

# Arthur R Smith

## List of Publications by Year in descending order

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79  
papers

1,837  
citations

304743

22  
h-index

276875

41  
g-index

80  
all docs

80  
docs citations

80  
times ranked

1341  
citing authors

#	ARTICLE	IF	CITATIONS
1	GaN(0001) surface structures studied using scanning tunneling microscopy and first-principles total energy calculations. <i>Surface Science</i> , 1999, 423, 70-84.	1.9	118
2	Surface and bulk electronic structure of ScN(001) investigated by scanning tunneling microscopy/spectroscopy and optical absorption spectroscopy. <i>Physical Review B</i> , 2004, 70, .	3.2	118
3	Metal/semiconductor phase transition in chromium nitride(001) grown by rf-plasma-assisted molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2004, 85, 6371-6373.	3.3	108
4	Molecular beam epitaxy control of the structural, optical, and electronic properties of ScN(001). <i>Journal of Applied Physics</i> , 2001, 90, 1809-1816.	2.5	105
5	Atomic-Scale Spin-Polarized Scanning Tunneling Microscopy Applied to Mn <sub>3</sub> N <sub>2</sub> (010). <i>Physical Review Letters</i> , 2002, 89, 226101.	7.8	100
6	Crystalline phase and orientation control of manganese nitride grown on MgO(001) by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2002, 91, 1053-1059.	2.5	88
7	Molecular beam epitaxial growth of atomically smooth scandium nitride films. <i>Applied Physics Letters</i> , 2000, 77, 2485-2487.	3.3	79
8	ScGaN alloy growth by molecular beam epitaxy: Evidence for a metastable layered hexagonal phase. <i>Physical Review B</i> , 2004, 70, .	3.2	74
9	Structural and magnetic properties of $\Gamma$ -phase manganese nitride films grown by molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2001, 78, 3860-3862.	3.3	72
10	Reconstruction Control of Magnetic Properties during Epitaxial Growth of Ferromagnetic Mn <sub>3</sub> Ga on Wurtzite GaN(0001). <i>Physical Review Letters</i> , 2006, 97, 146101.	7.8	57
11	Direct determination of exact charge states of surface point defects using scanning tunneling microscopy: As vacancies on GaAs (110). <i>Physical Review B</i> , 1996, 53, 6935-6938.	3.2	49
12	Structural controlled magnetic anisotropy in Heusler L1 <sub>2</sub> MnGa epitaxial thin films. <i>Applied Physics Letters</i> , 2011, 98, .	3.3	48
13	Dimer-vacancy dimer-vacancy interaction on the Si(001) surface: The nature of the 2 $\times$ 1 structure. <i>Physical Review B</i> , 1995, 52, R8650-R8653.	3.2	47
14	Structure of clean and arsenic-covered GaN(0001) surfaces. <i>Journal of Crystal Growth</i> , 2000, 209, 355-363.	1.5	47
15	Phase stability, nitrogen vacancies, growth mode, and surface structure of ScN(001) under Sc-rich conditions. <i>Journal of Crystal Growth</i> , 2002, 242, 345-354.	1.5	42
16	Ga/N flux ratio influence on Mn incorporation, surface morphology, and lattice polarity during radio frequency molecular beam epitaxy of (Ga,Mn)N. <i>Journal of Applied Physics</i> , 2003, 93, 5274-5281.	2.5	41
17	Energy-dependent contrast in atomic-scale spin-polarized scanning tunneling microscopy of Mn <sub>3</sub> N <sub>2</sub> (010): Experiment and first-principles theory. <i>Physical Review B</i> , 2006, 74, .	3.2	38
18	Composition-dependent structural properties in ScGaN alloy films: A combined experimental and theoretical study. <i>Journal of Applied Physics</i> , 2005, 98, 123501.	2.5	36

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19	Incorporation of manganese into semiconducting ScN using radio frequency molecular beam epitaxy. Journal of Applied Physics, 2004, 96, 3787-3792.	2.5	34
20	Scanning tunneling microscopy of the GaN(0001) surface. Applied Physics A: Materials Science and Processing, 1998, 66, S947-S951.	2.3	30
21	Structural and magnetic phase transitions in chromium nitride thin films grown by rf nitrogen plasma molecular beam epitaxy. Physical Review B, 2017, 96, .	3.2	28
22	Molecular beam epitaxial growth of zinc-blende FeN(111) on wurtzite GaN(0001). Journal of Alloys and Compounds, 2008, 463, 257-262.	5.5	25
23	Two-dimensional Mn structure on the GaN growth surface and evidence for room-temperature spin ordering. Physical Review B, 2011, 83, .	3.2	21
24	Structural, electronic, and magnetic properties of the CrN(0001) surface: First-principles studies. Applied Surface Science, 2018, 454, 350-357.	6.1	21
25	Reconstructions of GaN and InGaN surfaces. Applied Surface Science, 2000, 166, 165-172.	6.1	20
26	Aspects of spin-polarized scanning tunneling microscopy at the atomic scale: experiment, theory, and simulation. Surface Science, 2004, 561, 154-170.	1.9	19
27	Epitaxial growth of ferromagnetic $\gamma$ -phase manganese gallium on semiconducting scandium nitride (001). Journal of Crystal Growth, 2009, 311, 2265-2268.	1.5	18
28	Structural, electronic and magnetic properties of Mn <sub>3</sub> N <sub>2</sub> (001) surfaces. Applied Surface Science, 2015, 355, 623-630.	6.1	17
29	Two-dimensional pn-junction delineation and individual dopant identification using scanning tunneling microscopy/spectroscopy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 453.	1.6	15
30	Scanning Tunneling Microscopy and Surface Simulation of Zinc-Blende GaN(001) Intrinsic $\sqrt{3}\times\sqrt{3}$ -Reconstruction: Linear Gallium Tetramers?. Physical Review Letters, 2005, 95, 146102.	7.8	15
31	Efficient kinematical simulation of reflection high-energy electron diffraction streak patterns for crystal surfaces. Computer Physics Communications, 2011, 182, 2208-2212.	7.5	15
32	Heteroepitaxial growth and surface structure of L1-MnGa(111) ultra-thin films on GaN(0001). Applied Physics Letters, 2013, 103, .	3.3	15
33	Scanning tunneling microscopy study of the structural phase transformation in manganese nitride: $\sqrt{3}\times\sqrt{3}$ -MnN $\rightarrow$ $\sqrt{3}\times\sqrt{3}$ -Mn <sub>3</sub> N <sub>2</sub> . Applied Physics A: Materials Science and Processing, 2005, 81, 695-700.	2.3	14
34	The effect of growth parameters on CrN thin films grown by molecular beam epitaxy. Thin Solid Films, 2011, 520, 90-94.	1.8	13
35	Interface formation for a ferromagnetic/antiferromagnetic bilayer system studied by scanning tunneling microscopy and first-principles theory. Physical Review B, 2015, 91, .	3.2	13
36	Structure and magnetism in Ga-rich MnGa/GaN thin films and unexpected giant perpendicular anisotropy in the ultra-thin film limit. Applied Surface Science, 2016, 367, 312-319.	6.1	13



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55	Magnetostrictive iron gallium thin films grown onto antiferromagnetic manganese nitride: Structure and magnetism. Applied Physics Letters, 2016, 109, 142402.	3.3	6
56	Atomic-resolution study of Mn tetramer clusters using scanning tunneling microscopy. Applied Physics Letters, 2006, 88, 173101.	3.3	5
57	Applying a difference ratio method in spin-polarized scanning tunneling microscopy to determine crystalline anisotropies and antiferromagnetic spin alignment in Cr(O 0 1) c(2 $\times$ 2 $\times$ 2). Journal of Magnetism and Magnetic Materials, 2018, 465, 626-633.	2.3	5
58	Surface structures of magnetostrictive D03-Fe <sub>3</sub> Ga(O $\times$ 1). Applied Surface Science, 2021, 553, 149488.	6.1	5
59	Local strain-dependent electronic structure and perpendicular magnetic anisotropy of a MnGaN 2D magnetic monolayer. Physical Review Materials, 2020, 4, .	2.4	4
60	Surface reconstructions of cubic gallium nitride (001) grown by radio frequency nitrogen plasma molecular beam epitaxy under gallium-rich conditions. Journal of Applied Physics, 2006, 100, 083516.	2.5	3
61	A modular designed ultra-high-vacuum spin-polarized scanning tunneling microscope with controllable magnetic fields for investigating epitaxial thin films. Review of Scientific Instruments, 2011, 82, 053703.	1.3	3
62	Iron on GaN(0001) pseudo-1 $\times$ 1 (1+112) investigated by scanning tunneling microscopy and first-principles theory. Applied Physics Letters, 2014, 104, 171607.	3.3	3
63	Understanding the stability of Fe incorporation within Mn <sub>3</sub> N <sub>2</sub> (001) surfaces: An ab-initio study. Applied Surface Science, 2016, 363, 651-658.	6.1	3
64	Structural, electronic and magnetic properties of the MnGa(111)-1 $\times$ 2 and 2 $\times$ 2 reconstructions: Spin polarized first principles total energy calculations. Applied Surface Science, 2017, 419, 286-293.	6.1	3
65	Investigating the magnetic and atomic interface configuration for a model Fe/CrN bilayer system. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, 063209.	2.1	3
66	Surface structure of manganese gallium quantum height islands on wurtzite GaN(0001) studied by scanning tunneling microscopy. Applied Physics A: Materials Science and Processing, 2015, 120, 1027-1032.	2.3	2
67	Scanning tunneling microscopy observation of surface reconstruction of GaN on sapphire and 6H-SiC. Materials Research Society Symposia Proceedings, 1997, 482, 428.	0.1	1
68	Mixing Rocksalt and Wurtzite Structure Binary Nitrides to Form Novel Ternary Alloys: ScGaN and MnGaN. Materials Research Society Symposia Proceedings, 2003, 799, 339.	0.1	1
69	Publisher's Note: ScGaN alloy growth by molecular beam epitaxy: Evidence for a metastable layered hexagonal phase [Phys. Rev. B70, 193309 (2004)]. Physical Review B, 2004, 70, .	3.2	1
70	Magnetic and Electronic Properties of Fe <sub>0.1</sub> Sc <sub>0.9</sub> N/ScN(001)/MgO(001) Films Grown by Radio-Frequency Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2009, 1198, 42.	0.1	1
71	Lattice Parameter Variation in ScGaN Alloy Thin Films on MgO(001) Grown by RF Plasma Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2009, 1202, 132.	0.1	1
72	Molecular beam epitaxial growth and scanning tunneling microscopy studies of the gallium rich trench line structure on N-polar w-GaN(0001). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, 061404.	2.1	1

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73	Bias-Voltage Dependence in Atomic-Scale Spin Polarized Scanning Tunneling Microscopy of Mn <sub>3</sub> N <sub>2</sub> (010). Materials Research Society Symposia Proceedings, 2003, 803, 30.	0.1	0
74	Scanning Tunneling Microscopy Study of Cr-doped GaN Surface Grown by RF Plasma Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2005, 892, 40.	0.1	0
75	Delta-phase manganese gallium on gallium nitride: a magnetically tunable spintronic system. Materials Research Society Symposia Proceedings, 2008, 1118, 6.	0.1	0
76	Reflection High Energy Electron Diffraction and Atomic Force Microscopy Studies of Mn <sub>x</sub> Sc <sub>(1-x)</sub> Alloys Grown on MgO(001) Substrates by Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2011, 1295, 261.	0.1	0
77	Structural, Magnetic and Electronic Properties of Dilute MnScN(001) Grown by RF Nitrogen Plasma Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2011, 1290, 1.	0.1	0
78	Nitrogen-induced reconstructions on the Cr(001) surface. Applied Surface Science, 2019, 484, 578-586.	6.1	0
79	Noncollinear magnetic configurations and substrate-mediated interactions in Mn trimers on the GaN(0001 $\bar{A}$ ) surface. Physical Review B, 2021, 103, .	3.2	0