

Matthew D Escarra

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2506145/publications.pdf>

Version: 2024-02-01

74
papers

1,032
citations

516710

16
h-index

434195

31
g-index

74
all docs

74
docs citations

74
times ranked

1180
citing authors

#	ARTICLE	IF	CITATIONS
1	Highly power-efficient quantum cascade lasers. <i>Nature Photonics</i> , 2010, 4, 95-98.	31.4	150
2	Enhanced coupling of terahertz radiation to cylindrical wire waveguides. <i>Optics Express</i> , 2006, 14, 279.	3.4	129
3	High-Efficiency All-Dielectric Huygens Metasurfaces from the Ultraviolet to the Infrared. <i>ACS Photonics</i> , 2018, 5, 1351-1358.	6.6	75
4	Role of interface roughness in the transport and lasing characteristics of quantum-cascade lasers. <i>Applied Physics Letters</i> , 2009, 94, 091101.	3.3	74
5	Techno-economic analysis of hybrid PV/T systems for process heat using electricity to subsidize the cost of heat. <i>Applied Energy</i> , 2017, 208, 1370-1378.	10.1	49
6	Finite-Element Method Simulations of Guided Wave Phenomena at Terahertz Frequencies. <i>Proceedings of the IEEE</i> , 2007, 95, 1624-1640.	21.3	47
7	A transmissive, spectrum-splitting concentrating photovoltaic module for hybrid photovoltaic-solar thermal energy conversion. <i>Solar Energy</i> , 2016, 137, 585-593.	6.1	45
8	Highly Sensitive, Affordable, and Adaptable Refractive Index Sensing with Silicon-Based Dielectric Metasurfaces. <i>Advanced Materials Technologies</i> , 2019, 4, 1800567.	5.8	36
9	In-Plane and Out-of-Plane Optical Properties of Monolayer, Few-Layer, and Thin-Film MoS ₂ from 190 to 1700 nm and Their Application in Photonic Device Design. <i>Advanced Photonics Research</i> , 2021, 2, 2000180.	3.6	35
10	Wafer-scale synthesis of monolayer and few-layer MoS ₂ via thermal vapor sulfurization. <i>2D Materials</i> , 2017, 4, 045007.	4.4	34
11	A quantum cascade laser cw cavity ringdown spectrometer coupled to a supersonic expansion source. <i>Review of Scientific Instruments</i> , 2010, 81, 063102.	1.3	30
12	Transmissive microfluidic active cooling for concentrator photovoltaics. <i>Applied Energy</i> , 2019, 236, 906-915.	10.1	27
13	Photoconductive terahertz antenna with radial symmetry. <i>Electronics Letters</i> , 2005, 41, 226.	1.0	22
14	Quantum cascade lasers with voltage defect of less than one longitudinal optical phonon energy. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	19
15	Rapid-throughput solution-based production of wafer-scale 2D MoS ₂ . <i>Applied Physics Letters</i> , 2019, 114, .	3.3	18
16	Field testing of a spectrum-splitting transmissive concentrator photovoltaic module. <i>Renewable Energy</i> , 2019, 139, 806-814.	8.9	17
17	Analytical technique for subwavelength far field imaging. <i>Applied Physics Letters</i> , 2010, 97, 101103.	3.3	16
18	Transmissive concentrator multijunction solar cells with over 47% in-band power conversion efficiency. <i>Applied Physics Letters</i> , 2016, 109, .	3.3	16

#	ARTICLE	IF	CITATIONS
19	Large-Area, High-Specific-Power Schottky-Junction Photovoltaics from CVD-Grown Monolayer MoS ₂ . ACS Applied Materials & Interfaces, 2022, 14, 24281-24289.	8.0	15
20	The excitation and emission of terahertz surface plasmon polaritons on metal wire waveguides. Comptes Rendus Physique, 2008, 9, 215-231.	0.9	13
21	The Polyhedral Specular Reflector: A Spectrum-Splitting Multijunction Design to Achieve Ultrahigh (η) Tj ETQq1 1 0.784314 rgBT /Over 2.5 13	2.5	13
22	Reflection hologram solar spectrum-splitting filters. , 2012, , .		12
23	Spectrum-splitting photovoltaics: Holographic spectrum splitting in eight-junction, ultra-high efficiency module. , 2013, , .		12
24	Nanophotonic design principles for ultrahigh efficiency photovoltaics. AIP Conference Proceedings, 2013, , .	0.4	11
25	Short Injector Quantum Cascade Lasers. IEEE Journal of Quantum Electronics, 2010, 46, 591-600.	1.9	10
26	Optical Design and Validation of an Infrared Transmissive Spectrum Splitting Concentrator Photovoltaic Module. IEEE Journal of Photovoltaics, 2017, 7, 1469-1478.	2.5	10
27	Solar Cogeneration of Electricity with High-Temperature Process Heat. Cell Reports Physical Science, 2020, 1, 100135.	5.6	10
28	Thermoelectric Effect in Quantum Cascade Lasers. IEEE Photonics Journal, 2010, 2, 500-509.	2.0	9
29	Design of photovoltaics for modules with 50% efficiency. Energy Science and Engineering, 2017, 5, 69-80.	4.0	9
30	A transmissive concentrator photovoltaic module with cells directly cooled by silicone oil for solar cogeneration systems. Applied Energy, 2021, 288, 116622.	10.1	9
31	Pulsed photoinitiated fabrication of inkjet printed titanium dioxide/reduced graphene oxide nanocomposite thin films. Nanotechnology, 2018, 29, 315401.	2.6	8
32	Spectrum splitting photovoltaics: Materials and device parameters to achieve ultrahigh system efficiency. , 2013, , .		7
33	Simulation and partial prototyping of an eight-junction holographic spectrum-splitting photovoltaic module. Energy Science and Engineering, 2019, 7, 2572-2584.	4.0	7
34	Characterization of Dynamic and Nanoscale Materials and Metamaterials with Continuously Referenced Interferometry. Advanced Optical Materials, 2019, 7, 1901128.	7.3	6
35	Silicon Nanodisk Huygens Metasurfaces for Portable and Low-Cost Refractive Index and Biomarker Sensing. ACS Applied Nano Materials, 2022, 5, 3983-3991.	5.0	6
36	Enhanced bandwidth and reduced dispersion through stacking multiple optical metamaterials. Optics Express, 2011, 19, 14990.	3.4	5

#	ARTICLE	IF	CITATIONS
37	Full spectrum ultrahigh efficiency photovoltaics. , 2013, , .		4
38	Transmissive spectrum splitting multi-junction solar module for hybrid CPV/CSP system. , 2015, , .		4
39	Quantum Cascade Laser-Based Sensing for Carbon Sequestration Leakage Monitoring. IEEE Sensors Journal, 2013, 13, 2348-2356.	4.7	2
40	Holographic spectrum splitter for ultra-high efficiency photovoltaics. Proceedings of SPIE, 2013, , .	0.8	2
41	Limitations to the Power Output and Efficiency of Mid-Infrared Quantum Cascade Lasers Imposed by Transport. , 2010, , .		2
42	Intersubband Absorption Loss in High-Performance Mid-Infrared Quantum Cascade Lasers. , 2009, , .		1
43	Lasing-induced reduction in core heating in high wall plug efficiency quantum cascade lasers. Applied Physics Letters, 2009, 94, .	3.3	1
44	Temperature Dependence of the Transparency Current Density in Mid-Infrared Quantum Cascade Lasers. , 2011, , .		1
45	Thermal characterization of concentrated solar absorbance using resistive heaters. , 2016, , .		1
46	Resonance tuning for dynamic Huygens metasurfaces. Journal of the Optical Society of America B: Optical Physics, 2021, 38, C105.	2.1	1
47	An Affordable, Customizable, and Highly Sensitive Metasurface-Based Refractive Index Sensor. , 2019, , .		1
48	Design and field testing of a sunflower hybrid concentrator photovoltaic-thermal receiver. Cell Reports Physical Science, 2022, 3, 100887.	5.6	1
49	Mode matching of terahertz radiation to cylindrical wire waveguides. , 2006, , .		0
50	Negative Differential Resistance and Pulse Instabilities in Minimalized Quantum Cascade Laser Structures. , 2009, , .		0
51	Rapid and Minimally Invasive Quantum Cascade Wafer Testing. IEEE Photonics Technology Letters, 2009, 21, 531-533.	2.5	0
52	Rapid and minimally invasive quantum cascade wafer testing. Proceedings of SPIE, 2009, , .	0.8	0
53	Ultra-Low Voltage Defect Quantum Cascade Lasers. , 2009, , .		0
54	Quantum Cascade Laser-based CO2 Isotope Sensors for Carbon Sequestration and Environmental Monitoring. , 2011, , .		0

#	ARTICLE	IF	CITATIONS
55	Quantum Cascade Lasers for Sensing CO2 Isotopic Fingerprints. , 2011, , .		0
56	Cost Competitive Concentrator Photovoltaics for Solar Thermal Applications. , 2017, , .		0
57	Transmissive spectrum-splitting concentrator photovoltaic cells and modules. , 2017, , .		0
58	A Hybrid CPV/T System Featuring Transmissive, Spectrum-Splitting Concentrator Photovoltaics. , 2018, , .		0
59	A Sunflower Receiver for Hybrid Photovoltaic-Solar Thermal Energy Conversion. , 2019, , .		0
60	Direct Fluid Cooling of Concentrator Photovoltaics for Hybrid Photovoltaic-Solar Thermal Energy Conversion. , 2019, , .		0
61	Engineering Nearest Neighbor Coupling in Huygens Metasurfaces. , 2021, , .		0
62	Instantaneous Power and Threshold in Continuous Wave Quantum Cascade Lasers. , 2009, , .		0
63	Quantum Cascade Lasers with Ultra-Strong Coupling Injection. , 2009, , .		0
64	Role of Interface Roughness in the Transport and Lasing Characteristics of Quantum-Cascade lasers. , 2009, , .		0
65	Development of a Quantum Cascade Laser-Based Sensor For Non-Invasive CO2 Monitoring. , 2010, , .		0
66	Analytical Technique for Determining the Size of Subwavelength Focal Spots in far Field. , 2010, , .		0
67	Broadband, Low-Dispersion, Mid-Infrared Metamaterials. , 2010, , .		0
68	Highly Efficient, All-Dielectric, Transmissive Gradient Metasurfaces from the Ultraviolet to the Infrared. , 2016, , .		0
69	Dynamically Tunable, Vanadium Dioxide Huygens Source Metasurfaces. , 2017, , .		0
70	Highly Sensitive Refractive Index Sensing with Silicon-Based Dielectric Metasurfaces. , 2018, , .		0
71	Dynamically Tunable, Vanadium Dioxide Huygens Source Metasurfaces. , 2018, , .		0
72	Towards high efficiency, dynamically tunable metaholograms. , 2019, , .		0

#	ARTICLE	IF	CITATIONS
73	Design and Prototyping of a Portable Metasurface-Based Refractive Index Sensor. , 2020, , .		0
74	Dynamically Tunable Amplitude and Phase Modulation Using Vanadium Dioxide Huygens Metasurfaces. , 2020, , .		0