, 3660-3666.	1.9	3
59	Reactivity of Pd doped Ag surfaces. Vacuum, 2004, 74, 169-172.	3.5	1
60	Quantification of Bonded Ni Atoms for M-MoS <sub>2</sub> Metallic Contact through X-ray Photoemission Electron Microscopy. Microscopy and Microanalysis, 2018, 24, 458-459.	0.4	1
61	Density functional theory study of $\gamma'$ phase in steel with varied alloying elements. International Journal of Quantum Chemistry, 2020, 120, e26223.	2.0	1
62	Modeling of Steels and Steel Surfaces Using Quantum Mechanical First Principles Methods. Materials Science Forum, 0, 762, 445-450.	0.3	0
63	Metal-Semiconductor Contacts: Metallic Contact between MoS <sub>2</sub> and Ni via Au Nanoglue (Small) Tj ETQq1 1 0.784314 rgBT /Overlock	10.0	0
64	Adsorption of CO <sub>2</sub> on the $\gamma'$ -Fe (0001) surface: insights from density functional theory. RSC Advances, 2021, 11, 6825-6830.	3.6	0