Edmund G Seebauer

List of Publications by Year
in descending order

61 papers	1,000 citations	567281 15 h-index	454955 30 g-index
62 all docs	62 docs citations	62 times ranked	1275 citing authors

#	Article	IF	Citations
1	Measurement method for carrier concentration in TiO2 via the Mottâ€œSchottky approach. Thin Solid Films, 2011, 519, 2103-2110.	1.8	129
2	Charged point defects in semiconductors. Materials Science and Engineering Reports, 2006, 55, 57-149.	31.8	115
3	Trends in semiconductor defect engineering at the nanoscale. Materials Science and Engineering Reports, 2010, 70, 151-168.	31.8	83
4	Controlling the CO oxidation rate over Pt/TiO2 catalysts by defect engineering of the TiO2 support. Journal of Catalysis, 2014, 311, 306-313.	6.2	71
5	Control of Defect Concentrations within a Semiconductor through Adsorption. Physical Review Letters, 2006, 97, 055503.	7.8	44
6	Ethylene Hydrogenation over Pt/TiO₂: A Charge-Sensitive Reaction. ACS Catalysis, 2017, 7, 1966-1970.	11.2	40
7	Low temperature chemical vapor deposition of nanocrystalline V2O5 thin films. Thin Solid Films, 2011, 519, 3663-3668.	1.8	34
8	Surface-based manipulation of point defects in rutile TiO2. Applied Physics Letters, 2013, 102, 231601.	3.3	28
9	Mechanism and energetics of O and O2 adsorption on polar and non-polar ZnO surfaces. Journal of Chemical Physics, 2016, 144, 184708.	3.0	28
10	Surface-assisted defect engineering of point defects in ZnO. Applied Physics Letters, 2016, 108, 241603.	3.3	24
11	Electrostatic drift effects on near-surface defect distribution in TiO2. Applied Physics Letters, 2013, 103, 141601.	3.3	19
12	Measurement of Defect-Mediated Oxygen Self-Diffusion in Metal Oxides. ECS Journal of Solid State Science and Technology, 2012, 1, Q21-Q24.	1.8	17
13	Kinetics of oxygen interstitial injection and lattice exchange in rutile TiO2. Applied Physics Letters, 2014, 104, .	3.3	17
14	Precursor mechanism for interaction of bulk interstitial atoms withSi(100). Physical Review B, 2006, 74, .	3.2	16
15	Model for Oxygen Interstitial Injection from the Rutile TiO₂(110) Surface into the Bulk. Journal of Physical Chemistry C, 2015, 119, 9955-9965.	3.1	16
16	Mechanism and energetics of self-interstitial formation and diffusion in silicon. Physical Review B, 2007, 75, .	3.2	15
17	Structural and magnetic properties of Mn-doped anatase TiO2 films synthesized by atomic layer deposition. Applied Physics A: Materials Science and Processing, 2011, 104, 583-586.	2.3	14
18	Manipulation of polycrystalline TiO2 carrier concentration via electrically active native defects. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	14

#	ARTICLE	IF	CITATIONS
19	Room temperature ferromagnetism in Mn-doped TiO 2 nanopillar matrices. Materials Letters, 2014, 114, 44-47.	2.6	14
20	Control of Methylene Blue Photo-Oxidation Rate over Polycrystalline Anatase TiO2Thin Films via Carrier Concentration. Journal of Physical Chemistry C, 2015, 119, 11662-11671.	3.1	14
21	Mechanistic benefits of millisecond annealing for diffusion and activation of boron in silicon. Journal of Applied Physics, 2009, 105, 063514.	2.5	13
22	Mechanism and kinetics of near-surface dopant pile-up during post-implant annealing. Journal of Applied Physics, 2012, 111, 094510.	2.5	13
23	Kinetic model for electric-field induced point defect redistribution near semiconductor surfaces. Applied Physics Letters, 2014, 105, .	3.3	13
24	Manipulation of carrier concentration, crystallite size and density in polycrystalline anatase TiO₂via amorphous-phase medium range atomic order. CrystEngComm, 2015, 17, 2101-2109.	2.6	12
25	First-principles description of oxygen self-diffusion in rutile TiO₂: assessment of uncertainties due to enthalpy and entropy contributions. Physical Chemistry Chemical Physics, 2018, 20, 17448-17457.	2.8	12
26	Influence of surface adsorption in improving ultrashallow junction formation. Applied Physics Letters, 2006, 89, 152114.	3.3	11
27	Manipulation of native point defect behavior in rutile TiO₂via surfaces and extended defects. Journal of Physics Condensed Matter, 2017, 29, 445002.	1.8	11
28	Epitaxial SrRuO3/SrTiO3(100) analyzed using x-ray photoelectron spectroscopy. Surface Science Spectra, 2017, 24, .	1.3	11
29	Defect engineering by surface chemical state in boron-doped preamorphized silicon. Applied Physics Letters, 2007, 91, 102112.	3.3	10
30	Relating Catalytic Activity of d⁰ Semiconducting Metal Oxides to the Fermi Level Position. Journal of Physical Chemistry C, 2014, 118, 6873-6881.	3.1	10
31	Microkinetic model for reaction and diffusion of titanium interstitial atoms near a TiO2(110) surface. Physical Chemistry Chemical Physics, 2018, 20, 4587-4596.	2.8	10
32	Maximum a posteriori estimation of activation energies that control silicon self-diffusion. Automatica, 2008, 44, 2241-2247.	5.0	9
33	Interface-Mediated Photostimulation Effects on Diffusion and Activation of Boron Implanted into Silicon. ECS Journal of Solid State Science and Technology, 2013, 2, P235-P242.	1.8	8
34	Control of Photoactivity over Polycrystalline Anatase TiO2 Thin Films via Surface Potential. Journal of Physical Chemistry C, 2015, 119, 27060-27071.	3.1	8
35	Surface-Based Control of Oxygen Interstitial Injection into ZnO via Submonolayer Sulfur Adsorption. Journal of Physical Chemistry C, 2016, 120, 23675-23682.	3.1	8
36	SIMS for analysis of nanostructures. Current Opinion in Chemical Engineering, 2016, 12, 8-13.	7.8	7

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37	Electric field-driven point defect pile-up near ZnO polar surfaces. Solid State Ionics, 2017, 301, 95-98.	2.7	6
38	Microkinetic Model for Oxygen Interstitial Injection from the ZnO(0001) Surface into the Bulk. Journal of Physical Chemistry C, 2018, 122, 2127-2136.	3.1	6
39	Kinetic Control of Oxygen Interstitial Interaction with TiO₂(110) via the Surface Fermi Energy. Langmuir, 2020, 36, 12632-12648.	3.5	6
40	Nonthermal illumination effects on ultra-shallow junction formation. Applied Physics Letters, 2011, 98, 194104.	3.3	5
41	Measurement of photostimulated self-diffusion in silicon. Journal of Applied Physics, 2011, 109, 103708.	2.5	5
42	Investigation of nanostructured TiO₂ surface and interface electric fields with photoreflectance spectroscopy. AIChE Journal, 2013, 59, 1049-1055.	3.6	5
43	Fermi level dependence of gasâ€“solid oxygen defect exchange mechanism on TiO2 (110) by first-principles calculations. Journal of Chemical Physics, 2020, 153, 124710.	3.0	5
44	Directed selfâ€assembly by photostimulation of an amorphous semiconductor surface. AIChE Journal, 2010, 56, 3206-3211.	3.6	4
45	Manipulating Surface Potentials of Metal Oxides Using Semiconductor Heterojunctions. Journal of Physical Chemistry C, 2016, 120, 5486-5494.	3.1	4
46	Manipulating Reaction Rates of Metal-Oxide Heterogeneous Catalysts via Semiconductor Heterojunctions. Journal of Physical Chemistry C, 2018, 122, 16655-16663.	3.1	4
47	Elucidating the reaction and diffusion network of oxygen interstitial atoms near a TiO2(1â€¯1â€¯0) surface. Applied Surface Science, 2019, 470, 854-860.	6.1	4
48	Mechanism of creation and destruction of oxygen interstitial atoms by nonpolar zinc oxide(101Ì„0) surfaces. Physical Chemistry Chemical Physics, 2021, 23, 16423-16435.	2.8	4
49	An improved model for boron diffusion and activation in silicon. AIChE Journal, 2010, 56, 515-521.	3.6	3
50	Solid phase epitaxial regrowth of (001) anatase titanium dioxide. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, 020603.	2.1	3
51	Defect engineering in semiconducting oxides: Control of ZnO surface potential via temperature and oxygen pressure. AIChE Journal, 2016, 62, 500-507.	3.6	3
52	Surface-Based Post-synthesis Manipulation of Point Defects in Metal Oxides Using Liquid Water. ACS Applied Materials & Interfaces, 2022, 14, 34059-34068.	8.0	3
53	Temperature-dependent energy thresholds for ion-stimulated defect formation in solids: Effects of ion mass and adsorbateâ€“substrate pairing. Surface Science, 2007, 601, 2453-2458.	1.9	2
54	Photocarrier Transport Mechanisms in Amorphous and Epitaxial TiO2/SrRuO3 Heterojunction Photocatalysts. Journal of Physical Chemistry C, 2018, 122, 15688-15695.	3.1	2

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55	Surfaces and Interfaces for Controlled Defect Engineering. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	0
56	Surfaces and interfaces for controlled defect engineering. , 2008, , .		0
57	Defect engineering in semiconductors for nanoelectronic devices. , 2010, , .		0
58	Dependence of near-surface dopant pile-up on post-implant annealing conditions. , 2012, , .		0
59	Defect engineering via surfaces for metal-oxide electronics. , 2014, , .		0
60	Persistent illumination-induced changes in polycrystalline TiO2 majority carrier concentration. Materials Letters, 2016, 162, 20-23.	2.6	0
61	Electric Field Manipulation for Improved Rates of Photocatalysis by Mesoporous TiO2. Journal of Physical Chemistry C, 2022, 126, 1376-1388.	3.1	0