Aleksandar D Rakić

List of Publications by Year in descending order

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165 papers 6,943 citations

30 h-index 81 g-index

168 all docs

168 docs citations

168 times ranked 6523 citing authors

#	Article	IF	Citations
1	Optical properties of metallic films for vertical-cavity optoelectronic devices. Applied Optics, 1998, 37, 5271.	2.1	3,357
2	Algorithm for the determination of intrinsic optical constants of metal films: application to aluminum. Applied Optics, 1995, 34, 4755.	2.1	534
3	Laser feedback interferometry: a tutorial on the self-mixing effect for coherent sensing. Advances in Optics and Photonics, 2015, 7, 570.	12.1	294
4	Terahertz imaging through self-mixing in a quantum cascade laser. Optics Letters, 2011, 36, 2587.	1.7	149
5	Terahertz imaging using quantum cascade lasers—a review of systems and applications. Journal Physics D: Applied Physics, 2014, 47, 374008.	1.3	141
6	Modeling the optical dielectric function of GaAs and AlAs: Extension of Adachi's model. Journal of Applied Physics, 1996, 80, 5909-5914.	1.1	126
7	Swept-frequency feedback interferometry using terahertz frequency QCLs: a method for imaging and materials analysis. Optics Express, 2013, 21, 22194.	1.7	91
8	Self-mixing flow sensor using a monolithic VCSEL array with parallel readout. Optics Express, 2010, 18, 11720.	1.7	85
9	A Self-Mixing Displacement Sensor With Fringe-Loss Compensation for Harmonic Vibrations. IEEE Photonics Technology Letters, 2010, 22, 410-412.	1.3	70
10	Imaging of acoustic fields using optical feedback interferometry. Optics Express, 2014, 22, 30346.	1.7	68
11	Demonstration of a self-mixing displacement sensor based on terahertz quantum cascade lasers. Applied Physics Letters, 2011, 99, .	1.5	63
12	Determination of the reflection coefficients of laser light of wavelengths î»â^Š(022 î¼m,200 î¼m) from the surface of aluminum using the Lorentz-Drude model. Applied Optics, 1990, 29, 3479.	2.1	59
13	Flow profile measurement in microchannel using the optical feedback interferometry sensing technique. Microfluidics and Nanofluidics, 2013, 14, 113-119.	1.0	59
14	Solving self-mixing equations for arbitrary feedback levels: a concise algorithm. Applied Optics, 2014, 53, 3723.	0.9	59
15	Modeling the optical constants of solids using acceptance-probability-controlled simulated annealing with an adaptive move generation procedure. Physical Review E, 1997, 55, 4797-4803.	0.8	55
16	Self-mixing imaging sensor using a monolithic VCSEL array with parallel readout. Optics Express, 2009, 17, 5517.	1.7	55
17	Sensing and imaging using laser feedback interferometry with quantum cascade lasers. Applied Physics Reviews, 2019, 6, 021320.	5.5	52
18	Adaptive self-mixing vibrometer based on a liquid lens. Optics Letters, 2010, 35, 1278.	1.7	48

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19	Self-Mixing Interferometry With Terahertz Quantum Cascade Lasers. IEEE Sensors Journal, 2013, 13, 37-43.	2.4	46
20	Coherent three-dimensional terahertz imaging through self-mixing in a quantum cascade laser. Applied Physics Letters, 2013, 103, .	1.5	45
21	Spectral broadening caused by dynamic speckle in self-mixing velocimetry sensors. Optics Express, 2012, 20, 18757.	1.7	42
22	Organic microcavity light-emitting diodes with metal mirrors: dependence of the emission wavelength on the viewing angle. Applied Optics, 2002, 41, 7650.	2.1	41
23	High-contrast coherent terahertz imaging of porcine tissue via swept-frequency feedback interferometry. Biomedical Optics Express, 2014, 5, 3981.	1.5	41
24	On the nature of Acket's characteristic parameter C in semiconductor lasers. Applied Optics, 2014, 53, 1001.	0.9	39
25	Terahertz inverse synthetic aperture radar imaging using self-mixing interferometry with a quantum cascade laser. Optics Letters, 2014, 39, 2629.	1.7	36
26	Three-dimensional terahertz imaging using swept-frequency feedback interferometry with a quantum cascade laser. Optics Letters, 2015, 40, 994.	1.7	35
27	GaN laser self-mixing velocimeter for measuring slow flows. Optics Letters, 2010, 35, 814.	1.7	34
28	Determination of optical properties of aluminium including electron reradiation in the Lorentz-Drude model. Optics and Laser Technology, 1990, 22, 394-398.	2.2	33
29	Acceptance-probability-controlled simulated annealing: A method for modeling the optical constants of solids. Physical Review E, 1995, 52, 6862-6867.	0.8	32
30	Efficient prediction of terahertz quantum cascade laser dynamics from steady-state simulations. Applied Physics Letters, 2015, 106, .	1.5	32
31	Coherent imaging using laser feedback interferometry with pulsed-mode terahertz quantum cascade lasers. Optics Express, 2019, 27, 10221.	1.7	31
32	Approach to frequency estimation in self-mixing interferometry: multiple signal classification. Applied Optics, 2013, 52, 3345.	0.9	30
33	Effect of the optical system on the Doppler spectrum in laser-feedback interferometry. Applied Optics, 2015, 54, 18.	0.9	30
34	Design of microchannel free-space optical interconnects based on vertical-cavity surface-emitting laser arrays. Applied Optics, 2002, 41, 3469.	2.1	29
35	Analysis of optical channel cross talk for free-space optical interconnects in the presence of higher-order transverse modes. Applied Optics, 2005, 44, 6380.	2.1	28
36	Effect of multiple transverse modes in self-mixing sensors based on vertical-cavity surface-emitting lasers. Applied Optics, 2007, 46, 611.	2.1	27

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37	Effect of injection current and temperature on signal strength in a laser diode optical feedback interferometer. Applied Optics, 2015, 54, 312.	0.9	27
38	Laser Feedback Interferometry as a Tool for Analysis of Granular Materials at Terahertz Frequencies: Towards Imaging and Identification of Plastic Explosives. Sensors, 2016, 16, 352.	2.1	27
39	Analysis of lensless free-space optical interconnects based on multi-transverse mode vertical-cavity-surface-emitting lasers. Optics Communications, 1999, 167, 261-271.	1.0	26
40	Modeling the optical constants of AlxGa1â^'xAs alloys. Journal of Applied Physics, 1999, 86, 445-451.	1.1	24
41	Self-mixing laser Doppler flow sensor: an optofluidic implementation. Applied Optics, 2013, 52, 8128.	0.9	24
42	Displacement and distance measurement using the change in junction voltage across a laser diode due to the self-mixing effect., 2005, 6038, 378.		23
43	Lasers—an effective artificial source of radiation for the cultivation of anoxygenic photosynthetic bacteria. Biotechnology and Bioengineering, 2006, 94, 337-345.	1.7	21
44	Modeling diffraction in free-space optical interconnects by the mode expansion method. Applied Optics, 2003, 42, 5308.	2.1	20
45	Methodology for materials analysis using swept-frequency feedback interferometry with terahertz frequency quantum cascade lasers. Optics Express, 2014, 22, 18633.	1.7	20
46	Simple Electrical Modulation Scheme for Laser Feedback Imaging. IEEE Sensors Journal, 2016, 16, 1937-1942.	2.4	20
47	Measurement of the emission spectrum of a semiconductor laser using laser-feedback interferometry. Scientific Reports, 2017, 7, 7236.	1.6	20
48	A Critical Comparison of High-Speed VCSEL Characterization Techniques. Journal of Lightwave Technology, 2007, 25, 597-605.	2.7	19
49	On the feasibility of self-mixing interferometer sensing for detection of the surface electrocardiographic signal using a customized electro-optic phase modulator. Physiological Measurement, 2013, 34, 281-289.	1.2	19
50	Confocal laser feedback tomography for skin cancer detection. Biomedical Optics Express, 2017, 8, 4037.	1.5	19
51	Optical constants from scattering-type scanning near-field optical microscope. Applied Physics Letters, 2021, 118, .	1.5	19
52	Observation of optical feedback dynamics in single-mode terahertz quantum cascade lasers: Transient instabilities. Physical Review A, 2021, 103, .	1.0	19
53	Modeling the optical constants of solids using genetic algorithms with parameter space size adjustment. Optics Communications, 1997, 134, 407-414.	1.0	18
54	Parallel self-mixing imaging system based on an array of vertical-cavity surface-emitting lasers. Applied Optics, 2007, 46, 6237.	2.1	18

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55	Maintaining maximum signal-to-noise ratio in uncooled vertical-cavity surface-emitting laser-based self-mixing sensors. Optics Letters, 2011, 36, 3690.	1.7	18
56	Modeling the optical properties of AlSb, GaSb, and InSb. Applied Physics A: Materials Science and Processing, 2000, 70, 29-32.	1.1	17
57	Demonstration of the self-mixing effect in interband cascade lasers. Applied Physics Letters, 2013, 103, .	1.5	17
58	Genetic algorithms for continuous optimization problems - a concept of parameter-space size adjustment. Journal of Physics A, 1997, 30, 7849-7861.	1.6	16
59	Modeling the optical constants of GaP, InP, and InAs. Journal of Applied Physics, 1999, 85, 3638-3642.	1.1	16
60	Model for a pulsed terahertz quantum cascade laser under optical feedback. Optics Express, 2016, 24, 20554.	1.7	16
61	Ultrafast switch-on dynamics of frequency-tuneable semiconductor lasers. Nature Communications, 2018, 9, 3076.	5.8	16
62	Asymmetric Bragg mirrors for the reduction of emission wavelength dependence on the viewing angle in organic microcavity light emitting diodes. Optics Communications, 2004, 236, 303-311.	1.0	15
63	Signal-to-noise ratio study of full-field Fourier-domain optical coherence tomography. Applied Optics, 2005, 44, 7722.	2.1	15
64	Multi-spectral terahertz sensing: proposal for a coupled-cavity quantum cascade laser based optical feedback interferometer. Optics Express, 2017, 25, 10153.	1.7	15
65	Laser feedback interferometry in multi-mode terahertz quantum cascade lasers. Optics Express, 2020, 28, 14246.	1.7	15
66	Detection sensitivity of laser feedback interferometry using a terahertz quantum cascade laser. Optics Letters, 2019, 44, 3314.	1.7	15
67	Simulated-annealing-based genetic algorithm for modeling the optical constants of solids. Applied Optics, 1997, 36, 7097.	2.1	13
68	Multiple signal classification for self-mixing flowmetry. Applied Optics, 2015, 54, 2193.	0.9	13
69	External cavity terahertz quantum cascade laser with a metamaterial/graphene optoelectronic mirror. Applied Physics Letters, 2020, 117, .	1.5	13
70	Change of the emission spectra in organic light-emitting diodes by layer thickness modification. Applied Physics Letters, 2004, 85, 2944-2946.	1.5	12
71	A Novel, Fast, Approximate Target Detection Technique for Metallic Target Below a Frequency Dependant Lossy Halfspace. IEEE Transactions on Antennas and Propagation, 2010, 58, 1699-1710.	3.1	12
72	Terahertz radar crossâ€section characterisation using laser feedback interferometry with quantum cascade laser. Electronics Letters, 2015, 51, 1774-1776.	0.5	12

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73	Mode Selection and Tuning Mechanisms in Coupled-Cavity Terahertz Quantum Cascade Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-12.	1.9	12
74	Acoustic flat lensing using an indefinite medium. Physical Review B, 2019, 99, .	1.1	12
75	Cavity and Mirror Design for Vertical-Cavity Surface-Emitting Lasers. Springer Series in Photonics, 2003, , 259-301.	0.8	12
76	Concurrent Reflectance Confocal Microscopy and Laser Doppler Flowmetry to Improve Skin Cancer Imaging: A Monte Carlo Model and Experimental Validation. Sensors, 2016, 16, 1411.	2.1	10
77	Origin of terminal voltage variations due to self-mixing in terahertz frequency quantum cascade lasers. Optics Express, 2016, 24, 21948.	1.7	10
78	Near-field terahertz nanoscopy of coplanar microwave resonators. Applied Physics Letters, 2021, 119, .	1.5	10
79	Optimum injection current waveform for a laser rangefinder based on the self-mixing effect. , 2004, , .		9
80	Device optimization of tris-aluminum (Alq3) based bilayer organic light emitting diode structures. Smart Materials and Structures, 2006, 15, S92-S98.	1.8	9
81	3,4,9,10-Perylenetetracarboxylicdiimide as an interlayer for ultraviolet organic light emitting diodes. Optics Communications, 2008, 281, 2498-2503.	1.0	9
82	Active phase-nulling of the self-mixing phase in a terahertz frequency quantum cascade laser. Optics Letters, 2015, 40, 950.	1.7	9
83	Frequency Tuning Range Control in Pulsed Terahertz Quantum-Cascade Lasers: Applications in Interferometry. IEEE Journal of Quantum Electronics, 2018, 54, 1-8.	1.0	9
84	Determining Ethanol Content of Liquid Solutions Using Laser Feedback Interferometry with a Terahertz Quantum Cascade Laser. , 2018, 2, 1-4.		9
85	Self-mixing sensing system based on uncooled vertical-cavity surface-emitting laser array: linking multichannel operation and enhanced performance. Optics Letters, 2014, 39, 394.	1.7	8
86	A Compact Laser Imaging System for Concurrent Reflectance Confocal Microscopy and Laser Doppler Flowmetry. IEEE Photonics Journal, 2016, 8, 1-9.	1.0	8
87	Confocal laser feedback microscopy for inâ€depth imaging applications. Electronics Letters, 2018, 54, 196-198.	0.5	8
88	Dual-Modality Confocal Laser Feedback Tomography for Highly Scattering Medium. IEEE Sensors Journal, 2019, 19, 6134-6140.	2.4	8
89	Microparticle discrimination using laser feedback interferometry. Optics Express, 2018, 26, 25778.	1.7	8
90	Reduced angular dependence of the emission from tris(8-hydroxyquinoline) aluminum based microcavity. Optics Communications, 2005, 248, 287-293.	1.0	7

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91	FPGA implementation of a highâ€speed, realâ€time, windowed standard deviation filter. Electronics Letters, 2016, 52, 22-23.	0.5	7
92	Temperature-Dependent High-Speed Dynamics of Terahertz Quantum Cascade Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-9.	1.9	7
93	Dependence of the emission from tris (8-hydroxyquinoline) aluminum based microcavity on device thickness and the emission layer position. Thin Solid Films, 2005, 489, 235-244.	0.8	6
94	Terahertz quantum cascade laser under optical feedback: effects of laser self-pulsations on self-mixing signals. Optics Express, 2021, 29, 39885.	1.7	6
95	Terahertz imaging with self-pulsations in quantum cascade lasers under optical feedback. APL Photonics, 2021, 6, 091301.	3.0	6
96	Fluid flow rate measurement using the change in laser junction voltage due to the self-mixing effect., $2006,$		5
97	Monitoring the Electrical Properties of the Back Silicon Interface of Silicon-on-Sapphire Wafers. IEEE Electron Device Letters, 2008, 29, 325-327.	2.2	5
98	Design of microcavity organic light emitting diodes with optimized electrical and optical performance. Applied Optics, 2009, 48, 2282.	2.1	5
99	Laser dynamics under frequencyâ€shifted optical feedback with random phase. Electronics Letters, 2014, 50, 1380-1382.	0.5	5
100	Polarization-sensitive laser feedback interferometry for specular reflection removal. Applied Optics, 2018, 57, 4067.	0.9	5
101	Optimization of organic light emitting diode structures. , 2004, 5277, 311.		4
102	Modeling diffraction and imaging of laser beams by the mode-expansion method. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 556.	0.9	4
103	Distance Measurement using the Change in Junction Voltage Across a Laser Diode due to the Self-Mixing Effect. , 2006, , .		4
104	Analysis of hexagonal array geometry for free-space optical interconnects with improved signal-to-noise ratio. Applied Optics, 2007, 46, 2434.	2.1	4
105	Rapid scanning flow sensor based on the self-mixing effect in a VCSEL., 2010,,.		4
106	Comparison of SOS MOSFET's Equivalent Circuit Parameters Extracted From \$LCR\$ Meter and VNA Measurement. IEEE Transactions on Electron Devices, 2012, 59, 20-25.	1.6	4
107	Surface roughness characterisation using optical feedback interferometry. Electronics Letters, 2017, 53, 268-270.	0.5	4
108	Cavity design and optimization for organic microcavity OLEDs. , 2005, , .		3

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109	Self-mixing displacement sensing using the junction voltage variation in a GaN laser. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	3
110	Photodiode-free Doppler velocimeter based on self-mixing effect in commercial VCSELs. , 2008, , .		3
111	Extraction of SOS MOSFET RF equivalent circuit elements by LCR meter measurements. Electronics Letters, 2010, 46, 863.	0.5	3
112	Improvement in off-State Leakage Current of n-Channel SOS MOSFETs by Hydrogen Annealing of the SOS Film. IEEE Transactions on Electron Devices, 2011, 58, 3787-3792.	1.6	3
113	Flow profile measurement in micro-channels using changes in laser junction voltage due to Self-mixing effect. , $2011, , .$		3
114	Probing Peptide Nanowire Conductivity by THz Nanoscopy. Nanotechnology, 2021, 33, .	1.3	3
115	Monitoring Water Dynamics in Plants using Laser Feedback Interferometry. , 2020, , .		3
116	Novel array geometries for free-space optical interconnects with improved signal-to-noise ratio. , 2005, , .		2
117	Optimization of microcavity OLED by varying the thickness of multi-layered mirror. Optical and Quantum Electronics, 2007, 38, 1091-1099.	1.5	2
118	Angular dependence of the emission from low Q-factor organic microcavity light emitting diodes. Displays, 2008, 29, 358-364.	2.0	2
119	& amp; $\#x201C$; Lens-free & amp; $\#x201D$; self-mixing sensor for velocity and vibrations measurements., 2010, , .		2
120	Electrocardiographic signal detection using self-mixing interferometer technique with customized electro-optic phase modulator., 2012,,.		2
121	Organic quantum well light emitting diodes. , 2005, , .		1
122	Response to "Comment on  Change of the emission spectra in organic light-emitting diodes by layer thickness modification'―[Appl. Phys. Lett. 86, 186101 (2005)]. Applied Physics Letters, 2005, 86, 186102.	1.5	1
123	Optimization of microcavity OLED by varying the thickness of multi-layered mirror., 2006,,.		1
124	Multi-objective optimization of microcavity OLEDs with DBR mirror. , 2007, , .		1
125	Influence of ambient temperature on the performance of VCSEL based self-mixing sensors: Flow measurements. , 2011 , , .		1
126	SOS junctionless MOSFETs vs. inversion channel MOSFETs: Doubling the device speed without changing the technology. Microwave and Optical Technology Letters, 2012, 54, 2755-2757.	0.9	1

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127	THz QCL self-mixing interferometry for biomedical applications. , 2014, , .		1
128	Optical feedback effects on terahertz quantum cascade lasers: modelling and applications. , 2016, , .		1
129	Diffuse reflectance imaging for non-melanoma skin cancer detection using laser feedback interferometry. , 2016, , .		1
130	Terahertz frequency quantum cascade lasers: Optical feedback effects and applications. , 2016, , .		1
131	Sub-surface damage detection in marble structures using THz time domain and laser feedback interferometric imaging techniques. , 2021, , .		1
132	Quantifying relative moisture content in dielectric models using CW-THz spectroscopy and supervised machine learning regression. , 2021, , .		1
133	New Approximate Orientation Averaging of the Water Molecule Interacting with the Thermal Neutron. Nuclear Science and Engineering, 1992, 110, 157-164.	0.5	O
134	The effect of broadening on the optical dielectric function of GaAs and AlAs. , 0, , .		0
135	Phase retrieval methods for the determination of transverse mode structure in vertical-cavity surface-emitting lasers. , 0, , .		O
136	High-level model of a WDMA passive optical bus for a reconfigurable multiprocessor system. , 2000, , .		0
137	Comparison of stray-light and diffraction-caused crosstalk in free-space optical interconnects. , 2004, 5277, 320.		O
138	Derivation and examination of a comprehensive free-space optical interconnect link equation. , 2004, 5277, 251.		0
139	Signal-to-signal-to-noise ratio of full-field Fourier domain optical coherence tomography: experiment. , 2005, 5690, 430.		O
140	Top Emitting OLEDs with multi-layered Mirror Consisting of Metallic and Dielectric Layers. , 2006, , .		0
141	Analysis of the effect of transverse modes on free-space optical interconnect performance. Smart Materials and Structures, 2006, 15, S147-S153.	1.8	O
142	Numerical Modelling Study of the Sensitivity of SOS MOSFET Characteristics to Silicon film Thickness and Back Surface Trapped Charge Variation. , 2006, , .		0
143	A Massively Parallel Imaging System Based on the Self-Mixing Effect in a Vertical-Cavity Surface-Emitting Laser Array. , 2006, , .		0
144	Effect of Anode Material and Cavity Design on the Performance of Microcavity OLEDs. , 2006, , .		0

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145	Minimising crosstalk in microchannel free-space optical interconnects with the presence of higher order modes., 2007,,.		O
146	Origin of the low frequency type curve in Silicon-on-Sapphire MOS capacitors. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	0
147	Temperature and current dependence of doppler SNR in a VCSEL based self-mixing sensor. , 2009, , .		O
148	Self-mixing interferometer technique based on VCSEL under the Effect of Polarization Mode switching. , 2010, , .		0
149	A novel self-mixing sensor architecture using a PLL for noise immunity. , 2010, , .		0
150	Harmonic levels in self-mixing interferometry. , 2010, , .		0
151	Terahertz sensing and imaging using a quantum cascade laser. , 2011, , .		0
152	Profiling the change in refractive index using the self-mixing effect in lasers. , 2012, , .		0
153	Integrated optofluidic flow sensor using the self-mixing effect. , 2012, , .		0
154	Comparison of the RF characteristics of inversion channel and depletion channel SOS MOSFETs. , 2012, , .		0
155	Optical electrocardiograph using self-mixing interferometer technique with a customized electro-optic phase modulator. , 2012, , .		0
156	Self-mixing laser velocimetry: A realistic model. , 2012, , .		0
157	Towards a scanning laser confocal microscope using the self-mixing effect. , 2012, , .		0
158	Effect of the optical numerical aperture on the Doppler spectrum in laser Doppler velocimetry. , 2014, , .		0
159	A QCL model with integrated thermal and stark rollover mechanisms. , 2014, , .		0
160	Terahertz quantum cascade laser bandwidth prediction. , 2015, , .		0
161	Monte Carlo model of laser Doppler perfusion imaging in skin cancer detection., 2015,,.		0
162	Probing Ultrafast Switch-on Dynamics of Frequency Tuneable Semiconductor Lasers Using Terahertz Time-domain Spectroscopy. , 2019, , .		0

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163	Corrections to "Mode Selection and Tuning Mechanisms in Coupled-Cavity Terahertz Quantum Cascade Lasers―[Jul/Aug 17 Art. no. 1200312]. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-1.	1.9	O
164	Coherent THz imaging using the self-mixing effect in quantum cascade lasers. , 2014, , .		0
165	Corrections to "Temperature-Dependent High-Speed Dynamics of Terahertz Quantum Cascade Lasers― [Jul/Aug 17 Art. no. 1200209]. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-1.	1.9	O