Emilio Mariotti

List of Publications by Year
in descending order

123 papers	1,354 citations	331670 21 h-index	395702 33 g-index
124 all docs	124 docs citations	124 times ranked	602 citing authors

#	Article	IF	Citations
1	Experimental realization of coherent dark-state magnetometers. Europhysics Letters, 1998, 44, 31-36.	2.0	93
2	Coherent spectroscopy of degenerate two-level systems in Cs. Physical Review A, 2002, 66, .	2.5	84
3	Light-Induced Atom Desorption. Europhysics Letters, 1994, 25, 639-643.	2.0	83
4	Fast and efficient loading of a Rb magneto-optical trap using light-induced atomic desorption. Physical Review A, 2003, 67, .	2.5	79
5	Light-induced diffusion and desorption of alkali metals in a siloxane film: Theory and experiment. Physical Review A, 1999, 60, 4693-4700.	2.5	70
6	Light-induced atomic desorption from porous silica. Europhysics Letters, 2004, 67, 983-989.	2.0	42
7	Excitation functions forFr208â€“211produced in theO18+Au197fusion reaction. Physical Review C, 2005, 71, .	2.9	39
8	Giant modification of atomic transition probabilities induced by a magnetic field: forbidden transitions become predominant. Laser Physics Letters, 2014, 11, 055701.	1.4	39
9	A new class of photo-induced phenomena in siloxane films. European Physical Journal D, 2001, 13, 231-235.	1.3	30
10	Reversible Light-Controlled Formation and Evaporation of Rubidium Clusters in Nanoporous Silica. Physical Review Letters, 2006, 97, 157404.	7.8	30
11	Dynamics of rubidium light-induced atom desorption (LIAD). Chemical Physics, 1994, 187, 111-115.	1.9	28
12	Francium sources and traps for fundamental interaction studies. European Physical Journal: Special Topics, 2007, 150, 389-392.	2.6	28
13	Light induced drift of sodium atoms in absence of wall adsorption. Optics Communications, 1987, 63, 43-48.	2.1	27
14	Two-color coherent population trapping in a single Cs hyperfine transition, with application in magnetometry. Applied Physics B: Lasers and Optics, 2003, 76, 667-675.	2.2	27
15	Coherent population trapping resonances in Cs atoms excited by elliptically polarized light. Physical Review A, 2006, 74, .	2.5	27
16	Optical characterization and manipulation of alkali metal nanoparticles in porous silica. European Physical Journal D, 2008, 49, 201-210.	1.3	26
17	Optical recording in Rb loaded-porous glass by reversible photoinduced phase transformations. Optics Express, 2008, 16, 1377.	3.4	26
18	â€œWhite-lightâ€•Laser Cooling of a Fast Stored Ion Beam. Physical Review Letters, 1998, 80, 2129-2132.	7.8	25

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19	Full control of sodium vapor density in siloxane-coated cells using blue LED light-induced atomic desorption. Optics Letters, 2009, 34, 2643.	3.3	25
20	Desorption of Rb and Cs from PDMS induced by non resonant light scattering. European Physical Journal D, 2006, 37, 319-325.	1.3	24
21	Atom cooling by white light. Applied Physics B, Photophysics and Laser Chemistry, 1992, 54, 428-433.	1.5	22
22	Saturated absorption spectroscopy: Elimination of crossover resonances with the use of a nanocell. Laser Physics, 2008, 18, 749-755.	1.2	22
23	Magnetic-field-compensation optical vector magnetometer. Applied Optics, 2016, 55, 892.	2.1	21
24	Wall effects on light-induced drift. Optics Communications, 1992, 88, 341-346.	2.1	20
25	Pulsed laser desorption of alkali atoms from PDMS thin films. Applied Surface Science, 2004, 228, 40-47.	6.1	18
26	Light induced atomic desorption from dry-film coatings. Journal of Chemical Physics, 2007, 127, 044706.	3.0	18
27	An efficient photo-atom source. Optics Communications, 1997, 134, 121-126.	2.1	16
28	Accurate measurements of transition frequencies and isotope shifts of laser-trapped francium. Optics Letters, 2009, 34, 893.	3.3	16
29	Light-induced-drift stationary states. Physical Review A, 1988, 38, 1327-1334.	2.5	15
30	Sodium MOT collection efficiency as a function of the trapping and repumping laser frequencies and intensities. European Physical Journal D, 2001, 13, 71-82.	1.3	15
31	Production of radioactive beams of francium. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 557, 390-396.	1.6	15
32	Generation of a frequency comb with a sharp edge of adjustable intensity and frequency. Optics Communications, 1996, 132, 269-274.	2.1	14
33	Energy pooling collision cross section measurements in indium: the In(6S1/2)+In(6S1/2) to In(nP)+In(5P3/2) process. Journal of Physics B: Atomic, Molecular and Optical Physics, 1993, 26, 2335-2344.	1.5	13
34	A 670 nm external-cavity single mode diode laser continuously tunable over 18 GHz range. Optics Communications, 1994, 107, 83-87.	2.1	13
35	Light-induced atomic desorption and related phenomena. Physica Scripta, 2009, T135, 014012.	2.5	13
36	Cooling and trapping of radioactive atoms: the Legnaro francium magneto-optical trap. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 953.	2.1	12

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37	Production and trapping of francium atoms. Nuclear Physics A, 2004, 746, 421-424.	1.5	12
38	White-light laser cooling of ions in a storage ring. Hyperfine Interactions, 1996, 99, 259-265.	0.5	11
39	Energy-pooling ionization and electron - ion recombination measurements in indium. Journal of Physics B: Atomic, Molecular and Optical Physics, 1997, 30, 473-482.	1.5	10
40	Magneto-optical trap operating on a magnetically induced level-mixing effect. Physical Review A, 2001, 64, .	2.5	10
41	The Legnaro Francium Magneto-Optical Trap. Hyperfine Interactions, 2003, 146/147, 83-89.	0.5	10
42	Light desorption from an yttrium neutralizer for Rb and Fr magneto-optical trap loading. Journal of Chemical Physics, 2014, 141, 134201.	3.0	10
43	Radiation trapping and vapor density of indium confined in quartz cells. Optics Communications, 1994, 106, 197-201.	2.1	9
44	Francium trapping at the INFN-LNL facility. International Journal of Modern Physics E, 2014, 23, 1430009.	1.0	9
45	Enhanced Atomic Desorption of 209 and 210 Francium from Organic Coating. Scientific Reports, 2017, 7, 4207.	3.3	8
46	Detection of excited level population transfer in an MOT through the measurement of trapped atom number. Measurement Science and Technology, 2013, 24, 015201.	2.6	7
47	First results on Ge resonant laser photoionization in hollow cathode lamp. Review of Scientific Instruments, 2016, 87, 02B708.	1.3	7
48	Experimental setup for the growth of solid crystals of inert gases for particle detection. Review of Scientific Instruments, 2017, 88, 113303.	1.3	7
49	Trapping of Radioactive Atoms: the Legnaro Francium Magneto-Optical Trap. Physica Scripta, 2003, T105, 15.	2.5	7
50	Particle detection in rare gas solids: DEMIURGOS experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 958, 162434.	1.6	6
51	Light-induced vapor jets. Physical Review A, 1992, 46, R3601-R3604.	2.5	5
52	Transverse laser cooling of ions in a storage ring. Optics Communications, 1996, 123, 530-534.	2.1	5
53	Towards a simple and performing CPT based magnetometer: optimization of experimental paramaters (Invited Paper). , 2005, , .		5
54	Francium sources at Laboratori Nazionali di Legnaro: Design and performance. Review of Scientific Instruments, 2006, 77, 03A701.	1.3	5

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55	Measurement of diffusion coefficients of francium and rubidium in yttrium based on laser spectroscopy. Physical Review A, 2008, 78, .	2.5	5
56	Optical stabilization of Rb vapor density above thermal equilibrium. Journal of Modern Optics, 2010, 57, 1305-1310.	1.3	5
57	Laser-driven self-assembly of shape-controlled potassium nanoparticles in porous glass. Laser Physics Letters, 2014, 11, 085902.	1.4	5
58	Electromagnetically Induced Absorption Resonance Sign Reversal. Acta Physica Polonica A, 2007, 112, 823-828.	0.5	5
59	White-Light-Induced Drift on Sodium Vapour. Europhysics Letters, 1992, 17, 309-314.	2.0	4
60	Stroboscopic laser diagnostics for detection of ordering in a one-dimensional ion beam. Physical Review A, 1995, 52, 2464-2467.	2.5	4
61	Achromatic optical device for generation of a broadband frequency spectrum with high-frequency stability and sharp termination. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 335.	2.1	4
62	A francium MOT for atomic parity violation measurements. Proceedings of SPIE, 2008, , .	0.8	4
63	Light-induced atomic desorption for miniaturization of magneto-optical sensors. Proceedings of SPIE, 2013, , .	0.8	4
64	Spin randomization of light-induced desorbed Rb atoms. Journal of Physics: Conference Series, 2014, 514, 012029.	0.4	4
65	ToF diagnostic of Tin resonant laser photoionization in SPES laser offline laboratory. Journal of Instrumentation, 2016, 11, C09001-C09001.	1.2	4
66	A storage ring for crystalline beam studies. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1997, 391, 147-155.	1.6	3
67	Explosive Vaporization of Metallic Sodium Microparticles by CW Resonant Laser Radiation. Physical Review Letters, 2001, 87, 215002.	7.8	3
68	Light-induced atomic desorption from PDMS films and porous glass: application and fundamental issues. Journal of Physics: Conference Series, 2005, 19, 78-85.	0.4	3
69	Buffer gas-assisted four-wave mixing resonances in alkali vapor excited by a single cw laser. European Physical Journal D, 2016, 70, 1.	1.3	3
70	Sub-doppler spectroscopy of sodium vapor in an ultrathin cell. Optics and Spectroscopy (English) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.6	3
71	A feasibility study for a low energy threshold particle detector in a xenon crystal. Journal of Instrumentation, 2020, 15, C03004-C03004.	1.2	3
72	Population Loss in Closed Optical Transitions Î¿f Rb and Cs Atoms Confined in Micrometric Thin Cells. Acta Physica Polonica A, 2009, 116, 495-497.	0.5	3

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73	Polarimetry for measuring the vacuum magnetic birefringence with quasi-static fields: a systematics study for the VMB@CERN experiment. European Physical Journal C, 2022, 82, 1.	3.9	3
74	Sharp edge broad-band lasers for "white-light" cooling in storage rings. , 1997, 108, 259-266.		2
75	Observation of sodium molecular formation induced by resonant laser atomic excitation and three-body collisions. Optics Communications, 1999, 168, 355-362.	2.1	2
76	Photo-ejection and transport of alkali atoms embedded in nano-porous silica. Journal of Physics: Conference Series, 2005, 19, 86-89.	0.4	2
77	Optical response of alkali metal atoms confined in nanoporous glass. Quantum Electronics, 2014, 44, 263-268.	1.0	2
78	Photo-induced modifications of the substrate-adsorbate interaction in K-loaded porous glass. Journal Physics D: Applied Physics, 2015, 48, 205301.	2.8	2
79	Observation of 7pP2_3/2â†'7dD2 optical transitions in 209 and 210 francium isotopes. Optics Letters, 2017, 42, 3682.	3.3	2
80	Novel approaches in low energy threshold detectors for Dark Matter searches. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 936, 244-246.	1.6	2
81	Dynamics of Optical Pumping Processes in Coated Cells Filled with Rb Vapour. Journal of Contemporary Physics, 2020, 55, 383-396.	0.6	2
82	Ultrashort laser-pulse diagnostics for detection of ordering within an ion beam. Hyperfine Interactions, 1996, 99, 267-276.	0.5	1
83	Light-induced atomic desorption from siloxane film loaded with Rb and Cs. Journal of Physics: Conference Series, 2005, 19, 90-93.	0.4	1
84	Atomic sources controlled by light: main features and applications. , 2010, , .		1
85	Light-induced atomic desorption in cells with different PDMS coatings. Journal of Physics: Conference Series, 2014, 514, 012030.	0.4	1
86	Optical characterization of antirelaxation coatings. Journal of Physics: Conference Series, 2018, 992, 012039.	0.4	1
87	A NEW SETUP FOR THE STUDY OF ADSORPTION/DESORPTION PROCESSES AND NANOPARTICLES FORMATION IN POROUS ALUMINA. Journal of the Siena Academy of Sciences, 2019, 10, .	0.0	1
88	Optical control of high-density alkali atom vapor in antirelaxation coated cells. Journal of Physics: Conference Series, 2021, 1859, 012055.	0.4	1
89	Laser double optical resonance excitation-ionization of Mo with optogalvanic detection. Physica Scripta, 2022, 97, 024004.	2.5	1
90	Vapor diffusion and atom cooling by white light. , 1992, 1726, 156.		0

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91	Light-induced drift: last issues. , 1993, , .		0
92	Nonthermal light-induced atom desorption. AIP Conference Proceedings, 1993, , .	0.4	0
93	Energy-pooling ionization produced by the collisions of In atoms in presence of a resonant laser field. AIP Conference Proceedings, 1997, , .	0.4	0
94	CRYSTAL: a storage ring for crystalline beams and other applications. Nuclear Physics A, 1997, 626, 583-588.	1.5	0
95	Ion beam crystallization. , 1997, 108, 355-372.		0
96	A Monte Carlo simulation of a stroboscopic laser diagnostics of ordered ion beams in a storage ring. , 1998, 115, 23-27.		0
97	First demonstration of â€œwhite-lightâ€•laser cooling of a stored ion beam. , 1998, 115, 47-52.		0
98	Frequency stabilisation of a broad-band dye laser by light-induced drift. Optics Communications, 1998, 146, 196-200.	2.1	0
99	Light-induced atomic desorption from silane-coated surfaces. , 1998, , .		0
100	White-light laser cooling of high-energy ion beams. , 1998, 3485, 163.		0
101	Simulation of a laser diagnostics to detect the string configuration of an ion beam in a storage ring. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1999, 430, 10-23.	1.6	0
102	Development of a broadband laser in the UV region. , 2000, 127, 503-506.		0
103	Light-induced atomic desorption: recent developments. , 2001, 4397, 226.		0
104	Temperature dependence of coherent resonances in Na and Cs cells. , 2003, , .		0
105	Laser cooling and trapping of radioactive atoms. , 2003, 5226, 11.		0
106	Coherent Population Trapping for Electromagnetic Field Measurement. , 2004, , .		0
107	Coherent spectroscopy in Cs for precise magnetic field measurements. , 2004, , .		0
108	Coherent effects in the field of elliptically polarized light. , 2004, , .		0

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109	Light induced desorption and diffusion of alkali atoms in porous glasses. , 0, , .		0
110	<title>Light-induced processes on atoms and clusters confined in nanoporous silica and organic films</title>. , 2007, , .		0
111	Coherent transfer of population in an atomic system in the presence of buffer gas. , 2010, , .		0
112	A phenomenological model for collisional coherence transfer in an optically pumped atomic system. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 055502.	1.5	0
113	A magneto-optical trap for radioactive atoms. Proceedings of SPIE, 2013, , .	0.8	0
114	Light-induced atomic desorption dynamics in cells with different coatings. , 2015, , .		0
115	Forty years after the first dark resonance experiment: an overview of the COSMA project results. Proceedings of SPIE, 2016, , .	0.8	0
116	New calibrated evaporation oven for time of flight mass spectrometer in offline SPES laser laboratory. AIP Conference Proceedings, 2018, , .	0.4	0
117	Nanoparticle formation in nanoporous structures and applications. Optical and Quantum Electronics, 2020, 52, 1.	3.3	0
118	The Legnaro Francium Magneto-Optical Trap. , 2003, , 83-89.		0
119	Storing Information in Nanoporous Silica through Light Controlled Rb Cluster Growth and Demolition. , 2007, , .		0
120	Prospects for parity violation measurements in cold francium atoms. , 2007, , 185-187.		0
121	Characterization of The Legnaro Fr MOT. , 2007, , .		0
122	Dark matter search by laser spectroscopy. , 2019, , .		0
123	New ideas on prospective low energy threshold detectors for dark matter searches. International Journal of Modern Physics Conference Series, 2020, 50, 2060009.	0.7	0