

Rinaldo Trotta

List of Publications by Year in descending order

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74
papers

2,985
citations

147726

31
h-index

168321

53
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76
all docs

76
docs citations

76
times ranked

2245
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical properties and symmetry optimization of spectrally (excitonically) uniform site-controlled GaAs pyramidal quantum dots. Applied Physics Letters, 2021, 118, .	1.5	6
2	Quantum dots as potential sources of strongly entangled photons: Perspectives and challenges for applications in quantum networks. Applied Physics Letters, 2021, 118, .	1.5	49
3	Quantum key distribution with entangled photons generated on demand by a quantum dot. Science Advances, 2021, 7, .	4.7	80
4	GaAs quantum dots grown by droplet etching epitaxy as quantum light sources. Applied Physics Letters, 2021, 119, .	1.5	32
5	Electric field induced tuning of electronic correlation in weakly confining quantum dots. Physical Review B, 2021, 104, .	1.1	15
6	Quantum dot technology for quantum repeaters: from entangled photon generation toward the integration with quantum memories. Materials for Quantum Technology, 2021, 1, 043001.	1.2	15
7	Strain-Controlled Quantum Dot Fine Structure for Entangled Photon Generation at 1550 nm. Nano Letters, 2021, 21, 10501-10506.	4.5	22
8	New insights in the lattice dynamics of monolayers, bilayers, and trilayers of WSe_2 and unambiguous determination of few-layer-flakes' thickness. 2D Materials, 2020, 7, 025004.	2.0	10
9	Origin of Antibunching in Resonance Fluorescence. Physical Review Letters, 2020, 125, 170402.	2.9	22
10	Crux of Using the Cascaded Emission of a Three-Level Quantum Ladder System to Generate Indistinguishable Photons. Physical Review Letters, 2020, 125, 233605.	2.9	34
11	Surface passivation and oxide encapsulation to improve optical properties of a single GaAs quantum dot close to the surface. Applied Surface Science, 2020, 532, 147360.	3.1	19
12	Optomechanical tuning of the polarization properties of micropillar cavity systems with embedded quantum dots. Physical Review B, 2020, 101, .	1.1	8
13	Entanglement teleportation with photons from quantum dots: towards a solid-state based quantum network. IEEE Journal of Selected Topics in Quantum Electronics, 2020, , 1-1.	1.9	15
14	Resonance fluorescence of GaAs quantum dots with near-unity photon indistinguishability (Conference Presentation). , 2020, , .		1
15	One, two, three, many. Nature Materials, 2019, 18, 916-917.	13.3	1
16	Strain-Tunable Single-Photon Source Based on a Quantum Dot "Micropillar System. ACS Photonics, 2019, 6, 2025-2031.	3.2	20
17	Highly indistinguishable single photons from incoherently excited quantum dots. Physical Review B, 2019, 100, .	1.1	39
18	Slow and fast single photons from a quantum dot interacting with the excited state hyperfine structure of the Cesium D1-line. Scientific Reports, 2019, 9, 13728.	1.6	13

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19	A frequency-tunable nanomembrane mechanical oscillator with embedded quantum dots. Applied Physics Letters, 2019, 115, .	1.5	6
20	Strain-Tunable Single Photon Sources in WSe ₂ Monolayers. Nano Letters, 2019, 19, 6931-6936.	4.5	71
21	Resonance Fluorescence of GaAs Quantum Dots with Near-Unity Photon Indistinguishability. Nano Letters, 2019, 19, 2404-2410.	4.5	63
22	Micro-machining of PMN-PT Crystals with Ultrashort Laser Pulses. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	10
23	Resolving the temporal evolution of line broadening in single quantum emitters. Optics Express, 2019, 27, 35290.	1.7	23
24	Quantum dots in micropillar cavities for scalable photonic applications. , 2019, , .		0
25	On-demand generation of background-free single photons from a solid-state source. Applied Physics Letters, 2018, 112, .	1.5	204
26	Strain-tuning of the optical properties of semiconductor nanomaterials by integration onto piezoelectric actuators. Semiconductor Science and Technology, 2018, 33, 013001.	1.0	58
27	High-Yield Fabrication of Entangled Photon Emitters for Hybrid Quantum Networking Using High-Temperature Droplet Epitaxy. Nano Letters, 2018, 18, 505-512.	4.5	44
28	All-photonic quantum teleportation using on-demand solid-state quantum emitters. Science Advances, 2018, 4, eaau1255.	4.7	53
29	On-demand semiconductor source of 780-nm single photons with controlled temporal wave packets. Physical Review B, 2018, 97, .	1.1	17
30	Uniaxial stress flips the natural quantization axis of a quantum dot for integrated quantum photonics. Nature Communications, 2018, 9, 3058.	5.8	35
31	Strain-Tunable GaAs Quantum Dot: A Nearly Dephasing-Free Source of Entangled Photon Pairs on Demand. Physical Review Letters, 2018, 121, 033902.	2.9	143
32	Effect of second-order piezoelectricity on the excitonic structure of stress-tuned In(Ga)As/GaAs quantum dots. Physical Review B, 2018, 97, .	1.1	20
33	Semiconductor quantum dots as an ideal source of polarization-entangled photon pairs on-demand: a review. Journal of Optics (United Kingdom), 2018, 20, 073002.	1.0	95
34	Effects of dielectric stoichiometry on the photoluminescence properties of encapsulated WSe ₂ monolayers. Nano Research, 2018, 11, 1399-1414.	5.8	12
35	Independent tuning of excitonic emission energy and decay time in single semiconductor quantum dots. Applied Physics Letters, 2017, 110, .	1.5	10
36	Highly indistinguishable and strongly entangled photons from symmetric GaAs quantum dots. Nature Communications, 2017, 8, 15506.	5.8	187

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37	Phonon-Assisted Two-Photon Interference from Remote Quantum Emitters. <i>Nano Letters</i> , 2017, 17, 4090-4095.	4.5	87
38	Comparison of different bonding techniques for efficient strain transfer using piezoelectric actuators. <i>Journal of Applied Physics</i> , 2017, 121, 135303.	1.1	13
39	Electrically-Pumped Wavelength-Tunable GaAs Quantum Dots Interfaced with Rubidium Atoms. <i>ACS Photonics</i> , 2017, 4, 868-872.	3.2	27
40	Two-photon interference from two blinking quantum emitters. <i>Physical Review B</i> , 2017, 96, .	1.1	14
41	Inversion of the exciton built-in dipole moment in In(Ga)As quantum dots via nonlinear piezoelectric effect. <i>Physical Review B</i> , 2017, 96, .	1.1	23
42	Wavelength-tunable sources of entangled photons interfaced with atomic vapours. <i>Nature Communications</i> , 2016, 7, 10375.	5.8	106
43	Publisher's Note: An artificial Rb atom in a semiconductor with lifetime-limited linewidth [Phys. Rev. B92, 245439 (2015)]. <i>Physical Review B</i> , 2016, 93, .	1.1	1
44	Reversible Control of In-plane Elastic Stress Tensor in Nanomembranes. <i>Advanced Optical Materials</i> , 2016, 4, 682-687.	3.6	23
45	Atomic clouds as spectrally selective and tunable delay lines for single photons from quantum dots. <i>Physical Review B</i> , 2015, 92, .	1.1	18
46	An artificial Rb atom in a semiconductor with lifetime-limited linewidth. <i>Physical Review B</i> , 2015, 92, .	1.1	54
47	High yield and ultrafast sources of electrically triggered entangled-photon pairs based on strain-tunable quantum dots. <i>Nature Communications</i> , 2015, 6, 10067.	5.8	106
48	Energy-Tunable Sources of Entangled Photons: A Viable Concept for Solid-State-Based Quantum Relays. <i>Physical Review Letters</i> , 2015, 114, 150502.	2.9	62
49	Fourier synthesis of radiofrequency nanomechanical pulses with different shapes. <i>Nature Nanotechnology</i> , 2015, 10, 512-516.	15.6	65
50	Engineering of Quantum Dot Photon Sources via Electro-elastic Fields. <i>Nano-optics and Nanophotonics</i> , 2015, , 277-302.	0.2	6
51	Nanoscale Tailoring of the Polarization Properties of Dilute-Nitride Semiconductors via H-Assisted Strain Engineering. <i>Physical Review Applied</i> , 2014, 2, .	1.5	10
52	Single Photons on Demand from Novel Site-Controlled GaAsN/GaAsN:H Quantum Dots. <i>Nano Letters</i> , 2014, 14, 1275-1280.	4.5	32
53	A light-hole exciton in a quantum dot. <i>Nature Physics</i> , 2014, 10, 46-51.	6.5	111
54	Hydrogen-Bonded Organic Semiconductor Micro- And Nanocrystals: From Colloidal Syntheses to (Opto-)Electronic Devices. <i>Journal of the American Chemical Society</i> , 2014, 136, 16522-16532.	6.6	75

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55	Highly Entangled Photons from Hybrid Piezoelectric-Semiconductor Quantum Dot Devices. Nano Letters, 2014, 14, 3439-3444.	4.5	93
56	Reshaping the optical properties of quantum dots via strain and electric fields. , 2013, , .		0
57	A Nanomembrane-Based Wavelength-Tunable High-Speed Single-Photon-Emitting Diode. Nano Letters, 2013, 13, 5808-5813.	4.5	27
58	Independent control of exciton and biexciton energies in single quantum dots via electroelastic fields. Physical Review B, 2013, 88, .	1.1	30
59	An all optical mapping of the strain field in GaAsN/GaAsN:H wires. Applied Physics Letters, 2012, 101, .	1.5	5
60	Universal Recovery of the Energy-Level Degeneracy of Bright Excitons in InGaAs Quantum Dots without a Structure Symmetry. Physical Review Letters, 2012, 109, 147401.	2.9	154
61	Convergent beam electron-diffraction investigation of lattice mismatch and static disorder in GaAs/GaAs _{1-x} N _x intercalated GaAs/GaAs _{1-x} N _x :H heterostructures. Applied Physics Letters, 2012, 101, 111912.	1.5	1
62	Experimental methods of post-growth tuning of the excitonic fine structure splitting in semiconductor quantum dots. Nanoscale Research Letters, 2012, 7, 336.	3.1	35
63	Controlling quantum dot emission by integration of semiconductor nanomembranes onto piezoelectric actuators. Physica Status Solidi (B): Basic Research, 2012, 249, 687-696.	0.7	36
64	Hydrogen Incorporation in III-V Semiconductors: From Macroscopic to Nanometer Control of the Materials' Physical Properties. Advanced Functional Materials, 2012, 22, 1782-1801.	7.8	26
65	Nanomembrane Quantum Light-Emitting Diodes Integrated onto Piezoelectric Actuators. Advanced Materials, 2012, 24, 2668-2672.	11.1	111
66	Strain-induced tuning of the emission wavelength of high quality GaAs/AlGaAs quantum dots in the spectral range of the 87Rb D2 lines. Applied Physics Letters, 2011, 99, 161118.	1.5	43
67	Optical study of hydrogen-irradiated GaAsN/GaAs heterostructures. Journal of Applied Physics, 2011, 109, 123511.	1.1	11
68	Hydrogen-mediated nanostructuring of dilute nitride semiconductors. Physica Status Solidi (B): Basic Research, 2011, 248, 1195-1202.	0.7	0
69	Fabrication of Site-Controlled Quantum Dots by Spatially Selective Incorporation of Hydrogen in Ga(AsN)/GaAs Heterostructures. Advanced Materials, 2011, 23, 2706-2710.	11.1	41
70	Light polarization control in strain-engineered GaAsN/GaAsN:H heterostructures. Applied Physics Letters, 2009, 94, 261905.	1.5	19
71	Hydrogen-induced defect engineering in dilute nitride semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2644-2648.	0.8	2
72	Effect of hydrogen incorporation temperature in plane-engineered GaAsN/GaAsN:H heterostructures. Applied Physics Letters, 2008, 92, 221901.	1.5	14

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73	In-plane band gap modulation investigated by secondary electron imaging of GaAsN/GaAsN:H heterostructures. Applied Physics Letters, 2008, 93, 102116.	1.5	9
74	Electron Mass in Dilute Nitrides and its Anomalous Dependence on Hydrostatic Pressure. Physical Review Letters, 2007, 98, 146402.	2.9	42