

# Jan J Dubowski

## List of Publications by Year in descending order

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111  
papers

1,656  
citations

361045

20  
h-index

377514

34  
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111  
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111  
docs citations

111  
times ranked

1513  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Role of Gold Adatoms and Stereochemistry in Self-Assembly of Methylthiolate on Au(111). <i>Journal of the American Chemical Society</i> , 2009, 131, 12989-12993.	6.6	159
2	Electron scattering in $Cd_xHg_{1-x}Te$ . <i>Journal of Physics and Chemistry of Solids</i> , 1981, 42, 351-362.	1.9	95
3	Conic hyperspectral dispersion mapping applied to semiconductor plasmonics. <i>Light: Science and Applications</i> , 2012, 1, e28-e28.	7.7	64
4	GaAs/AlGaAs heterostructure based photonic biosensor for rapid detection of <i>Escherichia coli</i> in phosphate buffered saline solution. <i>Sensors and Actuators B: Chemical</i> , 2015, 207, 556-562.	4.0	48
5	Fourier-transform infrared and photoluminescence spectroscopies of self-assembled monolayers of long-chain thiols on (001) GaAs. <i>Journal of Applied Physics</i> , 2006, 99, 054701.	1.1	44
6	Structure of Thiol Self-Assembled Monolayers Commensurate with the GaAs (001) Surface. <i>Langmuir</i> , 2008, 24, 13299-13305.	1.6	44
7	Real-time detection of influenza A virus using semiconductor nanophotonics. <i>Light: Science and Applications</i> , 2013, 2, e62-e62.	7.7	43
8	Molecular self-assembly and passivation of GaAs (001) with alkanethiol monolayers: A view towards bio-functionalization. <i>Applied Surface Science</i> , 2010, 256, 5714-5721.	3.1	41
9	A photoluminescence-based quantum semiconductor biosensor for rapid in situ detection of <i>Escherichia coli</i> . <i>Sensors and Actuators B: Chemical</i> , 2011, 160, 46-51.	4.0	41
10	Quantitation of influenza A virus in the presence of extraneous protein using electrochemical impedance spectroscopy. <i>Electrochimica Acta</i> , 2011, 56, 8325-8328.	2.6	37
11	$c(4\sqrt{2})$ Structures of Alkanethiol Monolayers on Au (111) Compatible with the Constraint of Dense Packing. <i>Langmuir</i> , 2009, 25, 7353-7358.	1.6	35
12	Photonic biosensor based on photocorrosion of GaAs/AlGaAs quantum heterostructures for detection of <i>Legionella pneumophila</i> . <i>Biointerphases</i> , 2016, 11, 019301.	0.6	34
13	Adsorption Kinetics of Hydrogen Sulfide and Thiols on GaAs (001) Surfaces in a Vacuum. <i>Journal of Physical Chemistry C</i> , 2008, 112, 3726-3733.	1.5	33
14	Microbial synergistic interactions enhanced power generation in co-culture driven microbial fuel cell. <i>Science of the Total Environment</i> , 2020, 738, 140138.	3.9	33
15	Structure, Bonding Nature, and Binding Energy of Alkanethiolate on As-Rich GaAs (001) Surface: A Density Functional Theory Study. <i>Journal of Physical Chemistry B</i> , 2006, 110, 23619-23622.	1.2	31
16	Immobilization of avidin on (001) GaAs surface. <i>Applied Physics A: Materials Science and Processing</i> , 2006, 83, 357-360.	1.1	23
17	Monitoring growth and antibiotic susceptibility of <i>Escherichia coli</i> with photoluminescence of GaAs/AlGaAs quantum well microstructures. <i>Biosensors and Bioelectronics</i> , 2017, 93, 234-240.	5.3	23
18	Growth of polycrystalline $Cd_3As_2$ films on room temperature substrates by a pulsed-laser evaporation technique. <i>Thin Solid Films</i> , 1984, 117, 289-297.	0.8	21

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19	Pulsed laser evaporation and epitaxy of Cd <sub>1-x</sub> MnxTe. Journal of Crystal Growth, 1990, 101, 105-110.	0.7	21
20	Laser induced growth of Cd <sub>1-x</sub> MnxTe and CdTe <sub>1-x</sub> Cd <sub>x</sub> superlattices. Superlattices and Microstructures, 1991, 9, 327-330.	1.4	20
21	Observation of surface enhanced IR absorption coefficient in alkanethiol based self-assembled monolayers on GaAs(001). Journal of Applied Physics, 2009, 105, .	1.1	20
22	Surface Dipole Layer Potential Induced IR Absorption Enhancement in Alkanethiol SAMs on GaAs(001). Langmuir, 2009, 25, 13561-13568.	1.6	19
23	Formation dynamics of hexadecanethiol self-assembled monolayers on (001) GaAs observed with photoluminescence and Fourier transform infrared spectroscopies. Journal of Applied Physics, 2009, 106, .	1.1	18
24	Plasmonic propagations distances for interferometric surface plasmon resonance biosensing. Nanoscale Research Letters, 2011, 6, 388.	3.1	18
25	Antimicrobial warnericin RK peptide functionalized GaAs/AlGaAs biosensor for highly sensitive and selective detection of Legionella pneumophila. Biochemical Engineering Journal, 2020, 154, 107435.	1.8	18
26	ArF laser-based quantum well intermixing in InGaAs/InGaAsP heterostructures. Applied Physics Letters, 2008, 93, 071106.	1.5	17
27	Specific immobilization of influenza A virus on GaAs (001) surface. Journal of Biomedical Optics, 2009, 14, 054042.	1.4	17
28	Enhanced Photonic Stability of GaAs in Aqueous Electrolyte Using Alkanethiol Self-Assembled Monolayers and Postprocessing with Ammonium Sulfide. Journal of Physical Chemistry C, 2012, 116, 2891-2895.	1.5	17
29	Selective area in situ conversion of Si (0%1) hydrophobic to hydrophilic surface by excimer laser irradiation in hydrogen peroxide. Journal Physics D: Applied Physics, 2014, 47, 385106.	1.3	17
30	Cadmium arsenide films prepared by pulsed laser evaporation: electrical proerties and lattice parameters. Thin Solid Films, 1987, 147, L51-L54.	0.8	16
31	Laser-assisted dry etching ablation of InP. Applied Surface Science, 1995, 86, 548-553.	3.1	16
32	X-ray photoelectron spectroscopy study of self-assembled monolayers of alkanethiols on (001) GaAs. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 1756-1759.	0.9	16
33	Surface plasmon assisted photoluminescence in GaAs-AlGaAs quantum well microstructures. Applied Physics Letters, 2007, 91, 163106.	1.5	16
34	Formation Kinetics of Mixed Self-Assembled Monolayers of Alkanethiols on GaAs(100). Langmuir, 2019, 35, 4415-4427.	1.6	16
35	Electro-optic investigation of the surface trapping efficiency in Alkanethiol SAM passivated GaAs(001). Nanotechnology, 2011, 22, 235704.	1.3	15
36	Synthesis of a 3,4-Disubstituted 1,8-Naphthalimide-Based DNA Intercalator for Direct Imaging of Legionella pneumophila. ACS Omega, 2019, 4, 5829-5838.	1.6	15

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37	ATP Induced Modulation in $\pi$ - $\pi$ Stacking Interactions in Pyrene Based Zinc Complexes: Chemosensor Study and Quantitative Investigation of Apyrase Activity. <i>Crystal Growth and Design</i> , 2018, 18, 4320-4333.	1.4	15
38	Enhanced quantum-well photoluminescence in InGaAs/InGaAsP heterostructures following excimer-laser-assisted surface processing. <i>Applied Physics A: Materials Science and Processing</i> , 1999, 69, S299-S303.	1.1	14
39	GaAs Based on Bulk Acoustic Wave Sensor for Biological Molecules Detection. <i>Procedia Engineering</i> , 2015, 120, 721-726.	1.2	14
40	pH-Dependent Photocorrosion of GaAs/AlGaAs Quantum Well Microstructures. <i>Journal of Physical Chemistry C</i> , 2016, 120, 26129-26137.	1.5	14
41	Interface effects on electrical properties of high purity InP grown by gas-source molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 1991, 110, 910-914.	0.7	13
42	Study of surface morphology and refractive index of dielectric and metallic films used for the fabrication of monolithically integrated surface plasmon resonance biosensing devices. <i>Microelectronic Engineering</i> , 2012, 93, 91-94.	1.1	13
43	Solvent-mediated self-assembly of hexadecanethiol on GaAs (001). <i>Applied Surface Science</i> , 2014, 299, 66-72.	3.1	13
44	Carrier-induced fast wavelength switching in tunable V-cavity laser with quantum well intermixed tuning section. <i>Optics Express</i> , 2015, 23, 26336.	1.7	13
45	Photo-Atomic Layer Etching of GaAs/AlGaAs Nanoheterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 17968-17978.	4.0	13
46	Sodium dodecyl sulfate decorated Legionella pneumophila for enhanced detection with a GaAs/AlGaAs nanoheterostructure biosensor. <i>Sensors and Actuators B: Chemical</i> , 2020, 304, 127007.	4.0	13
47	Suppressed intermixing in InAlGaAs/AlGaAs/GaAs and AlGaAs/GaAs quantum well heterostructures irradiated with a KrF excimer laser. <i>Applied Physics A: Materials Science and Processing</i> , 2007, 89, 423-426.	1.1	12
48	Decomposition of Thimerosal and Dynamics of Thiosalicylic Acid Attachment on GaAs(001) Surface Observed with in Situ Photoluminescence. <i>Journal of Physical Chemistry C</i> , 2010, 114, 13657-13662.	1.5	12
49	Chemical evolution of InP/InGaAs/InGaAsP microstructures irradiated in air and deionized water with ArF and KrF lasers. <i>Applied Surface Science</i> , 2013, 270, 16-24.	3.1	12
50	Water-Mediated Self-Assembly of 16-Mercaptohexadecanoic Acid on GaAs (001). <i>Journal of Physical Chemistry C</i> , 2013, 117, 15090-15097.	1.5	12
51	Excimer laser induced quantum well intermixing: a reproducibility study of the process for fabrication of photonic integrated devices. <i>Optics Express</i> , 2015, 23, 1073.	1.7	12
52	Laser rapid thermal annealing of quantum semiconductor wafers: a one step bandgap engineering technique. <i>Applied Physics A: Materials Science and Processing</i> , 2009, 94, 667-674.	1.1	11
53	Metal-Organocatalyst for Detoxification of Phosphorothioate Pesticides: Demonstration of Acetylcholine Esterase Activity. <i>Inorganic Chemistry</i> , 2019, 58, 9773-9784.	1.9	11
54	Ultrafast exciton spin relaxation in GaAs/AlGaAs and CdMnTe multiple quantum wells. <i>Journal of Luminescence</i> , 1994, 58, 202-205.	1.5	10

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55	Surface plasmon effects induced by uncollimated emission of semiconductor microstructures. Optics Express, 2009, 17, 10411.	1.7	10
56	UV laser induced selective-area bandgap engineering for fabrication of InGaAsP/InP laser devices. Optics and Laser Technology, 2013, 51, 36-42.	2.2	10
57	Experimental evidence for mobile luminescence center mobility on partial dislocations in 4H-SiC using hyperspectral electroluminescence imaging. Applied Physics Letters, 2013, 102, .	1.5	10
58	Photocorrosion metrology of photoluminescence emitting GaAs/AlGaAs heterostructures. Journal Physics D: Applied Physics, 2017, 50, 035106.	1.3	10
59	Short Ligand, Cysteine-Modified Warnericin RK Antimicrobial Peptides Favor Highly Sensitive Detection of <i>Legionella pneumophila</i> . ACS Omega, 2021, 6, 1299-1308.	1.6	10
60	Surface barrier analysis of semi-insulating and n+-type GaAs(001) following passivation with n-alkanethiol SAMs. Applied Surface Science, 2011, 257, 4543-4546.	3.1	9
61	Binding strategies for capturing and growing Escherichia coli on surfaces of biosensing devices. Talanta, 2019, 192, 270-277.	2.9	9
62	Thermal etch pits and surface morphology of vacuum sublimated (111) and (001) CdTe crystals. Journal of Crystal Growth, 1989, 94, 41-45.	0.7	8
63	Optical properties of CdTe-Cd <sub>0.90</sub> Mn <sub>0.10</sub> Te multiple quantum well structures grown by pulsed laser evaporation and epitaxy. Journal of Crystal Growth, 1992, 117, 862-866.	0.7	8
64	Evidence for the miniband dispersion in the photoreflectance of a CdTe/Cd <sub>1-x</sub> Mn <sub>x</sub> Te superlattice. Superlattices and Microstructures, 1994, 16, 25-28.	1.4	8
65	X-ray photoelectron spectroscopic study of KrF excimer laser nitrated InP surface. Journal of Applied Physics, 2001, 90, 5851-5855.	1.1	8
66	Surface passivation of (001) GaAs with self-assembled monolayers of long-chain thiols. , 2005, , .		8
67	Hyperspectral imaging of diffracted surface plasmons. Optics Express, 2010, 18, 27327.	1.7	8
68	Regeneration of a thiolated and antibody functionalized GaAs (001) surface using wet chemical processes. Biointerphases, 2016, 11, 019302.	0.6	8
69	Growth of Escherichia coli on the GaAs (001) surface. Talanta, 2018, 178, 69-77.	2.9	8
70	Regenerable ZnO/GaAs Bulk Acoustic Wave Biosensor for Detection of Escherichia coli in "Complex" Biological Medium. Biosensors, 2021, 11, 145.	2.3	8
71	Enhanced photoluminescence emission from bandgap shifted InGaAs/InGaAsP/InP microstructures processed with UV laser quantum well intermixing. Journal Physics D: Applied Physics, 2013, 46, 445103.	1.3	7
72	Chemotaxis for enhanced immobilization of Escherichia coli and Legionella pneumophila on biofunctionalized surfaces of GaAs. Biointerphases, 2016, 11, 021004.	0.6	7

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73	Formation of a Au/Au <sub>9</sub> Ga <sub>4</sub> Alloy Nanoshell on a Bacterial Surface through Galvanic Displacement Reaction for High-Contrast Imaging. ACS Applied Bio Materials, 2020, 3, 477-485.	2.3	7
74	Polymer Brush-GaAs Interface and Its Use as an Antibody-Compatible Platform for Biosensing. ACS Omega, 2021, 6, 7286-7295.	1.6	7
75	Iterative bandgap engineering at selected areas of quantum semiconductor wafers. Optics Express, 2009, 17, 19842.	1.7	6
76	Enhanced spectrum superluminescent diodes fabricated by infrared laser rapid thermal annealing. Optics and Laser Technology, 2013, 54, 401-406.	2.2	6
77	Precision tuning of InAs quantum dot emission wavelength by iterative laser annealing. Optics and Laser Technology, 2018, 103, 382-386.	2.2	6
78	Open circuit potential monitored digital photocorrosion of GaAs/AlGaAs quantum well microstructures. Applied Physics Letters, 2018, 112, .	1.5	6
79	Fiber optic CdMnTe magnetic field sensor made by the laser ablation deposition technique. IEEE Transactions on Instrumentation and Measurement, 1994, 43, 322-325.	2.4	5
80	Folded acoustic modes and photoelastic coefficients in superlattices. Solid State Communications, 1997, 103, 239-242.	0.9	5
81	Miniaturized Quantum Semiconductor Surface Plasmon Resonance Platform for Detection of Biological Molecules. Biosensors, 2013, 3, 201-210.	2.3	5
82	Surface morphology of SiO <sub>2</sub> coated InP/InGaAs/InGaAsP microstructures following irradiation with the ArF and KrF excimer lasers. , 2011, , .		4
83	Consequence of Galvanic Displacement Reaction on Digital Photocorrosion of GaAs/Al <sub>0.35</sub> Ga <sub>0.65</sub> As Nanoheterostructures. Journal of Physical Chemistry C, 2020, 124, 27772-27779.	1.5	4
84	Strategies for capturing Bacillus thuringiensis spores on surfaces of (001) GaAs-based biosensors. Talanta, 2022, 236, 122813.	2.9	4
85	Selective Detection of Legionella pneumophila Serogroup 1 and 5 with a Digital Photocorrosion Biosensor Using Antimicrobial Peptide-Antibody Sandwich Strategy. Biosensors, 2022, 12, 105.	2.3	4
86	Rapid, Sensitive, and Selective Quantification of Bacillus cereus Spores Using xMAP Technology. Microorganisms, 2022, 10, 1408.	1.6	4
87	Characterization of ZnSe/GaAs heterojunctions by SIMS and ellipsometry. Physica B: Condensed Matter, 1993, 185, 580-584.	1.3	3
88	Low-temperature photoluminescence study of Cd <sub>1-x</sub> MnxTe films grown by pulsed laser evaporation and epitaxy. Surface Science, 1993, 294, 373-380.	0.8	3
89	Quantization of the excitonic polaritons in CdTe/CdMnTe multiple quantum wells. Superlattices and Microstructures, 1994, 16, 1-4.	1.4	3
90	Ultraviolet laser quantum well intermixing based prototyping of bandgap tuned heterostructures for the fabrication of superluminescent diodes. Optics and Laser Technology, 2016, 78, 5-9.	2.2	3

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91	Deposition and characterization of ZnO thin films on GaAs and Pt/GaAs substrates. <i>Materials Chemistry and Physics</i> , 2020, 247, 122854.	2.0	3
92	Water Sampling Module for Collecting and Concentrating <i>Legionella pneumophila</i> from Low-to-Medium Contaminated Environment. <i>Biosensors</i> , 2021, 11, 34.	2.3	3
93	Modification of cleaved surfaces of Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> single crystals induced by ArF excimer laser irradiation. <i>Applied Surface Science</i> , 1999, 143, 313-318.	3.1	2
94	Novel Quantum Dot based Approach for Biosensing. , 2006, , .		2
95	Excimer laser-induced crystallization of CdSe thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 93, 869-874.	1.1	2
96	Laser-based bandgap engineering of quantum semiconductor wafers. , 2009, , .		2
97	ArF excimer laser-induced quantum well intermixing in dielectric layer coated InGaAs/InGaAsP microstructures. , 2010, , .		2
98	Surface and interface study of SiO <sub>2</sub> -x coated InP/InGaAs/InGaAsP semiconductor laser microstructures processed in the soft KrF laser irradiation regime. <i>Proceedings of SPIE</i> , 2011, , .	0.8	2
99	Electrically biased GaAs/AlGaAs heterostructures for enhanced detection of bacteria. , 2016, , .		2
100	Formation of extraordinary density alkanethiol self-assembled monolayers on surfaces of digitally photocorroded (001) GaAs/AlGaAs nanoheterostructures. <i>Applied Physics Letters</i> , 2021, 118, 222102.	1.5	2
101	Excited state spectroscopy of CdTe-Cd <sub>0.9</sub> Mn <sub>0.1</sub> Te multiple quantum wells grown by pulsed laser evaporation and epitaxy. <i>Thin Solid Films</i> , 1992, 213, 155-157.	0.8	1
102	Excimer laser-assisted chemical process for formation of hydrophobic surface of Si (001). <i>Applied Physics A: Materials Science and Processing</i> , 2014, 117, 37-41.	1.1	1
103	Selective Area Modification of Silicon Surface Wettability by Pulsed UV Laser Irradiation in Liquid Environment. <i>Journal of Visualized Experiments</i> , 2015, , e52720.	0.2	1
104	Integrated electrically driven surface plasmon resonance device for biosensing applications. <i>Optics Express</i> , 2015, 23, 19763.	1.7	1
105	QUANTUM DOT BIO-TEMPLATE FOR RAPID DETECTION OF PATHOGENIC SUBSTANCES. , 2006, , 159-173.		1
106	Bandgap Engineering of Quantum Semiconductor Microstructures. , 2020, , 1-34.		1
107	Investigation of Conditions for Capture of Live <i>Legionella pneumophila</i> with Polyclonal and Recombinant Antibodies. <i>Biosensors</i> , 2022, 12, 380.	2.3	1
108	First-principles Study of Adsorption Energetics of Alkanethiols on GaAs(001). <i>Materials Research Society Symposia Proceedings</i> , 2006, 950, 1.	0.1	0

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109	Monitoring Growth and Antibiotic Susceptibility of Escherichia coli with Photoluminescence Emitting Semiconductor Biochips. Procedia Technology, 2017, 27, 244-245.	1.1	0
110	(Invited) Photoluminescence Diagnostics of Nanoscale Dissolution of III-V Semiconductor Nanoheterostructures. ECS Meeting Abstracts, 2020, MA2020-01, 1075-1075.	0.0	0
111	Bandgap Engineering of Quantum Semiconductor Microstructures. , 2021, , 1577-1610.		0