

Michael E Coltrin

List of Publications by Year in descending order

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36
papers

3,301
citations

257450

24
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345221

36
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41
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41
docs citations

41
times ranked

2050
citing authors

#	ARTICLE	IF	CITATIONS
1	A Mathematical Model of the Coupled Fluid Mechanics and Chemical Kinetics in a Chemical Vapor Deposition Reactor. <i>Journal of the Electrochemical Society</i> , 1984, 131, 425-434.	2.9	326
2	Toward Smart and Ultra-efficient Solid-State Lighting. <i>Advanced Optical Materials</i> , 2014, 2, 809-836.	7.3	300
3	A Mathematical Model of Silicon Chemical Vapor Deposition: Further Refinements and the Effects of Thermal Diffusion. <i>Journal of the Electrochemical Society</i> , 1986, 133, 1206-1213.	2.9	268
4	A Mathematical Model of the Fluid Mechanics and Gas-Phase Chemistry in a Rotating Disk Chemical Vapor Deposition Reactor. <i>Journal of the Electrochemical Society</i> , 1989, 136, 819-829.	2.9	229
5	A model of elementary chemistry and fluid mechanics in the combustion of hydrogen on platinum surfaces. <i>Combustion and Flame</i> , 1994, 96, 393-406.	5.2	170
6	Modeling the thermal DENOX process in flow reactors. Surface effects and Nitrous Oxide formation. <i>International Journal of Chemical Kinetics</i> , 1994, 26, 421-436.	1.6	156
7	Reactive sticking coefficients for silane and disilane on polycrystalline silicon. <i>Journal of Applied Physics</i> , 1988, 63, 2808-2819.	2.5	149
8	Analysis of diamond growth in subatmospheric dc plasma-gun reactors. <i>Journal of Applied Physics</i> , 1993, 74, 5803-5820.	2.5	145
9	Surface chemkin: A general formalism and software for analyzing heterogeneous chemical kinetics at a gas-surface interface. <i>International Journal of Chemical Kinetics</i> , 1991, 23, 1111-1128.	1.6	140
10	Theoretical study of the heats of formation of Si ₂ H _n (n = 0-6) compounds and trisilane. <i>The Journal of Physical Chemistry</i> , 1986, 90, 3399-3406.	2.9	131
11	Nature of the parasitic chemistry during AlGaInN OMVPE. <i>Journal of Crystal Growth</i> , 2004, 261, 204-213.	1.5	129
12	Solid-State Lighting: An Integrated Human Factors, Technology, and Economic Perspective. <i>Proceedings of the IEEE</i> , 2010, 98, 1162-1179.	21.3	125
13	Computational simulation of diamond chemical vapor deposition in premixed C ₂ H ₂ /O ₂ /H ₂ and CH ₄ O ₂ -strained flames. <i>Combustion and Flame</i> , 1993, 92, 144-160.	5.2	107
14	Comparisons between a gas-phase model of silane chemical vapor deposition and laser-diagnostic measurements. <i>Journal of Applied Physics</i> , 1986, 59, 3267-3273.	2.5	79
15	Mass transport and kinetic limitations in MOCVD selective-area growth. <i>Journal of Crystal Growth</i> , 2003, 254, 35-45.	1.5	65
16	Gas-phase silicon atoms in silane chemical vapor deposition: Laser-excited fluorescence measurements and comparisons with model predictions. <i>Journal of Applied Physics</i> , 1986, 60, 1505-1513.	2.5	61
17	Dependence of the gas composition in a microwave plasma-assisted diamond chemical vapor deposition reactor on the inlet carbon source: CH ₄ versus C ₂ H ₂ . <i>Diamond and Related Materials</i> , 1995, 4, 1000-1008.	3.9	57
18	Chemical kinetics in chemical vapor deposition: growth of silicon dioxide from tetraethoxysilane (TEOS). <i>Thin Solid Films</i> , 2000, 365, 251-263.	1.8	57

#	ARTICLE	IF	CITATIONS
19	Effects of temperature and filament poisoning on diamond growth in hot-filament reactors. Journal of Applied Physics, 1994, 76, 3102-3113.	2.5	55
20	Experimental measurements and numerical simulations of the gas composition in a hot-filament-assisted diamond chemical-vapor-deposition reactor. Journal of Applied Physics, 1994, 76, 7567-7577.	2.5	51
21	Modeling the parasitic chemical reactions of AlGaIn organometallic vapor-phase epitaxy. Journal of Crystal Growth, 2006, 287, 566-571.	1.5	46
22	Interaction of hydrogen, methane, ethylene, and cyclopentane with hot tungsten: Implications for the growth of diamond films. Journal of Applied Physics, 1994, 76, 1228-1243.	2.5	44
23	A simplified analytical model of diamond growth in direct current arcjet reactors. Journal of Materials Research, 1995, 10, 1993-2010.	2.6	33
24	Si Deposition Rates in a Two-Dimensional CVD Reactor and Comparisons with Model Calculations. Journal of the Electrochemical Society, 1990, 137, 2313-2319.	2.9	31
25	Chemical kinetics and mass transport effects in solution-based selective-area growth of ZnO nanorods. Journal of Crystal Growth, 2008, 310, 584-593.	1.5	21
26	A Mathematical Model of the Gas-Phase and Surface Chemistry in GaAs MOCVD. Materials Research Society Symposia Proceedings, 1989, 145, 119.	0.1	17
27	Unified Nusselt- and Sherwood-number correlations in axisymmetric finite-gap stagnation and rotating-disk flows. International Journal of Heat and Mass Transfer, 2016, 102, 122-132.	4.8	5
28	Transport, Growth Mechanisms, and Material Quality in GaN Epitaxial Lateral Overgrowth. Materials Research Society Symposia Proceedings, 1998, 537, 1.	0.1	4
29	Transport, Growth Mechanisms, and Material Quality in GaN Epitaxial Lateral Overgrowth. MRS Internet Journal of Nitride Semiconductor Research, 1999, 4, 588-593.	1.0	3
30	Laser-Excited Fluorescence Detection of Si ₂ During Silane CVD. Materials Research Society Symposia Proceedings, 1983, 29, 225.	0.1	2
31	Laser Probes and Numerical Modeling as Process Diagnostics in Chemical Vapor Deposition. Materials Research Society Symposia Proceedings, 1988, 117, 23.	0.1	2
32	Model Studies of Chemical Vapor Deposition. Materials Technology, 1993, 8, 250-253.	3.0	1
33	Gas-Phase Silicon Atom Densities in the Chemical Vapor Deposition of Silicon from Silane. Materials Research Society Symposia Proceedings, 1993, 334, 3.	0.1	1
34	Chemical Kinetics Models for Semiconductor Processing. Materials Research Society Symposia Proceedings, 1997, 490, 143.	0.1	1
35	Laser Spectroscopy and Gas-Phase Chemistry in CVD. Springer Series in Chemical Physics, 1984, , 515-525.	0.2	1
36	Modeling and Simulation of Hydrogen-Oxygen Combustion on Platinum Catalyst. , 1993, , 862-871.		0