

Richard J Colton

List of Publications by Year in descending order

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60
papers

5,360
citations

159585

30
h-index

144013

57
g-index

62
all docs

62
docs citations

62
times ranked

4223
citing authors

#	ARTICLE	IF	CITATIONS
1	A biosensor based on magnetoresistance technology. <i>Biosensors and Bioelectronics</i> , 1998, 13, 731-739.	10.1	757
2	Sensing Discrete Streptavidin-Biotin Interactions with Atomic Force Microscopy. <i>Langmuir</i> , 1994, 10, 354-357.	3.5	688
3	Measuring the nanomechanical properties and surface forces of materials using an atomic force microscope. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1989, 7, 2906-2913.	2.1	567
4	Electrochromism in some thin-film transition-metal oxides characterized by x-ray electron spectroscopy. <i>Journal of Applied Physics</i> , 1978, 49, 409-416.	2.5	353
5	Probing the surface forces of monolayer films with an atomic-force microscope. <i>Physical Review Letters</i> , 1990, 64, 1931-1934.	7.8	320
6	Nucleation, growth, and structure of fullerene films on Au(111). <i>Surface Science</i> , 1992, 279, 49-67.	1.9	288
7	Determination of the orientation of C ₆₀ adsorbed on Au(111) and Ag(111). <i>Physical Review B</i> , 1993, 48, 18244-18249.	3.2	243
8	The interaction of C ₆₀ with noble metal surfaces. <i>Surface Science</i> , 1993, 295, 13-33.	1.9	196
9	Electronic structure of tungsten and some of its borides, carbides, nitrides, and oxides by x-ray electron spectroscopy. <i>Inorganic Chemistry</i> , 1976, 15, 236-238.	4.0	174
10	Interpretation issues in force microscopy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1991, 9, 2548-2556.	2.1	140
11	Biosensor based on force microscope technology. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1996, 14, 789.	1.6	129
12	Investigation of the atomic-scale friction and energy dissipation in diamond using molecular dynamics. <i>Thin Solid Films</i> , 1995, 260, 205-211.	1.8	107
13	Trapped electrons in substoichiometric MoO ₃ observed by X-ray electron spectroscopy. <i>Chemical Physics Letters</i> , 1974, 29, 131-133.	2.6	106
14	Effect of atomic-scale surface roughness on friction: A molecular dynamics study of diamond surfaces. <i>Wear</i> , 1993, 168, 127-133.	3.1	98
15	Growth of Rh on Au(111): surface intermixing of immiscible metals. <i>Surface Science</i> , 1994, 304, L400-L406.	1.9	71
16	Scanning Probe Microscopy of Thin Films. <i>MRS Bulletin</i> , 1993, 18, 41-49.	3.5	70
17	Effect of PZT and PMN actuator hysteresis and creep on nanoindentation measurements using force microscopy. <i>Review of Scientific Instruments</i> , 1994, 65, 1561-1565.	1.3	63
18	COUNTERTERRORISM: Making the World a Safer Place. <i>Science</i> , 2003, 299, 1324-1325.	12.6	63

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19	Electronic structure of hydrazoic acid and the azide ion from x-ray and ultraviolet electron spectroscopy. <i>Journal of the American Chemical Society</i> , 1975, 97, 4845-4851.	13.7	60
20	Secondary ion mass spectrometry of metal halides. 3. Ionic radii effects in alkali halide clusters. <i>The Journal of Physical Chemistry</i> , 1983, 87, 3441-3445.	2.9	55
21	Scanning probe microscopy. <i>Current Opinion in Chemical Biology</i> , 1997, 1, 370-377.	6.1	55
22	Surface analysis: x-ray photoelectron spectroscopy, Auger electron spectroscopy and secondary ion mass spectrometry. <i>Analytical Chemistry</i> , 1984, 56, 373-416.	6.5	51
23	Nanoscale measurements and manipulation. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004, 22, 1609.	1.6	50
24	Atomistic Simulations of Friction at Sliding Diamond Interfaces. <i>MRS Bulletin</i> , 1993, 18, 50-53.	3.5	49
25	Sequencing of peptides by secondary ion mass spectrometry. <i>Journal of the American Chemical Society</i> , 1984, 106, 2219-2220.	13.7	48
26	Surface analysis: x-ray photoelectron spectroscopy, Auger electron spectroscopy, and secondary ion mass spectrometry. <i>Analytical Chemistry</i> , 1982, 54, 293-322.	6.5	37
27	Surface patterning by atomically-controlled chemical forces: molecular dynamics simulations. <i>Surface Science</i> , 1994, 316, L1055-L1060.	1.9	36
28	Magnetic field sensing with magnetostrictive materials using a tunneling tip detector. <i>Sensors and Actuators</i> , 1989, 19, 211-225.	1.7	35
29	Interaction of C60 with the Au(111) $23\text{\AA} \times 23\text{\AA}$ reconstruction. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1994, 12, 1906.	1.6	32
30	Ultra-High Mass Spectrometry. <i>Applied Spectroscopy</i> , 1984, 38, 430-432.	2.2	31
31	Electronic structure of N,N-dimethylnitramine and N,N-dimethylnitrosamine from X-ray and UV electron spectroscopy. <i>Chemical Physics</i> , 1975, 8, 391-398.	1.9	29
32	Chemically-Specific Probes for the Atomic Force Microscope. <i>Israel Journal of Chemistry</i> , 1996, 36, 81-87.	2.3	28
33	Selective detection of aldehydes and ketones by derivatization/secondary ion mass spectrometry. <i>International Journal of Mass Spectrometry and Ion Processes</i> , 1985, 63, 141-148.	1.8	25
34	Magnetostriction measurements using a tunneling-tip strain detector. <i>Journal of Magnetism and Magnetic Materials</i> , 1990, 88, 343-350.	2.3	25
35	Carbon as a sample substrate in secondary ion mass spectrometry. <i>Analytical Chemistry</i> , 1983, 55, 150-153.	6.5	24
36	Fast-atom molecular secondary-ion mass spectrometry. <i>International Journal of Mass Spectrometry and Ion Processes</i> , 1983, 54, 237-247.	1.8	21

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37	Molecular secondary ion mass spectrometry: New dimensions in chemical characterization. <i>Applications of Surface Science</i> , 1985, 21, 168-198.	1.0	20
38	A mechanism of ion production in secondary ion mass spectrometry. <i>International Journal of Mass Spectrometry and Ion Processes</i> , 1987, 78, 315-328.	1.8	20
39	Results of a SIMS round robin sponsored by ASTM committee E-42 on surface analysis. <i>Surface and Interface Analysis</i> , 1989, 14, 101-108.	1.8	20
40	SIMS molecular cluster intensities of inorganic salts containing sulfur and nitrogen oxyanions. <i>International Journal of Mass Spectrometry and Ion Physics</i> , 1981, 37, 49-65.	1.3	19
41	Enhanced detection of drugs in complex mixtures by derivatization/secondary ion mass spectrometry. <i>Biological Mass Spectrometry</i> , 1985, 12, 254-260.	0.5	15
42	Determination of hydrogen in perfluorinated polyalkylethers using time-of-flight secondary ion mass spectrometry, infrared spectroscopy, and nuclear magnetic resonance spectrometry. <i>Applied Surface Science</i> , 1989, 35, 507-519.	6.1	14
43	A Tunneling-tip magnetometer. <i>Sensors and Actuators</i> , 1989, 20, 199-205.	1.7	14
44	Trace explosives sensor testbed (TESTbed). <i>Review of Scientific Instruments</i> , 2017, 88, 034104.	1.3	14
45	Secondary ion mass spectrometry: High-mass molecular and cluster ions. <i>Nuclear Instruments & Methods in Physics Research</i> , 1983, 218, 276-286.	0.9	13
46	Liquid metal substrate for dynamic secondary ion mass spectrometry. <i>Analytical Chemistry</i> , 1983, 55, 1170-1171.	6.5	13
47	Forum on New Ideas in Tribology. <i>Langmuir</i> , 1996, 12, 4574-4582.	3.5	13
48	Secondary ion mass spectrometry: Polyatomic and molecular ion emission. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1986, 13, 259-277.	1.4	12
49	High-pressure fast-atom bombardment mass spectrometry: Collisional stabilization and reactions of alkali halide cluster ions. <i>International Journal of Mass Spectrometry and Ion Processes</i> , 1989, 90, 9-38.	1.8	10
50	Proximal probes: Techniques for measuring at the nanometer scale. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 1990, 6, 77-85.	3.5	9
51	Summary Abstract: Secondary ion mass spectrometry of organic adsorbates on carbon particles and liquid metal surfaces. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1983, 1, 441-442.	2.1	6
52	The magnetostriction of CoFeNiMo metallic glasses measured with a tunneling transducer. <i>Journal of Magnetism and Magnetic Materials</i> , 1992, 103, 111-116.	2.3	5
53	Mechanical grinding device for an electron spectrometer. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1975, 7, 359-363.	1.7	4
54	A direct current plasma discharge cleaning method to eliminate background signals in secondary ion mass spectrometry. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1989, 7, 3126-3128.	2.1	4

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55	A pulsed alkali ion gun for time-of-flight secondary ion mass spectrometry. Review of Scientific Instruments, 1989, 60, 1239-1244.	1.3	3
56	Effect of Overlayer Thickness on the Nanoindentation of SiO ₂ /Si. , 1995, , 85-90.		3
57	Summary Abstract: SIMS quantification of group III-V semiconductor materials. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1985, 3, 1356-1358.	2.1	2
58	Surface Science at the Nanoscale: Molecular Imaging and Surface Forces. , 1994, , 311-319.		2
59	Secondary Ion Mass Spectrometry: A Multidimensional Technique. ACS Symposium Series, 1985, , 160-193.	0.5	1
60	Measuring forces between biological macromolecules with the Atomic Force Microscope: characterization and applications. Proceedings Annual Meeting Electron Microscopy Society of America, 1995, 53, 718-719.	0.0	0