Dario Ballarini

List of Publications by Year
in descending order

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95	3,593	136740	133063
papers	citations	32	59
		h-index	g-index

97	97	97	3030
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Collective fluid dynamics of a polariton condensate in a semiconductor microcavity. Nature, 2009, 457, 291-295.	13.7	494
2	All-optical polariton transistor. Nature Communications, 2013, 4, 1778.	5.8	409
3	Room-temperature superfluidity in a polariton condensate. Nature Physics, 2017, 13, 837-841.	6.5	250
4	Exploring Lightâ€“Matter Interaction Phenomena under Ultrastrong Coupling Regime. ACS Photonics, 2014, 1, 1042-1048.	3.2	153
5	All-optical control of the quantum flow of a polariton condensate. Nature Photonics, 2011, 5, 610-614.	15.6	143
6	Measurement of the quantum geometric tensor and of the anomalous Hall drift. Nature, 2020, 578, 381-385.	13.7	130
7	Two-dimensional hybrid perovskites sustaining strong polariton interactions at room temperature. Science Advances, 2019, 5, eaav9967.	4.7	114
8	High-speed flow of interacting organic polaritons. Light: Science and Applications, 2017, 6, e16212-e16212.	7.7	101
9	Interacting polariton fluids in a monolayer of tungsten disulfide. Nature Nanotechnology, 2018, 13, 906-909.	15.6	96
10	Topological order and thermal equilibrium in polariton condensates. Nature Materials, 2018, 17, 145-151.	13.3	79
11	Control and Ultrafast Dynamics of a Two-Fluid Polariton Switch. Physical Review Letters, 2012, 109, 266407.	2.9	69
12	Ultrastrong light-matter coupling in electrically doped microcavity organic light emitting diodes. Applied Physics Letters, 2014, 104, 233303.	1.5	67
13	Tunable Out-of-Plane Excitons in 2D Single-Crystal Perovskites. ACS Photonics, 2018, 5, 4179-4185.	3.2	67
14	Ultrafast Control and Rabi Oscillations of Polaritons. Physical Review Letters, 2014, 113, 226401.	2.9	66
15	Polariton Boseâ€“Einstein condensate from a bound state in the continuum. Nature, 2022, 605, 447-452.	13.7	60
16	Vortex and half-vortex dynamics in a nonlinear spinor quantum fluid. Science Advances, 2015, 1, e1500807.	4.7	57
17	First observation of the quantized exciton-polariton field and effect of interactions on a single polariton. Science Advances, 2018, 4, eaao6814.	4.7	57
18	Twist of generalized skyrmions and spin vortices in a polariton superfluid. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14926-14931.	3.3	56

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19	Real-space collapse of a polariton condensate. Nature Communications, 2015, 6, 8993.	5.8	54
20	Polaritonic Neuromorphic Computing Outperforms Linear Classifiers. Nano Letters, 2020, 20, 3506-3512.	4.5	54
21	Toward Cavity Quantum Electrodynamics with Hybrid Photon Gap-Plasmon States. ACS Nano, 2016, 10, 11360-11368.	7.3	53
22	Ultrastrong Plasmonâ€“Exciton Coupling by Dynamic Molecular Aggregation. ACS Photonics, 2018, 5, 143-150.	3.2	48
23	Polarization shaping of PoincarÃ© beams by polariton oscillations. Light: Science and Applications, 2015, 4, e350-e350.	7.7	47
24	Polaritonics: from microcavities to sub-wavelength confinement. Nanophotonics, 2019, 8, 641-654.	2.9	47
25	Polaritonâ€Induced Enhanced Emission from an Organic Dye under the Strong Coupling Regime. Advanced Optical Materials, 2014, 2, 1076-1081.	3.6	46
26	Interactions and scattering of quantum vortices in a polariton fluid. Nature Communications, 2018, 9, 1467.	5.8	46
27	Role of Polymer in Hybrid Polymer/PbS Quantum Dot Solar Cells. Journal of Physical Chemistry C, 2015, 119, 14972-14979.	1.5	43
28	Macroscopic Two-Dimensional Polariton Condensates. Physical Review Letters, 2017, 118, 215301.	2.9	43
29	Excitonâ€“Plasmon Coupling Enhancement via Metal Oxidation. ACS Nano, 2015, 9, 9691-9699.	7.3	39
30	Tuning of the Berry curvature in 2D perovskite polaritons. Nature Nanotechnology, 2021, 16, 1349-1354.	15.6	38
31	Relaxation Oscillations in the Formation of a Polariton Condensate. Physical Review Letters, 2014, 112, 113602.	2.9	36
32	Observation of Long-Lived Polariton States in Semiconductor Microcavities across the Parametric Threshold. Physical Review Letters, 2009, 102, 056402.	2.9	32
33	Interaction-shaped vortex-antivortex lattices in polariton fluids. Physical Review B, 2014, 89, .	1.1	32
34	Room temperature Bloch surface wave polaritons. Optics Letters, 2014, 39, 2068.	1.7	32
35	Observation of Two Thresholds Leading to Polariton Condensation in 2D Hybrid Perovskites. Advanced Optical Materials, 2020, 8, 2000176.	3.6	32
36	Emerging 2D materials for room-temperature polaritonics. Nanophotonics, 2019, 8, 1547-1558.	2.9	30

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37	Neuromorphic Binarized Polariton Networks. Nano Letters, 2021, 21, 3715-3720.	4.5	28
38	Josephson vortices induced by phase twisting a polariton superfluid. Nature Photonics, 2019, 13, 488-493.	15.6	22
39	Transition from the strong- to the weak-coupling regime in semiconductor microcavities: Polarization dependence. Applied Physics Letters, 2007, 90, 201905.	1.5	20
40	The colored Hanbury Brownâ€“Twiss effect. Scientific Reports, 2016, 6, 37980.	1.6	19
41	Electrically controlled waveguide polariton laser. Optica, 2020, 7, 1579.	4.8	19
42	Microstructural modification of LiNbO3 crystals induced by femtosecond laser irradiation. Applied Surface Science, 2005, 248, 291-294.	3.1	18
43	Superluminal X-waves in a polariton quantum fluid. Light: Science and Applications, 2018, 7, 17119-17119.	7.7	17
44	Directional Goldstone waves in polariton condensates close to equilibrium. Nature Communications, 2020, 11, 217.	5.8	17
45	Magnetic control of polariton spin transport. Communications Physics, 2019, 2, .	2.0	15
46	Experimental investigation of a non-Abelian gauge field in 2D perovskite photonic platform. Optica, 2021, 8, 1442.	4.8	14
47	Polariton and spin dynamics in semiconductor microcavities under non-resonant excitation. Journal of Physics Condensed Matter, 2007, 19, 295204.	0.7	12
48	Merging of vortices and antivortices in polariton superfluids. Physical Review B, 2014, 90, .	1.1	12
49	Self-Trapping of Exciton-Polariton Condensates in GaAs Microcavities. Physical Review Letters, 2019, 123, 047401.	2.9	12
50	Quantum hydrodynamics of a single particle. Light: Science and Applications, 2020, 9, 85.	7.7	11
51	Full-Bloch beams and ultrafast Rabi-rotating vortices. Physical Review Research, 2021, 3, .	1.3	11
52	One-step synthesis at room temperature of low dimensional perovskite single crystals with high optical quality. Journal of Luminescence, 2020, 221, 117079.	1.5	10
53	Energy-Efficient Neural Network Inference with Microcavity Exciton Polaritons. Physical Review Applied, 2021, 16, .	1.5	10
54	Multicomponent polariton superfluidity in the optical parametric oscillator regime. Physical Review B, 2015, 92, .	1.1	9

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55	Enhancement of Parametric Effects in Polariton Waveguides Induced by Dipolar Interactions. Physical Review Letters, 2021, 126, 137401.	2.9	9
56	Demonstration of Self-Starting Nonlinear Mode Locking in Random Lasers. Physical Review Letters, 2021, 126, 173901.	2.9	9
57	Bloch Surface Waves for MoS2 Emission Coupling and Polariton Systems. Applied Sciences (Switzerland), 2017, 7, 1217.	1.3	8
58	Improved Photostability in Fluorinated 2D Perovskite Single Crystals. Nanomaterials, 2021, 11, 465.	1.9	8
59	Dynamics of polaritons resonantly created at the upper polariton branch. Superlattices and Microstructures, 2007, 41, 328-332.	1.4	7
60	Observation of the zero-magnetic-field exciton spin splitting in high quality bulk GaAs and AlGaAs. Applied Physics Letters, 2009, 95, 182107.	1.5	7
61	Striking dynamics of II-VI microcavity polaritons after linearly polarized excitation. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3880-3883.	0.8	6
62	Angular switching of the linear polarization of the emission in InGaAs microcavities. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3868-3871.	0.8	5
63	Entanglement properties of quantum polaritons. Physical Review B, 2016, 93, .	1.1	5
64	Dynamics of a Vortex Lattice in an Expanding Polariton Quantum Fluid. Physical Review Letters, 2021, 127, 047401.	2.9	5
65	Shaping the topology of light with a moving Rabi-oscillating vortex. Optics Express, 2021, 29, 37262.	1.7	4
66	Structural and optical defects in LiNbO3 crystals induced by femtosecond laser irradiation. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1329-1332.	0.8	3
67	Optically induced ultrafast quenching of the semiconductor quantum well luminescence. Applied Physics Letters, 2008, 92, 061912.	1.5	3
68	Transverse localization of light in laser written designed disorder. Applied Physics Letters, 2020, 116, 071101.	1.5	3
69	Photoluminescence of â€œdarkâ€•excitons in CdMnTe quantum well, embedded in a microcavity. Superlattices and Microstructures, 2007, 41, 386-391.	1.4	2
70	Superfluidity in polariton condensates. Journal of Physics: Conference Series, 2010, 210, 012060.	0.3	2
71	All-optical polariton transistor. , 2013, , .		2
72	Quantum Nature of Light in Nonstoichiometric Bulk Perovskites. ACS Nano, 2019, 13, 10711-10716.	7.3	2

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73	All-Optical Polariton Transistor. , 2013, , .		2
74	Bright soliton and shock waves in an exciton polariton condensate. , 2013, , .		2
75	Ultrafast tailoring of the exciton distribution in quantum wells. Physica Status Solidi (B): Basic Research, 2008, 245, 1064-1066.	0.7	1
76	Spatial distribution of strong and weak coupled excitonâ€“polaritons in semiconductor microcavities. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2049-2052.	1.3	1
77	Femtosecond laser writing of surface microstructures in Lithium Niobate. , 2005, , .		1
78	Using Phonons to Populate the Bottom of the Polariton Dispersion Relation. AIP Conference Proceedings, 2007, , .	0.3	0
79	Spin-Dependent Strong- to Weak-Coupling Transition in Semiconductor Microcavities. AIP Conference Proceedings, 2007, , .	0.3	0
80	Spin-dependent coexistence of weakly coupled and strongly coupled modes in semiconductor microcavities. Superlattices and Microstructures, 2007, 41, 321-327.	1.4	0
81	Exciton warming in IIIâ€“V semiconductors and microcavities. Superlattices and Microstructures, 2008, 43, 449-453.	1.4	0
82	Polariton relaxation after resonant pumping at the upper polariton branch under doublyâ€resonant Raman scattering conditions. Physica Status Solidi (B): Basic Research, 2008, 245, 1081-1084.	0.7	0
83	Effects of disorder on the polariton condensates in CdTe microcavities. , 2010, , .		0
84	Observation of a Long-Lived Polariton State in Semiconductor Microcavities. , 2010, , .		0
85	Observation of Quantum Hydrodynamic Effects in Microcavity Polaritons. , 2010, , .		0
86	Hydrodinamical phenomena in polariton condensates. , 2011, , .		0
87	Soliton and shock waves in an exciton polariton quantum pond. , 2013, , .		0
88	Publisher's Note: Interaction-shaped vortex-antivortex lattices in polariton fluids [Phys. Rev. B89, 134501 (2014)]. Physical Review B, 2014, 90, .	1.1	0
89	Polariton devices and quantum fluids. Proceedings of SPIE, 2014, , .	0.8	0
90	Pulse, polarization and topology shaping of polariton fluids. , 2017, , .		0

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91	Strong Coupling of Bloch Surface Wave and Excitons in Nanostrucutred Semiconductors. , 2018, , .		0
92	Interacting Polariton Fluids in a Monolayer of Tungsten Disulfide. , 2018, , .		0
93	Quantum coherence in polariton fluids. , 2013, , .		0
94	Polariton Quantum Fluids and Devices. Springer Series in Solid-state Sciences, 2013, , 127-155.	0.3	0
95	Quantum coherence in polariton fluids. , 2013, , .		0