Rinaldo Trotta

List of Publications by Year
in descending order

74 papers	2,985 citations	147726 31 h-index	168321 53 g-index
76 all docs	76 docs citations	76 times ranked	2245 citing authors

#	Article	IF	Citations
1	On-demand generation of background-free single photons from a solid-state source. Applied Physics Letters, 2018, 112, .	1.5	204
2	Highly indistinguishable and strongly entangled photons from symmetric GaAs quantum dots. Nature Communications, 2017, 8, 15506.	5.8	187
3	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
4	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
5	Nanomembrane Quantumâ€Lightâ€Emitting Diodes Integrated onto Piezoelectric Actuators. Advanced Materials, 2012, 24, 2668-2672.	11.1	111
6	A light-hole exciton in a quantum dot. Nature Physics, 2014, 10, 46-51.	6.5	111
7	High yield and ultrafast sources of electrically triggered entangled-photon pairs based on strain-tunable quantum dots. Nature Communications, 2015, 6, 10067.	5.8	106
8	Wavelength-tunable sources of entangled photons interfaced with atomic vapours. Nature Communications, 2016, 7, 10375.	5.8	106
9	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
10	Highly Entangled Photons from Hybrid Piezoelectric-Semiconductor Quantum Dot Devices. Nano Letters, 2014, 14, 3439-3444.	4.5	93
11	Phonon-Assisted Two-Photon Interference from Remote Quantum Emitters. Nano Letters, 2017, 17, 4090-4095.	4.5	87
12	Quantum key distribution with entangled photons generated on demand by a quantum dot. Science Advances, 2021, 7, .	4.7	80
13	Hydrogen-Bonded Organic Semiconductor Micro- And Nanocrystals: From Colloidal Syntheses to (Opto-)Electronic Devices. Journal of the American Chemical Society, 2014, 136, 16522-16532.	6.6	75
14	Strain-Tunable Single Photon Sources in WSe₂ Monolayers. Nano Letters, 2019, 19, 6931-6936.	4.5	71
15	Fourier synthesis of radiofrequency nanomechanical pulses with different shapes. Nature Nanotechnology, 2015, 10, 512-516.	15.6	65
16	Resonance Fluorescence of GaAs Quantum Dots with Near-Unity Photon Indistinguishability. Nano Letters, 2019, 19, 2404-2410.	4.5	63
17	Energy-Tunable Sources of Entangled Photons: A Viable Concept for Solid-State-Based Quantum Relays. Physical Review Letters, 2015, 114, 150502.	2.9	62
18	Strain-tuning of the optical properties of semiconductor nanomaterials by integration onto piezoelectric actuators. Semiconductor Science and Technology, 2018, 33, 013001.	1.0	58

#	Article	IF	Citations
19	An artificial Rb atom in a semiconductor with lifetime-limited linewidth. Physical Review B, 2015, 92, .	1.1	54
20	All-photonic quantum teleportation using on-demand solid-state quantum emitters. Science Advances, 2018, 4, eaau1255.	4.7	53
21	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
22	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
23	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
24	Electron Mass in Dilute Nitrides and its Anomalous Dependence on Hydrostatic Pressure. Physical Review Letters, 2007, 98, 146402.	2.9	42
25	Fabrication of Siteâ€Controlled Quantum Dots by Spatially Selective Incorporation of Hydrogen in Ga(AsN)/GaAs Heterostructures. Advanced Materials, 2011, 23, 2706-2710.	11.1	41
26	Highly indistinguishable single photons from incoherently excited quantum dots. Physical Review B, 2019, 100, .	1.1	39
27	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
28	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
29	Uniaxial stress flips the natural quantization axis of a quantum dot for integrated quantum photonics. Nature Communications, 2018, 9, 3058.	5.8	35
30	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
31	Single Photons on Demand from Novel Site-Controlled GaAsN/GaAsN:H Quantum Dots. Nano Letters, 2014, 14, 1275-1280.	4.5	32
32	GaAs quantum dots grown by droplet etching epitaxy as quantum light sources. Applied Physics Letters, 2021, 119, .	1.5	32
33	Independent control of exciton and biexciton energies in single quantum dots via electroelastic fields. Physical Review B, 2013, 88, .	1.1	30
34	A Nanomembrane-Based Wavelength-Tunable High-Speed Single-Photon-Emitting Diode. Nano Letters, 2013, 13, 5808-5813.	4.5	27
35	Electrically-Pumped Wavelength-Tunable GaAs Quantum Dots Interfaced with Rubidium Atoms. ACS Photonics, 2017, 4, 868-872.	3.2	27
36	Hydrogen Incorporation in IIIâ€Nâ€V Semiconductors: From Macroscopic to Nanometer Control of the Materialsâ€™ Physical Properties. Advanced Functional Materials, 2012, 22, 1782-1801.	7.8	26

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37	Reversible Control of Inâ€Plane Elastic Stress Tensor in Nanomembranes. Advanced Optical Materials, 2016, 4, 682-687.	3.6	23
38	Inversion of the exciton built-in dipole moment in In(Ga)As quantum dots via nonlinear piezoelectric effect. Physical Review B, 2017, 96, .	1.1	23
39	Resolving the temporal evolution of line broadening in single quantum emitters. Optics Express, 2019, 27, 35290.	1.7	23
40	Origin of Antibunching in Resonance Fluorescence. Physical Review Letters, 2020, 125, 170402.	2.9	22
41	Strain-Controlled Quantum Dot Fine Structure for Entangled Photon Generation atâ€‰1550 nm. Nano Letters, 2021, 21, 10501-10506.	4.5	22
42	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
43	Strain-Tunable Single-Photon Source Based on a Quantum Dotâ€"Micropillar System. ACS Photonics, 2019, 6, 2025-2031.	3.2	20
44	Light polarization control in strain-engineered GaAsN/GaAsN:H heterostructures. Applied Physics Letters, 2009, 94, 261905.	1.5	19
45	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
46	Atomic clouds as spectrally selective and tunable delay lines for single photons from quantum dots. Physical Review B, 2015, 92, .	1.1	18
47	On-demand semiconductor source of 780-nm single photons with controlled temporal wave packets. Physical Review B, 2018, 97, .	1.1	17
48	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
49	Electric field induced tuning of electronic correlation in weakly confining quantum dots. Physical Review B, 2021, 104, .	1.1	15
50	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
51	Effect of hydrogen incorporation temperature inin plane-engineered GaAsNâˆ•GaAsN:H heterostructures. Applied Physics Letters, 2008, 92, 221901.	1.5	14
52	Two-photon interference from two blinking quantum emitters. Physical Review B, 2017, 96, .	1.1	14
53	Comparison of different bonding techniques for efficient strain transfer using piezoelectric actuators. Journal of Applied Physics, 2017, 121, 135303.	1.1	13
54	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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55	Effects of dielectric stoichiometry on the photoluminescence properties of encapsulated WSe2 monolayers. Nano Research, 2018, 11, 1399-1414.	5.8	12
56	Optical study of hydrogen-irradiated GaAsN/GaAs heterostructures. Journal of Applied Physics, 2011, 109, 123511.	1.1	11
57	Nanoscale Tailoring of the Polarization Properties of Dilute-Nitride Semiconductors via H-Assisted Strain Engineering. Physical Review Applied, 2014, 2, .	1.5	10
58	Independent tuning of excitonic emission energy and decay time in single semiconductor quantum dots. Applied Physics Letters, 2017, 110, .	1.5	10
59	Micro-machining of PMN-PT Crystals with Ultrashort Laser Pulses. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	10
60	New insights in the lattice dynamics of monolayers, bilayers, and trilayers of WSe₂ and unambiguous determination of few-layer-flakesâ€™ thickness. 2D Materials, 2020, 7, 025004.	2.0	10
61	In-plane band gap modulation investigated by secondary electron imaging of GaAsN/GaAsN:H heterostructures. Applied Physics Letters, 2008, 93, 102116.	1.5	9
62	Optomechanical tuning of the polarization properties of micropillar cavity systems with embedded quantum dots. Physical Review B, 2020, 101, .	1.1	8
63	A frequency-tunable nanomembrane mechanical oscillator with embedded quantum dots. Applied Physics Letters, 2019, 115, .	1.5	6
64	Optical properties and symmetry optimization of spectrally (excitonically) uniform site-controlled GaAs pyramidal quantum dots. Applied Physics Letters, 2021, 118, .	1.5	6
65	Engineering of Quantum Dot Photon Sources via Electro-elastic Fields. Nano-optics and Nanophotonics, 2015, , 277-302.	0.2	6
66	An all optical mapping of the strain field in GaAsN/GaAsN:H wires. Applied Physics Letters, 2012, 101, .	1.5	5
67	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
68	Convergent beam electron-diffraction investigation of lattice mismatch and static disorder in GaAs/GaAs1âˆ’xNx intercalated GaAs/GaAs1âˆ’xNx:H heterostructures. Applied Physics Letters, 2012, 101, 111912.	1.5	1
69	Publisher's Note: An artificial Rb atom in a semiconductor with lifetime-limited linewidth [Phys. Rev. B92, 245439 (2015)]. Physical Review B, 2016, 93, .	1.1	1
70	One, two, three, many. Nature Materials, 2019, 18, 916-917.	13.3	1
71	Resonance fluorescence of GaAs quantum dots with near-unity photon indistinguishability (Conference Presentation). , 2020, , .		1
72	Hydrogenâ€mediated nanostructuring of dilute nitride semiconductors. Physica Status Solidi (B): Basic Research, 2011, 248, 1195-1202.	0.7	0

#	Article	IF	Citations
73	Reshaping the optical properties of quantum dots via strain and electric fields. , 2013, , .		0
74	Quantum dots in micropillar cavities for scalable photonic applications. , 2019, , .		0