Andreas Wucher

List of Publications by Year
in descending order

130 papers	3,099 citations	126708 33 h-index	189595 50 g-index
133 all docs	133 docs citations	133 times ranked	1192 citing authors

#	Article	IF	Citations
1	Molecular Depth Profiling with Cluster Ion Beams. Journal of Physical Chemistry B, 2006, 110, 8329-8336.	1.2	179
2	Molecular secondary ion formation under cluster bombardment: A fundamental review. Applied Surface Science, 2006, 252, 6482-6489.	3.1	125
3	Protocols for Three-Dimensional Molecular Imaging Using Mass Spectrometry. Analytical Chemistry, 2007, 79, 5529-5539.	3.2	103
4	Sputtered neutral silver clusters up to Ag18. Nuclear Instruments & Methods in Physics Research B, 1993, 82, 337-346.	0.6	101
5	VUV photoionization of sputtered neutral silver clusters. Nuclear Instruments & Methods in Physics Research B, 1994, 94, 36-46.	0.6	91
6	Molecular Depth Profiling of Histamine in Ice Using a Buckminsterfullerene Probe. Analytical Chemistry, 2004, 76, 7234-7242.	3.2	86
7	The formation of clusters during ion induced sputtering of metals. Nuclear Instruments & Methods in Physics Research B, 1996, 115, 581-589.	0.6	82
8	Cluster formation in sputtering: A molecular dynamics study using the MD/MCâ€corrected effective medium potential. Journal of Chemical Physics, 1996, 105, 5999-6007.	1.2	78
9	Generation of large indium clusters by sputtering. Physical Review B, 2002, 66, .	1.1	67
10	Formation of large clusters during sputtering of silver. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 677-686.	0.6	62
11	Use of C60 cluster projectiles for sputter depth profiling of polycrystalline metals. Surface and Interface Analysis, 2004, 36, 1367-1372.	0.8	57
12	C60 molecular depth profiling of a model polymer. Applied Surface Science, 2004, 231-232, 183-185.	3.1	57
13	Measuring Compositions in Organic Depth Profiling: Results from a VAMAS Interlaboratory Study. Journal of Physical Chemistry B, 2015, 119, 10784-10797.	1.2	56
14	Energy Deposition during Molecular Depth Profiling Experiments with Cluster Ion Beams. Analytical Chemistry, 2008, 80, 5293-5301.	3.2	55
15	The mass distribution of sputtered metal clusters. Nuclear Instruments & Methods in Physics Research B, 1993, 83, 73-78.	0.6	53
16	Depth Profiling of Langmuirâ^'Blodgett Films with a Buckminsterfullerene Probe. Analytical Chemistry, 2004, 76, 6651-6658.	3.2	53
17	Photo and particle induced transport of excited carriers in thin film tunnel junctions. Physical Review B, 2007, 76, .	1.1	49
18	Depth Resolution During C60+ Profiling of Multilayer Molecular Films. Analytical Chemistry, 2008, 80, 7363-7371.	3.2	49

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19	Emission energy dependence of ionization probabilities in secondary ion emission from oxygen covered Ta, Nb and Cu surfaces. Surface Science, 1988, 199, 567-578.	0.8	47
20	Low-energy electronic excitation in atomic collision cascades: A nonlinear transport model. Physical Review B, 2005, 72, .	1.1	47
21	Kinetic excitation of solids: The concept of electronic friction. Nuclear Instruments & Methods in Physics Research B, 2006, 246, 333-339.	0.6	45
22	A mixed cluster ion beam to enhance the ionization efficiency in molecular secondary ion mass spectrometry. Rapid Communications in Mass Spectrometry, 2014, 28, 396-400.	0.7	45
23	Depth profiling studies of multilayer films with a C60+ ion source. Applied Surface Science, 2004, 231-232, 179-182.	3.1	44
24	Depth profiling of polycrystalline multilayers using aBuckminsterfullerene projectile. Applied Physics Letters, 2004, 84, 5177-5179.	1.5	43
25	Sputtering of indium usingAumprojectiles: Transition from linear cascade to spike regime. Physical Review B, 2005, 72, .	1.1	42
26	Three-dimensional depth profiling of molecular structures. Analytical and Bioanalytical Chemistry, 2009, 393, 1835-1842.	1.9	42
27	Electron promotion and electronic friction in atomic collision cascades. New Journal of Physics, 2007, 9, 38-38.	1.2	41
28	Molecular sputter depth profiling using carbon cluster beams. Analytical and Bioanalytical Chemistry, 2010, 396, 105-114.	1.9	41
29	Computer simulation of low-energy electronic excitations in atomic collision cascades. Nuclear Instruments & Methods in Physics Research B, 2004, 225, 464-477.	0.6	40
30	Chemically alternating langmuir-blodgett thin films as a model for molecular depth profiling by mass spectrometry. Journal of the American Society for Mass Spectrometry, 2008, 19, 96-102.	1.2	40
31	Formation of atomic secondary ions in sputtering. Applied Surface Science, 2008, 255, 1194-1200.	3.1	36
32	Molecular Depth Profiling with Argon Gas Cluster Ion Beams. Journal of Physical Chemistry C, 2015, 119, 15316-15324.	1.5	36
33	Molecular Depth Profiling Using a C60 Cluster Beam: The Role of Impact Energy. Journal of Physical Chemistry C, 2008, 112, 16550-16555.	1.5	33
34	Kinetic Electron Excitation in Atomic Collision Cascades. Physical Review Letters, 2004, 93, 137601.	2.9	32
35	Molecular Depth Profiling of Buried Lipid Bilayers Using C60-Secondary Ion Mass Spectrometry. Analytical Chemistry, 2011, 83, 351-358.	3.2	31
36	A simple erosion dynamics model of molecular sputter depth profiling. Surface and Interface Analysis, 2008, 40, 1545-1551.	0.8	30

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37	Self-sputtering of silver by mono- and polyatomic projectiles: A molecular dynamics investigation. Journal of Chemical Physics, 2001, 115, 8643-8654.	1.2	29
38	Sputtering of Ag under C60+ and Ga+ projectile bombardment. Applied Surface Science, 2004, 231-232, 64-67.	3.1	27
39	Yields and energy distributions of sputtered semiconductor clusters. Nuclear Instruments & Methods in Physics Research B, 1998, 140, 27-38.	0.6	26
40	Three-dimensional molecular imaging using mass spectrometry and atomic force microscopy. Applied Surface Science, 2008, 255, 984-986.	3.1	26
41	Potential electron emission induced by multiply charged ions in thin film tunnel junctions. Physical Review B, 2008, 77, .	1.1	25
42	On the SIMS Ionization Probability of Organic Molecules. Journal of the American Society for Mass Spectrometry, 2017, 28, 1182-1191.	1.2	25
43	Molecular Depth Profiling with Cluster Secondary Ion Mass Spectrometry and Wedges. Analytical Chemistry, 2010, 82, 57-60.	3.2	24
44	Quantitative analysis of thin oxide layers on tantalum by sputtered neutral mass spectrometry (SNMS). Applications of Surface Science, 1982, 10, 342-348.	1.0	23
45	Molecular depth profiling in ice matrices using C60 projectiles. Applied Surface Science, 2004, 231-232, 68-71.	3.1	23
46	Modeling hot-electron generation induced by electron promotion in atomic collision cascades in metals. Physical Review B, 2008, 77, .	1.1	23
47	Fluence Effects in C60 Cluster Bombardment of Silicon. Journal of Physical Chemistry C, 2010, 114, 5480-5490.	1.5	23
48	Electronic excitation in atomic collision cascades. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 325-329.	0.6	22
49	Formation of secondary cluster ions during sputtering of silver and copper. Physical Review B, 1991, 43, 14396-14399.	1.1	21
50	Determination of energy dependent ionization probabilities of sputtered particles. Applied Surface Science, 2006, 252, 6452-6455.	3.1	21
51	Molecular depth profiling of trehalose using a C60 cluster ion beam. Applied Surface Science, 2008, 255, 959-961.	3.1	20
52	Ionization Probability in Molecular Secondary Ion Mass Spectrometry: Protonation Efficiency of Sputtered Guanine Molecules Studied by Laser Postionization. Journal of Physical Chemistry C, 2017, 121, 8931-8937.	1.5	19
53	Strong-Field Photoionization of Sputtered Neutral Molecules for Molecular Depth Profiling. Journal of Physical Chemistry C, 2010, 114, 5391-5399.	1.5	18
54	A new setup for the investigation of swift heavy ion induced particle emission and surface modifications. Review of Scientific Instruments, 2016, 87, 013903.	0.6	18

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55	Dynamic Reactive Ionization with Cluster Secondary Ion Mass Spectrometry. Journal of the American Society for Mass Spectrometry, 2016, 27, 285-292.	1.2	18
56	Yields and ionization probabilities of sputtered Inn particles under atomic and polyatomic Aumâˆ' ion bombardment. Applied Surface Science, 2006, 252, 6474-6477.	3.1	17
57	Predicting secondary ion formation in molecular dynamics simulations of sputtering. Applied Surface Science, 2008, 255, 813-815.	3.1	17
58	Reducing the Matrix Effect in Organic Cluster SIMS Using Dynamic Reactive Ionization. Journal of the American Society for Mass Spectrometry, 2016, 27, 2014-2024.	1.2	17
59	Near Infrared (NIR) Strong Field Ionization and Imaging of C₆₀ Sputtered Molecules: Overcoming Matrix Effects and Improving Sensitivity. Analytical Chemistry, 2014, 86, 8613-8620.	3.2	16
60	Predicting Kinetic Electron Emission in Molecular Dynamics Simulations of Sputtering. Journal of Physical Chemistry C, 2010, 114, 5715-5720.	1.5	15
61	Reducing the Matrix Effect in Molecular Secondary Ion Mass Spectrometry by Laser Post-Ionization. Journal of Physical Chemistry C, 2017, 121, 19705-19715.	1.5	15
62	Fundamental studies of molecular depth profiling and 3D imaging using Langmuirâ€"Blodgett films as a model. Applied Surface Science, 2008, 255, 816-818.	3.1	14
63	On the internal energy of sputtered clusters. New Journal of Physics, 2008, 10, 103007.	1.2	14
64	Kinetic electronic excitation of solids by fast-particle bombardment. Physical Review B, 2008, 78, .	1.1	14
65	Steady-State Statistical Sputtering Model for Extracting Depth Profiles from Molecular Dynamics Simulations of Dynamic SIMS. Journal of Physical Chemistry C, 2012, 116, 1042-1051.	1.5	14
66	Reduce the matrix effect in biological tissue imaging using dynamic reactive ionization and gas cluster ion beams. Biointerphases, 2016, 11, 02A320.	0.6	14
67	Self sputtering yields of silver under bombardment with polyatomic projectiles. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 170-175.	0.6	13
68	Kinetic excitation of metallic solids: Progress towards a microscopic model. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1655-1660.	0.6	13
69	Molecular imaging of biological tissue using gas cluster ions. Surface and Interface Analysis, 2014, 46, 115-117.	0.8	13
70	Strong Field Ionization of Î²-Estradiol in the IR: Strategies To Optimize Molecular Postionization in Secondary Neutral Mass Spectrometry. Journal of Physical Chemistry C, 2014, 118, 25534-25544.	1.5	13
71	Electron impact and single photon ionization cross sections of neutral silver clusters. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1994, 32, 137-144.	1.0	12
72	Projectile size effects on cluster formation in sputtering. Nuclear Instruments & Methods in Physics Research B, 2003, 207, 136-144.	0.6	12

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73	Ionization probability of atoms and molecules sputtered from a cesium covered silver surface. Applied Surface Science, 2003, 203-204, 48-51.	3.1	12
74	Kinetic energy distributions of neutral In and In2 sputtered by polyatomic ion bombardment. Applied Surface Science, 2006, 252, 6470-6473.	3.1	12
75	Mass spectrometric investigation of material sputtered under swift heavy ion bombardment. Nuclear Instruments & Methods in Physics Research B, 2018, 435, 101-110.	0.6	12
76	Cluster Secondary Ion Mass Spectrometry and the Temperature Dependence of Molecular Depth Profiles. Analytical Chemistry, 2012, 84, 3981-3989.	3.2	11
77	Depth Profiling of Metal Overlayers on Organic Substrates with Cluster SIMS. Analytical Chemistry, 2013, 85, 10565-10572.	3.2	11
78	Formation of Neutral In_{<i>m</i>}C_{<i>n</i>} Clusters under C₆₀ Ion Bombardment of Indium. Journal of Physical Chemistry A, 2014, 118, 8542-8552.	1.1	11
79	The use of MIM tunnel junctions to investigate kinetic electron excitation in atomic collision cascades. Nuclear Instruments & Methods in Physics Research B, 2005, 230, 608-612.	0.6	10
80	Influence of the polar angle of incidence on secondary ion formation in selfâ€sputtering of silver. Surface and Interface Analysis, 2011, 43, 24-27.	0.8	10
81	A microscopic view of secondary ion formation. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 108-111.	0.6	10
82	Investigating the fundamentals of molecular depth profiling using strong-field photoionization of sputtered neutrals. Surface and Interface Analysis, 2011, 43, 45-48.	0.8	9
83	Secondary ion and neutral mass spectrometry with swift heavy ions: Organic molecules. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	0.6	9
84	Self-sputtering of silver using polyatomic projectiles. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 781-786.	0.6	8
85	Formation of sputtered silver clusters under bombardment with SF5+ ions. Nuclear Instruments & Methods in Physics Research B, 2002, 197, 43-48.	0.6	8
86	Sputtering of indium using polyatomic projectiles. Applied Surface Science, 2004, 231-232, 191-195.	3.1	8
87	On the role of electronic friction and electron promotion in kinetic excitation of solids. Nuclear Instruments & Methods in Physics Research B, 2007, 255, 281-285.	0.6	8
88	The role of electronic friction of low-energy recoils in atomic collision cascades. Nuclear Instruments & Methods in Physics Research B, 2007, 258, 83-86.	0.6	7
89	A statistical approach to delta layer depth profiling. Surface and Interface Analysis, 2012, 44, 1243-1248.	0.8	7
90	Ionization probabilities of sputtered indium atoms under atomic and polyatomic Aumâˆ’ion bombardment. Surface and Interface Analysis, 2013, 45, 87-89.	0.8	7

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91	An experimental and theoretical view of energetic C₆₀ cluster bombardment onto molecular solids. Surface and Interface Analysis, 2013, 45, 50-53.	0.8	7
92	Internal electron emission in metalâ€“insulatorâ€“metal thin film tunnel devices bombarded with keV argon and gold-cluster projectiles. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 972-976.	0.6	6
93	Kinetic excitation of solids induced by energetic particle bombardment: Influence of impact angle. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 601-604.	0.6	5
94	Fundamental studies of molecular depth profiling using organic delta layers as model systems. Surface and Interface Analysis, 2011, 43, 81-83.	0.8	5
95	Ionization effects in molecular depth profiling of trehalose films using buckminsterfullerene (C60) cluster ions. Surface and Interface Analysis, 2011, 43, 99-102.	0.8	5
96	Influence of the projectile charge state on the ionization probability of sputtered particles. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1306-1309.	0.6	5
97	A molecular dynamics investigation of kinetic electron emission from silver surfaces under varying angle of projectile impact. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1661-1664.	0.6	5
98	A statistical interpretation of molecular delta layer depth profiles. Surface and Interface Analysis, 2013, 45, 39-41.	0.8	5
99	Ionization probability of sputtered indium atoms: Dependence on projectile impact angle. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 130-136.	0.6	5
100	Molecular ionization probability in cluster-SIMS. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	0.6	5
101	Time-of-flight mass spectrometry of particle emission during irradiation with slow, highly charged ions. Review of Scientific Instruments, 2021, 92, 023909.	0.6	5
102	Crystallographic effects in the kinetic excitation of metal surfaces: A computational study. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 598-600.	0.6	4
103	Depth profiling of anodic tantalum oxide films with gold cluster ions. Surface and Interface Analysis, 2011, 43, 171-174.	0.8	4
104	Retrospective sputter depth profiling using 3D mass spectral imaging. Surface and Interface Analysis, 2011, 43, 41-44.	0.8	4
105	A statistical analysis of the lateral displacement of Si atoms in molecular dynamics simulations of successive bombardment with 20-keV C60 projectiles. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1591-1594.	0.6	4
106	Time-of-flight secondary neutral & ion mass spectrometry using swift heavy ions. Nuclear Instruments & Methods in Physics Research B, 2015, 365, 482-489.	0.6	4
107	A concept to generate ultrashort ion pulses for pump-probe experiments in the keV energy range. New Journal of Physics, 2019, 21, 053017.	1.2	4
108	Ionization probability of sputtered indium atoms under impact of slow highly charged ions. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 044003.	0.6	4

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109	Computer simulation of internal electron emission in ion-bombarded metals. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 55-58.	0.6	3
110	A hybrid model describing ion induced kinetic electron emission. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 18-21.	0.6	3
111	Effect of SIMS ionization probability on depth resolution for organic/inorganic interfaces. Surface and Interface Analysis, 2017, 49, 933-939.	0.8	3
112	Ionization probability of sputtered indium under irradiation with 20-keV fullerene and argon gas cluster projectiles. International Journal of Mass Spectrometry, 2019, 438, 13-21.	0.7	3
113	Characterization of a supersonic gas jet via laser-induced photoelectron ionization. Nuclear Instruments & Methods in Physics Research B, 2020, 480, 1-9.	0.6	3
114	Generation of ultrashort ion pulses in the keV range: Numerical simulations. Nuclear Instruments & Methods in Physics Research B, 2020, 483, 41-49.	0.6	3
115	The influence of projectile charge state on ionization probabilities of sputtered atoms. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 646-648.	0.6	2
116	Investigations of molecular depth profiling with dual beam sputtering. Surface and Interface Analysis, 2013, 45, 175-177.	0.8	2
117	The role of electron temperature dynamics for secondary ion formation. Surface and Interface Analysis, 2013, 45, 72-74.	0.8	2
118	Temperature effects of sputtering of Langmuirâ€"Blodgett multilayers. Surface and Interface Analysis, 2013, 45, 65-67.	0.8	2
119	Computer simulation of cluster impact induced electronic excitation of solids. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 51-54.	0.6	2
120	A ballistic transport model for electronic excitation following particle impact. Nuclear Instruments & Methods in Physics Research B, 2018, 415, 127-135.	0.6	2
121	Computer simulation of sputtering induced by swift heavy ions. Nuclear Instruments & Methods in Physics Research B, 2018, 426, 5-12.	0.6	2
122	Secondary ion formation during electronic and nuclear sputtering of germanium. Nuclear Instruments & Methods in Physics Research B, 2018, 424, 1-9.	0.6	2
123	Secondary ion formation on indium under nuclear and electronic sputtering conditions. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	0.6	2
124	Generation of ultrashort keV Ar⁺ ion pulses via femtosecond laser photoionization. New Journal of Physics, 2021, 23, 033023.	1.2	2
125	Transport of 75â€"1000â€‰eV electrons in metalâ€"insulatorâ€"metal devices. Journal of Electron Spectroscopy and Related Phenomena, 2018, 223, 37-52.	0.8	1
126	Does local disorder influence secondary ion formation?. Surface and Interface Analysis, 2014, 46, 18-21.	0.8	0

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127	The influence of crater formation for electron excitation processes in cluster induced collision cascades. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 186-189.	0.6	0
128	Ion induced electron emission statistics under <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:msubsup><mml:mrow><mml:mi mathvariant="italic">Ag</mml:mi></mml:mrow><mml:mrow><mml:mi>m</mml:mi></mml:mrow><mml:mrow><mml:mo>-</mml:mo>< cluster bombardment of Ag. Nuclear Instruments & Methods in Physics Research B, 2018, 422, 24-30.	0.6	0
129	The influence of internal and external electric fields on the transport of energetic electrons in nanostructures. Journal of Electron Spectroscopy and Related Phenomena, 2018, 227, 51-68.	0.8	0
130	Ionization probability of sputtered coronene molecules. Nuclear Instruments & Methods in Physics Research B, 2019, 460, 193-200.	0.6	0