

# Nenad Vukmirovic

## List of Publications by Year in descending order

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98  
papers

2,726  
citations

218677

26  
h-index

197818

49  
g-index

100  
all docs

100  
docs citations

100  
times ranked

3429  
citing authors

#	ARTICLE	IF	CITATIONS
1	Polymers with Tailored Electronic Structure for High Capacity Lithium Battery Electrodes. <i>Advanced Materials</i> , 2011, 23, 4679-4683.	21.0	505
2	Toward an Ideal Polymer Binder Design for High-Capacity Battery Anodes. <i>Journal of the American Chemical Society</i> , 2013, 135, 12048-12056.	13.7	332
3	Electronic Structure of Disordered Conjugated Polymers: Polythiophenes. <i>Journal of Physical Chemistry B</i> , 2009, 113, 409-415.	2.6	92
4	Charge Carrier Motion in Disordered Conjugated Polymers: A Multiscale Ab Initio Study. <i>Nano Letters</i> , 2009, 9, 3996-4000.	9.1	83
5	Charge Transport in a Quantum Dot Supercrystal. <i>Journal of Physical Chemistry C</i> , 2011, 115, 21409-21415.	3.1	73
6	Mechanisms of dynamic range limitations in GaAs <sup>+</sup> AlGaAs quantum-cascade lasers: Influence of injector doping. <i>Applied Physics Letters</i> , 2005, 86, 211117.	3.3	69
7	Optically pumped terahertz laser based on intersubband transitions in a GaN <sup>+</sup> AlGaN double quantum well. <i>Journal of Applied Physics</i> , 2005, 97, 103106.	2.5	51
8	Nonadiabatic molecular dynamics simulation for carrier transport in a pentathiophene butyric acid monolayer. <i>Physical Review B</i> , 2013, 87, .	3.2	51
9	Influence of doping density on electron dynamics in GaAs <sup>+</sup> AlGaAs quantum cascade lasers. <i>Journal of Applied Physics</i> , 2006, 99, 103106.	2.5	47
10	Carrier hopping in disordered semiconducting polymers: How accurate is the Miller <sup>+</sup> Abrahams model?. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	46
11	Density of States and Wave Function Localization in Disordered Conjugated Polymers: A Large Scale Computational Study. <i>Journal of Physical Chemistry B</i> , 2011, 115, 1792-1797.	2.6	46
12	Effects of rapid thermal annealing on device characteristics of InGaAs <sup>+</sup> GaAs quantum dot infrared photodetectors. <i>Journal of Applied Physics</i> , 2006, 99, 114517.	2.5	45
13	Charge Carrier Localization and Transport in Organic Semiconductors: Insights from Atomistic Multiscale Simulations. <i>Advanced Functional Materials</i> , 2015, 25, 1915-1932.	14.9	45
14	Symmetry of $\hat{H}$ Hamiltonian in pyramidal InAs <sup>+</sup> GaAs quantum dots: Application to the calculation of electronic structure. <i>Physical Review B</i> , 2005, 72, .	3.2	43
15	Plane wave methodology for single quantum dot electronic structure calculations. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	43
16	Excitonic and biexcitonic properties of single GaN quantum dots modeled by 8-band $k \cdot p$ theory and configuration-interaction method. <i>Physical Review B</i> , 2009, 79, .	3.2	42
17	Density matrix theory of transport and gain in quantum cascade lasers in a magnetic field. <i>Physical Review B</i> , 2007, 76, .	3.2	40
18	Intraband absorption in InAs/GaAs quantum dot infrared photodetectors <sup>+</sup> effective mass versus $k \cdot p$ modelling. <i>Semiconductor Science and Technology</i> , 2006, 21, 1098-1104.	2.0	38

#	ARTICLE	IF	CITATIONS
19	Charge patching method for electronic structure of organic systems. Journal of Chemical Physics, 2008, 128, 121102.	3.0	37
20	Investigation of carrier confinement in direct bandgap GeSn/SiGeSn 2D and OD heterostructures. Scientific Reports, 2018, 8, 15557.	3.3	36
21	Electrical Transport Properties of Oligothiophene-Based Molecular Films Studied by Current Sensing Atomic Force Microscopy. Nano Letters, 2011, 11, 4107-4112.	9.1	34
22	Electron-Phonon Coupling in Crystalline Organic Semiconductors: Microscopic Evidence for Nonpolaronic Charge Carriers. Physical Review Letters, 2012, 109, 126407.	7.8	33
23	Relationship between carrier dynamics and temperature in terahertz quantum cascade structures: simulation of GaAs/AlGaAs, SiGe/Si and GaN/AlGaN devices. Semiconductor Science and Technology, 2005, 20, S237-S245.	2.0	32
24	Electron and Hole Contributions to the Terahertz Photoconductivity of a Conjugated Polymer: Fullerene Blend Identified. Journal of Physical Chemistry Letters, 2012, 3, 2442-2446.	4.6	32
25	Symmetry reduction in multiband Hamiltonians for semiconductor quantum dots: The role of interfaces and higher energy bands. Journal of Applied Physics, 2011, 110, .	2.5	29
26	Electronic structure and optical properties of Sn and SnGe quantum dots. Journal of Applied Physics, 2008, 103, .	2.5	28
27	Quantum transport in semiconductor quantum dot superlattices: Electron-phonon resonances and polaron effects. Physical Review B, 2007, 76, .	3.2	26
28	Polaronic signatures and spectral properties of graphene antidot lattices. Physical Review B, 2010, 82, .	3.2	26
29	Insights into the Charge Carrier Terahertz Mobility in Polyfluorenes from Large-Scale Atomistic Simulations and Time-Resolved Terahertz Spectroscopy. Journal of Physical Chemistry C, 2012, 116, 19665-19672.	3.1	26
30	A microscopic model of electron transport in quantum dot infrared photodetectors. Journal of Applied Physics, 2006, 100, 074502.	2.5	23
31	Electron transport in quantum cascade lasers in a magnetic field. Physical Review B, 2006, 73, .	3.2	23
32	Electronic properties calculation of Ge <sub>1-x</sub> Si <sub>x</sub> Sn <sub>y</sub> ternary alloy and nanostructure. Journal of Non-Crystalline Solids, 2012, 358, 2096-2098.	3.1	23
33	Stark shift of the spectral response in quantum dots-in-a-well infrared photodetectors. Journal Physics D: Applied Physics, 2007, 40, 5537-5540.	2.8	22
34	SnGe Asymmetric Quantum Well Electroabsorption Modulators for Long-Wave Silicon Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 100-105.	2.9	22
35	Charge carrier mobility in systems with local electron-phonon interaction. Physical Review B, 2019, 99, .	3.2	22
36	Importance of Polaronic Effects for Charge Transport in CdSe Quantum Dot Solids. Journal of Physical Chemistry Letters, 2014, 5, 1335-1340.	4.6	21

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37	Origin of detection wavelength tuning in quantum dots-in-a-well infrared photodetectors. Applied Physics Letters, 2006, 88, 251107.	3.3	20
38	Visible Spectrum Quantum Light Sources Based on In <sub>x</sub> Ga <sub>1-x</sub> N/GaN Quantum Dots. ACS Photonics, 2015, 2, 958-963.	6.6	20
39	Optically pumped intersublevel MidInfrared lasers based on InAs-GaAs quantum dots. IEEE Journal of Quantum Electronics, 2005, 41, 1361-1368.	1.9	19
40	Symmetry-based calculation of single-particle states and intraband absorption in hexagonal GaN/AlN quantum dot superlattices. Journal of Physics Condensed Matter, 2006, 18, 6249-6262.	1.8	19
41	Electron-phonon coupling in graphene antidot lattices: An indication of polaronic behavior. Physical Review B, 2010, 81, .	3.2	19
42	Selective wavelength tuning of self-assembled InAs quantum dots grown on InP. Applied Physics Letters, 2006, 88, 193112.	3.3	18
43	Electron Transport and Terahertz Gain in Quantum-Dot Cascades. IEEE Photonics Technology Letters, 2008, 20, 129-131.	2.5	18
44	Overlapping fragments method for electronic structure calculation of large systems. Journal of Chemical Physics, 2011, 134, 094119.	3.0	18
45	Electronic States at Low-Angle Grain Boundaries in Polycrystalline Naphthalene. Journal of Physical Chemistry C, 2013, 117, 15741-15748.	3.1	18
46	Influence of composition, strain, and electric field anisotropy on different emission colors and recombination dynamics from InGaN nanodisks in pencil-like GaN nanowires. Physical Review B, 2016, 93, .	3.2	18
47	Electronic Properties of Free-Standing Surfactant-Capped Lead Halide Perovskite Nanocrystals Isolated in Vacuo. Journal of Physical Chemistry Letters, 2018, 9, 3604-3611.	4.6	18
48	A comparative study of electronic properties of disordered conjugated polymers. Physical Chemistry Chemical Physics, 2013, 15, 3543.	2.8	17
49	Origin of space-separated charges in photoexcited organic heterojunctions on ultrafast time scales. Physical Review B, 2017, 95, .	3.2	17
50	Effects of thermal disorder on the electronic structure of halide perovskites: insights from MD simulations. Physical Chemistry Chemical Physics, 2018, 20, 25693-25700.	2.8	17
51	Dependence of saturation effects on electron confinement and injector doping in GaAs <sup>+</sup> Al <sub>0.45</sub> Ga <sub>0.55</sub> As quantum-cascade lasers. Applied Physics Letters, 2006, 88, 251109.	3.3	16
52	Magnetic-field tunable terahertz quantum well infrared photodetector. Journal of Applied Physics, 2005, 98, 084509.	2.5	15
53	Effects of thermal disorder on the electronic properties of ordered polymers. Physical Chemistry Chemical Physics, 2014, 16, 25950-25958.	2.8	15
54	Combination of Charge Delocalization and Disorder Enables Efficient Charge Separation at Photoexcited Organic Bilayers. Journal of Physical Chemistry C, 2018, 122, 10343-10359.	3.1	15

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55	A physical model of quantum cascade lasers: Application to GaAs, GaN and SiGe devices. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2005, 202, 980-986.	1.8	14
56	The role of disorder on the electronic structure of conjugated polymers. The case of poly-2,5-bis(phenylethynyl)-1,3,4-thiadiazole. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 14500.	2.8	14
57	Carrier heating in disordered conjugated polymers in electric field. <i>Physical Review B</i> , 2010, 81, .	3.2	13
58	Position estimation with a millimeter-wave massive MIMO system based on distributed steerable phased antenna arrays. <i>Eurasip Journal on Advances in Signal Processing</i> , 2018, 2018, 33.	1.7	13
59	Aerosol Synthesis and Gas-Phase Photoelectron Spectroscopy of Ag-Bi-I Nanosystems. <i>Journal of Physical Chemistry C</i> , 2020, 124, 23930-23937.	3.1	13
60	Intraband magneto-optical properties of magnetic quantum dots. <i>Physical Review B</i> , 2007, 76, .	3.2	11
61	Dynamics of exciton formation and relaxation in photoexcited semiconductors. <i>Physical Review B</i> , 2015, 92, .	3.2	11
62	Electronic States at the Interface between Crystalline and Amorphous Domains in Conjugated Polymers. <i>Journal of Physical Chemistry C</i> , 2015, 119, 23329-23333.	3.1	10
63	Direct Wideband Coherent Localization by Distributed Antenna Arrays. <i>Sensors</i> , 2019, 19, 4582.	3.8	10
64	Spectral and thermodynamic properties of the Holstein polaron: Hierarchical equations of motion approach. <i>Physical Review B</i> , 2022, 105, .	3.2	10
65	Identification of Ultrafast Photophysical Pathways in Photoexcited Organic Heterojunctions. <i>Journal of Physical Chemistry C</i> , 2017, 121, 19602-19618.	3.1	9
66	Design of a ZnMnSe/ZnMgSe spin-polarized terahertz quantum cascade laser tunable by magnetic field. <i>Applied Physics Letters</i> , 2006, 89, 011109.	3.3	8
67	Spin relaxation in CdTe quantum dots with a single Mn atom. <i>Physical Review B</i> , 2012, 85, .	3.2	8
68	Calculations of electron mobility in II-VI semiconductors. <i>Physical Review B</i> , 2021, 104, .	3.2	8
69	Ab initio construction of symmetry-adapted $k$ -point Hamiltonians for the electronic structure of semiconductors. <i>Physical Review B</i> , 2020, 102, .	3.2	7
70	Energy-Temporal Pathways of Free-Charge Formation at Organic Bilayers: Competition of Delocalization, Disorder, and Polaronic Effects. <i>Journal of Physical Chemistry C</i> , 2020, 124, 4378-4392.	3.1	6
71	Effect of GaP strain compensation layers on rapid thermally annealed InGaAs/GaAs quantum dot infrared photodetectors grown by metal-organic chemical-vapor deposition. <i>Applied Physics Letters</i> , 2007, 91, .	3.3	5
72	Electronic structure and optical transitions in Sn and SnGe quantum dots in a Si matrix. <i>Microelectronics Journal</i> , 2009, 40, 483-485.	2.0	5

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73	Electronic states and intraband terahertz optical transitions in InGaAs quantum rods. Journal of Applied Physics, 2012, 111, 073110.	2.5	5
74	Effective Refractive-Index Approximation: A Link between Structural and Optical Disorder of Planar Resonant Optical Structures. Physical Review Applied, 2018, 9, .	3.8	5
75	Influence of injector doping density and electron confinement on the properties of GaAs/Al <sub>0.45</sub> Ga <sub>0.55</sub> As quantum cascade lasers. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 411-414.	0.8	4
76	Naturally safe: Cellular noise for document security. Journal of Biophotonics, 2019, 12, e201900218.	2.3	4
77	On the coherence/incoherence of electron transport in semiconductor heterostructure optoelectronic devices. Proceedings of SPIE, 2008, , .	0.8	3
78	Spontaneous Polarization Induced by Side Chains in Ordered Poly(3-hexylthiophene). Journal of Physical Chemistry C, 2016, 120, 18895-18900.	3.1	3
79	Polaron mobility obtained by a variational approach for lattice Fröhlich models. Annals of Physics, 2018, 391, 183-202.	2.8	3
80	Nonequilibrium Thermodynamics of Charge Separation in Organic Solar Cells. Journal of Physical Chemistry Letters, 2021, 12, 6389-6397.	4.6	3
81	Theoretical modelling of InGaAs quantum rods: Terahertz intraband absorption and its dependence on rod height. Journal of Physics: Conference Series, 2010, 242, 012012.	0.4	2
82	Stochastic analysis of flood series. Hydrological Sciences Journal, 2017, 62, 1721-1735.	2.6	2
83	Quantum dots-in-a-well infrared photodetectors grown by MOCVD. , 2006, , .		1
84	Nonequilibrium optical conductivity in materials with localized electronic states. Physical Review B, 2014, 90, .	3.2	1
85	Towards the High Performance Method for Large-Scale Electronic Structure Calculations. Lecture Notes in Computer Science, 2016, , 90-99.	1.3	1
86	Performance Limits of Direct Wideband Coherent 3D Localization in Distributed Massive MIMO Systems. Sensors, 2021, 21, 3401.	3.8	1
87	Physical Model and Scattering Dynamics Engineering for Intersubband Lasers and Photodetectors. , 0, , .		0
88	On the incoherence of quantum transport in semiconductor heterostructure optoelectronic devices. International Biennial Baltic Electronics Conference, 2006, , .	0.0	0
89	Symmetry based calculation of electronic structure and intraband absorption in GaN/AlN hexagonal quantum dot superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3939-3942.	0.8	0
90	Theoretical modelling of electron transport in InAs/GaAs quantum dot superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3770-3773.	0.8	0

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91	Lasing in spin-polarized terahertz quantum cascade structures. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 4401-4404.	0.8	0
92	An efficient method for multi-band plane wave CI calculations in semiconductor QD's. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1924-1925.	2.7	0
93	Excitonic properties of GaN/AlN quantum dot single photon sources. , 2012, , .		0
94	Atomic and electronic structure of grain boundaries in crystalline organic semiconductors. Physica Scripta, 2013, T157, 014061.	2.5	0
95	Gaussian basis implementation of the charge patching method. Journal of Computational Physics, 2018, 368, 196-209.	3.8	0
96	Dynamics of Photoexcited Charges in Organic Heterojunctions - Insights from Theory and Simulation. , 2018, , .		0
97	Coherent Wideband Direct Localization: Challenges and Recent Results. , 2021, , .		0
98	High-Resolution Doppler and Azimuth Estimation and Target Detection in HFSWR: Experimental Study. Sensors, 2022, 22, 3558.	3.8	0