Carlo Gabbanini

List of Publications by Year
in descending order

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96 papers	3,027 citations	304743 22 h-index	161849 54 g-index
96 all docs	96 docs citations	96 times ranked	4705 citing authors

#	Article	IF	Citations
1	Dimensional Crossover in the Superfluid-Supersolid Quantum Phase Transition. Physical Review X, 2022, 12, .	8.9	21
2	Evidence of superfluidity in a dipolar supersolid from nonclassical rotational inertia. Science, 2021, 371, 1162-1165.	12.6	54
3	Beam dynamics corrections to the Run-1 measurement of the muon anomalous magnetic moment at Fermilab. Physical Review Accelerators and Beams, 2021, 24, .	1.6	32
4	Magnetic-field measurement and analysis for the Muon <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>g</mml:mi><mml:mo>â^’</mml:mo><mml:mn>2</mml:m Experiment at Fermilab. Physical Review A, 2021, 103, .	2.5	54
5	Measurement of the Positive Muon Anomalous Magnetic Moment to 0.46Âppm. Physical Review Letters, 2021, 126, 141801.	7.8	991
6	Measurement of the anomalous precession frequency of the muon in the Fermilab Muon <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>g</mml:mi><mml:mo>â^’</mml:mo><mml:mn>2</mml:mn></mml:math> Experiment. Physical Review D, 2021, 103, .	4.7	105
7	Measurement of the muon <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1042" altimg="si55.svg"><mml:mrow><mml:mi>g</mml:mi><mml:mo linebreak="goodbreak" linebreakstyle="after">â^’</mml:mo><mml:mn>2</mml:mn></mml:mrow></mml:math> Experiment at Fermilab. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1011, 165597.	1.6	5
8	Magnetic induction imaging with a cold-atom radio frequency magnetometer. Applied Physics Letters, 2020, 117, .	3.3	8
9	An approach to light distribution for the calibration of high energy physics calorimeters. Journal of Instrumentation, 2020, 15, P09014-P09014.	1.2	0
10	Design and Performance of Data Acquisition and Control System for the Muon g-2 Laser Calibration. IEEE Transactions on Nuclear Science, 2020, 67, 832-839.	2.0	1
11	Supersolid symmetry breaking from compressional oscillations in a dipolar quantum gas. Nature, 2019, 574, 382-385.	27.8	140
12	Observation of a Dipolar Quantum Gas with Metastable Supersolid Properties. Physical Review Letters, 2019, 122, 130405.	7.8	288
13	The laser-based gain monitoring system of the calorimeters in the Muon gâ^’2 experiment at Fermilab. Journal of Instrumentation, 2019, 14, P11025-P11025.	1.2	14
14	Performance of the Muon gâ^’2 calorimeter and readout systems measured with test beam data. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 945, 162558.	1.6	10
15	Muon g-2 calibration system data flow. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 936, 335-336.	1.6	0
16	The calibration system of the Muon gâ€“2 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 936, 98-101.	1.6	0
17	The monitoring electronics of the laser calibration system in the Muon g-2 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 936, 372-373.	1.6	2
18	The laser control of the muon gâ^’2 experiment at Fermilab. Journal of Instrumentation, 2018, 13, T02009-T02009.	1.2	7

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19	Dysprosium dipolar Bose-Einstein condensate with broad Feshbach resonances. Physical Review A, 2018, 97, .	2.5	28
20	Electron beam test of key elements of the laser-based calibration system for the muon g - 2 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 842, 86-91.	1.6	14
21	Geant4 simulations of the lead fluoride calorimeter. Nuclear Instruments & Methods in Physics Research B, 2017, 402, 256-262.	1.4	3
22	Design and performance of SiPM-based readout of PbF₂ crystals for high-rate, precision timing applications. Journal of Instrumentation, 2017, 12, P01009-P01009.	1.2	22
23	The Fermilab Muon g-2 experiment: laser calibration system. Journal of Instrumentation, 2017, 12, C08019-C08019.	1.2	2
24	A new setup for experiments with ultracold dysprosium atoms. European Physical Journal: Special Topics, 2017, 226, 2775-2780.	2.6	8
25	The calibration system of the new gâˆ’2 experiment at Fermilab. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 824, 716-717.	1.6	7
26	The calorimeter system of the new muon g-2 experiment at Fermilab. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 824, 718-720.	1.6	2
27	[illegible] distributors for the muon<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0009.gif" overflow="scroll"><mml:mo stretchy="false">(</mml:mo><mml:mi>g</mml:mi><mml:mo>â˜’</mml:mo><mml:mn>2</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 1 0 0 1 [illegible] in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 789, 43-49.	1.6	12
28	Studies of an array of PbF2 Cherenkov crystals with large-area SiPM readout. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 783, 12-21.	1.6	36
29	Experimental study of the formation of ultracold RbCs molecules by short-range photoassociation. Physical Review A, 2013, 87, .	2.5	20
30	Formation of ultracold RbCs molecules by photoassociation. Laser Physics, 2012, 22, 1502-1512.	1.2	20
31	Enhancement of Raman scattering by parametric mixing of the pump with its harmonic. Optics Communications, 2012, 285, 3312-3315.	2.1	5
32	Formation of ultracold metastable RbCs molecules by short-range photoassociation. Physical Chemistry Chemical Physics, 2011, 13, 18905.	2.8	41
33	The focusing effect on the angular distribution of the Raman antiStokes branch emissions. Optics Communications, 2011, 284, 4667-4672.	2.1	0
34	Origin of backward to forward wave dominance in broadband Raman scattering in hydrogen. Optics Communications, 2011, 284, 441-445.	2.1	3
35	A multilens Raman cell as a tool to obtain high optical quality and efficient 1st Stokes backward conversion. Optics Communications, 2010, 283, 2268-2271.	2.1	1
36	Photoionization spectroscopy of excited states of cold caesium dimers. Molecular Physics, 2010, 108, 2355-2368.	1.7	11

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37	Analysis of the 2nd Stokes wave generation through stimulated Raman scattering in hydrogen gas under four-wave mixing conditions. Optics Communications, 2009, 282, 2954-2959.	2.1	4
38	The formation and interactions of cold and ultracold molecules: new challenges for interdisciplinary physics. Reports on Progress in Physics, 2009, 72, 086401.	20.1	159
39	Experimental evidence for an isotopic effect in the formation of ultracold ground-state rubidium dimers. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, 3283-3293.	1.5	15
40	A DFB diode laser for monitoring and repumping a barium metastable state. Laser Physics Letters, 2007, 4, 117-120.	1.4	4
41	Formation, detection and trapping of ultracold Rb2 molecules. Nuclear Physics A, 2007, 790, 757c-761c.	1.5	5
42	Assessments of lifetimes and photoionization cross-sections at 10.6Î¼m of nd Rydberg states of Rb measured in a magneto-optical trap. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2006, 61, 196-199.	2.9	6
43	Detection by two-photon ionization and magnetic trapping of cold Rb2 triplet state molecules. European Physical Journal D, 2006, 39, 261-269.	1.3	47
44	Atomic lithography with barium atoms. Applied Surface Science, 2005, 248, 196-199.	6.1	15
45	Patterning nonanethiol protected gold films by barium atoms. Applied Physics B: Lasers and Optics, 2004, 79, 539-542.	2.2	5
46	An optical trap for cold rubidium molecules. Optics Communications, 2004, 243, 203-208.	2.1	15
47	Ultra-Cold Molecules. Physica Scripta, 2004, T112, 13.	2.5	5
48	Time-dependent radiative transfer in magneto-optical traps. Physical Review A, 2003, 68, .	2.5	4
49	Line-shape study of two-colorâ€“three-photon ionization of Rb atoms. Physical Review A, 2002, 66, .	2.5	0
50	Determination of the87Rb5pstate dipole matrix element and radiative lifetime from the photoassociation spectroscopy of theRb20gâ^'(P3/2)long-range state. Physical Review A, 2002, 66, .	2.5	65
51	Making Molecules From Laser-Cooled Atoms. , 2002, , 181-200.		1
52	Cold rubidium molecule formation through photoassociation: A spectroscopic study of the 0g- long-range state of 87Rb 2. European Physical Journal D, 2001, 15, 189-198.	1.3	51
53	Laser cooling and photoionization of alkali atoms. Applied Surface Science, 2000, 154-155, 527-535.	6.1	6
54	Ion processes in the photoionization of laser cooled alkali atoms. Optics Communications, 2000, 173, 223-232.	2.1	10

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55	Cold Rubidium Molecules Formed in a Magneto-Optical Trap. Physical Review Letters, 2000, 84, 2814-2817.	7.8	167
56	Water vapor overtones pressure line broadening and shifting measurements. European Physical Journal D, 2000, 8, 223-226.	1.3	39
57	Resonance-enhanced ionization spectroscopy of laser-cooled rubidium atoms. Measurement Science and Technology, 1999, 10, 772-776.	2.6	3
58	Coherent population trapping studied through energy transfer and energy-pooling collisions. Optics Communications, 1999, 160, 75-79.	2.1	2
59	Experimental study of Velocity Changing Collisions on Coherent Population Trapping in sodium. European Physical Journal D, 1999, 6, 127-131.	1.3	5
60	On the measurement of pressure induced shift by diode lasers and harmonic detection. Optics Communications, 1998, 147, 55-60.	2.1	7
61	Photoionization cross sections for excited laser-cooled cesium atoms. Physical Review A, 1998, 57, R4110-R4113.	2.5	36
62	Partial photoionization cross section measurement in a Rb magneto-optical trap. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 4143-4148.	1.5	18
63	Scaling laws in magneto-optical traps. Europhysics Letters, 1997, 37, 251-256.	2.0	13
64	Photoionization cross section measurement in a Rb vapor cell trap. Optics Communications, 1997, 141, 25-28.	2.1	41
65	Optical spectroscopy of trapped neutral atoms. Rivista Del Nuovo Cimento, 1997, 20, 1-37.	5.7	2
66	Diode laser spectroscopy of overtone bands of acetylene. Applied Physics B: Lasers and Optics, 1996, 63, 277-282.	2.2	30
67	The sticking coefficient of barium on a MgO substrate measured by laser induced fluorescence. Applied Physics Letters, 1995, 67, 715-717.	3.3	1
68	Collisional processes of laser excited Ca with noble gases. Journal of Physics B: Atomic, Molecular and Optical Physics, 1994, 27, 4643-4651.	1.5	3
69	Diode laser spectroscopy of ammonia overtone transitions. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1994, 16, 117-126.	0.4	4
70	A beam of laser-cooled lithium Rydberg atoms for precision microwave spectroscopy. Optics Communications, 1993, 101, 342-346.	2.1	11
71	Toward a Rydberg constant measurement on circular atoms. IEEE Transactions on Instrumentation and Measurement, 1993, 42, 331-334.	4.7	12
72	Diode laser spectroscopy of methane overtone transitions. Applied Optics, 1993, 32, 5211.	2.1	21

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73	Light-induced drift: last issues. , 1993, , .		0
74	Diode laser overtone spectroscopy: a possible atmospheric monitoring technique. , 1993, 1711, 271.		2
75	Self-quenching mechanism in caesium Rydberg states. Journal of Physics B: Atomic, Molecular and Optical Physics, 1992, 25, 3145-3154.	1.5	4
76	White-Light-Induced Drift on Sodium Vapour. Europhysics Letters, 1992, 17, 309-314.	2.0	4
77	Excitation of inner-shell electrons by energy-pooling collisions. Physical Review A, 1992, 46, R9-R12.	2.5	11
78	Light-induced vapor jets. Physical Review A, 1992, 46, R3601-R3604.	2.5	5
79	Atom cooling by white light. Applied Physics B, Photophysics and Laser Chemistry, 1992, 54, 428-433.	1.5	22
80	Electronic energy transfer in a dense level system. Journal of Quantitative Spectroscopy and Radiative Transfer, 1992, 47, 103-112.	2.3	4
81	Wall effects on light-induced drift. Optics Communications, 1992, 88, 341-346.	2.1	20
82	Observation of a new near-red band of the NaCs molecule. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 159, 266-270.	2.1	3
83	Diode laser spectroscopy: Water vapour detection in the atmosphere. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1991, 13, 677-685.	0.4	5
84	Na-Cs Hornbeck-Molnar ionization. Journal of Physics B: Atomic, Molecular and Optical Physics, 1991, 24, 3807-3814.	1.5	6
85	Associative ionization in collisions between Na(3P3/2) and Cs(6P3/2). Physical Review A, 1991, 43, 2311-2315.	2.5	5
86	Vapor drift induced by resonance radiation pressure. Physical Review A, 1991, 43, 5005-5011.	2.5	7
87	Observation of 3D Light-Induced Drift in a Spherical Cell. Europhysics Letters, 1990, 11, 207-212.	2.0	3
88	Energy Pooling Collisions: A Step Towards Ionization. NATO ASI Series Series B: Physics, 1990, , 373-382.	0.2	0
89	Light-induced drift dynamics in an optically thin regime: Monochromatic and broadband laser excitations. Physical Review A, 1989, 40, 6349-6353.	2.5	16
90	Energy-pooling collisions for K(4P)+Rb(5P) and Na(3P)+Rb(5P) heteronuclear systems. Physical Review A, 1989, 39, 6148-6153.	2.5	31

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91	Light Induced Drift in a spherical cell. , 1989, , 44-45.		0
92	Light-Induced Drift by Nonmonochromatic Laser Radiation. Europhysics Letters, 1988, 7, 505-510.	2.0	15
93	Dynamic behavior of bistability in a laser with a saturable absorber. Journal of the Optical Society of America B: Optical Physics, 1987, 4, 892.	2.1	30
94	Infrared CO2 Laser With Intracavity Absorber: Static And Dynamic Nonlinear Behaviour. , 1986, 0667, 234.		3
95	ENERGY-POOLING PROCESSES IN LASER-EXCITED ALKALI VAPORS : AN UPDATE ON EXPERIMENTS. Journal De Physique Colloque, 1985, 46, C1-61-C1-73.	0.2	17
96	Cross-section measurement and theoretical evaluation for the energy-transfer collision Na(3P)+Na(3P)â†'Na(4F)+Na(3S). Physical Review A, 1985, 32, 2068-2076.	2.5	15