Carmen Menoni

List of Publications by Year
in descending order

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112 papers	1,958 citations	257450 24 h-index	265206 42 g-index
115 all docs	115 docs citations	115 times ranked	1522 citing authors

#	Article	IF	Citations
1	Ultrahigh 22 nm resolution coherent diffractive imaging using a desktop 13 nm high harmonic source. Optics Express, 2011, 19, 22470.	3.4	164
2	High numerical aperture tabletop soft x-ray diffraction microscopy with 70-nm resolution. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 24-27.	7.1	156
3	Sub-38 nm resolution tabletop microscopy with 13 nm wavelength laser light. Optics Letters, 2006, 31, 1214.	3.3	95
4	Single-shot extreme ultraviolet laser imaging of nanostructures with wavelength resolution. Optics Letters, 2008, 33, 518.	3.3	94
5	Three-dimensional nanoscale molecular imaging by extreme ultraviolet laser ablation mass spectrometry. Nature Communications, 2015, 6, 6944.	12.8	94
6	085â€‰â€‰PW laser operation at 33â€‰â€‰Hz and high-contrast ultrahigh-intensity Î»â€‰=â€‰400â€‰â€‰nm second-harmo beamline. Optics Letters, 2017, 42, 3828.	3.3	86
7	1â€‰â€‰J, 05â€‰â€‰kHz repetition rate picosecond laser. Optics Letters, 2016, 41, 3339.	3.3	76
8	Nanometer-scale ablation with a table-top soft x-ray laser. Optics Letters, 2006, 31, 3615.	3.3	65
9	Demonstration of a 100ÂHz repetition rate gain-saturated diode-pumped table-top soft x-ray laser. Optics Letters, 2012, 37, 3624.	3.3	63
10	Ablation of organic polymers by 46.9-nm-laser radiation. Applied Physics Letters, 2005, 86, 034109.	3.3	61
11	Microscopy of extreme ultraviolet lithography masks with 132 nm tabletop laser illumination. Optics Letters, 2009, 34, 271.	3.3	61
12	Nanoimaging with a compact extreme-ultraviolet laser. Optics Letters, 2005, 30, 2095.	3.3	58
13	1.1â€‰â€‰J Yb:YAG picosecond laser at 1â€‰â€‰kHz repetition rate. Optics Letters, 2020, 45, 6615.	3.3	57
14	Optical properties of oxygen vacancies in HfO₂ thin films studied by absorption and luminescence spectroscopy. Optics Express, 2018, 26, 17608.	3.4	47
15	High laser-resistant multilayer mirrors by nodular defect planarization [Invited]. Applied Optics, 2014, 53, A291.	1.8	35
16	Point defects in Sc₂O₃ thin films by ion beam sputtering. Applied Optics, 2014, 53, A276.	1.8	33
17	Characterization of extreme ultraviolet laser ablation mass spectrometry for actinide trace analysis and nanoscale isotopic imaging. Journal of Analytical Atomic Spectrometry, 2017, 32, 1092-1100.	3.0	33
18	Warm photoionized plasmas created by soft-x-ray laser irradiation of solid targets. Journal of the Optical Society of America B: Optical Physics, 2008, 25, B32.	2.1	32

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19	Scaling diode-pumped, high energy picosecond lasers to kilowatt average powers. High Power Laser Science and Engineering, 2018, 6, .	4.6	29
20	High Precision Detection of Change in Intermediate Range Order of Amorphous Zirconia-Doped Tantala Thin Films Due to Annealing. Physical Review Letters, 2019, 123, 045501.	7.8	29
21	Nanoscale patterning in high resolution HSQ photoresist by interferometric lithography with tabletop extreme ultraviolet lasers. Journal of Vacuum Science & Technology B, 2007, 25, 2094.	1.3	28
22	Sequential single-shot imaging of nanoscale dynamic interactions with a table-top soft x-ray laser. Optics Letters, 2012, 37, 2994.	3.3	27
23	Low Mechanical Loss <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>TiO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn> Coatings for Reduced Thermal Noise in Gravitational Wave Interferometers. Physical Review Letters, 2021, 127, 071101.	7.8	27
24	Structure and morphology of low mechanical loss TiO₂-doped Ta₂O₅. Optical Materials Express, 2020, 10, 1687.	3.0	24
25	Demonstration of Nanomachining With Focused Extreme Ultraviolet Laser Beams. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 443-448.	2.9	23
26	Comparison of nanometer-thick films by x-ray reflectivity and spectroscopic ellipsometry. Review of Scientific Instruments, 2005, 76, 023906.	1.3	22
27	Transient phenomena in the dielectric breakdown of HfO2 optical films probed by ultrafast laser pulse pairs. Applied Physics Letters, 2010, 97, .	3.3	21
28	Extreme ultraviolet laser-based table-top aerial image metrology of lithographic masks. Optics Express, 2010, 18, 14467.	3.4	20
29	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
30	Substrate and coating defect planarization strategies for high-laser-fluence multilayer mirrors. Thin Solid Films, 2015, 592, 216-220.	1.8	19
31	Hour-long continuous operation of a tabletop soft x-ray laser at 50-100 Hz repetition rate. Optics Express, 2013, 21, 28380.	3.4	16
32	Demonstration of a kilowatt average power, 1 J, green laser. Optics Letters, 2020, 45, 6803.	3.3	16
33	Advances in ion beam sputtered Sc 2 O 3 for optical interference coatings. Proceedings of SPIE, 2010, , .	0.8	15
34	Strategies to increase laser damage performance of Ta_2O_5/SiO_2 mirrors by modifications of the top layer design. Applied Optics, 2017, 56, C136.	2.1	15
35	Depth-Profiling Microanalysis of CoNCN Water-Oxidation Catalyst Using a Î» = 46.9 nm Plasma Laser for Nano-Ionization Mass Spectrometry. Analytical Chemistry, 2018, 90, 9234-9240.	6.5	15
36	Exploration of co-sputtered Ta₂O₅â€“ZrO₂ thin films for gravitational-wave detectors. Classical and Quantum Gravity, 2021, 38, 195021.	4.0	15

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37	Comparison of damage and ablation dynamics of multilayer dielectric films initiated by few-cycle pulses versus longer femtosecond pulses. Optics Letters, 2020, 45, 2672.	3.3	15
38	Generation and characterization of isolated attosecond pulses at 100â€‰â€‰kHz repetition rate. Optica, 2022, 9, 145.	9.3	15
39	Temperature dependence of intrinsic recombination coefficients in 1.3 Î¼m InAsP/InP quantum-well semiconductor lasers. Applied Physics Letters, 2000, 76, 2659-2661.	3.3	14
40	Ablation and transmission of thin solid targets irradiated by intense extreme ultraviolet laser radiation. APL Photonics, 2016, 1, .	5.7	14
41	Enhanced medium-range order in vapor-deposited germania glasses at elevated temperatures. Science Advances, 2021, 7, eabh1117.	10.3	14
42	Generation and characterisation of few-pulse attosecond pulse trains at 100 kHz repetition rate. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 194003.	1.5	14
43	Comprehensive study of amorphous metal oxide and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>Ta</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mrow><m mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>5</mml:mn></mml:mrow></mml:msub></mml:mrow></m -based mixed oxide coatings for gravitational-wave detectors. Physical Review D, 2022, 105, .	4.7	13
44	Ultrafast Laser Material Damage Simulationâ€”A New Look at an Old Problem. Nanomaterials, 2022, 12, 1259.	4.1	12
45	Imaging at the Nanoscale With Practical Table-Top EUV Laser-Based Full-Field Microscopes. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 434-442.	2.9	11
46	Structural Evolution that Affects the Room-Temperature Internal Friction of Binary Oxide Nanolaminates: Implications for Ultrastable Optical Cavities. ACS Applied Nano Materials, 2020, 3, 12308-12313.	5.0	11
47	Analysis of a scheme for de-magnified Talbot lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	1.2	10
48	Ultra-low stress SiO₂ coatings by ion beam sputtering deposition. Applied Optics, 2020, 59, 1871.	1.8	10
49	What role do defects play in the laser damage behavior of metal oxides?. Proceedings of SPIE, 2012, , .	0.8	8
50	Isotopic Heterogeneity Imaged in a Uranium Fuel Pellet with Extreme Ultraviolet Laser Ablation and Ionization Time-of-Flight Mass Spectrometry. Analytical Chemistry, 2021, 93, 1016-1024.	6.5	8
51	Comparison of defects responsible for nanosecond laser-induced damage and ablation in common high index optical coatings. Optical Engineering, 2016, 56, 011019.	1.0	7
52	Thin film absorption characterization by focus error thermal lensing. Review of Scientific Instruments, 2017, 88, 123104.	1.3	7
53	Method for the experimental measurement of bulk and shear loss angles in amorphous thin films. Physical Review D, 2020, 101, .	4.7	7
54	Prediction of crystallized phases of amorphous Ta2O5-based mixed oxide thin films using a density functional theory database. APL Materials, 2021, 9, 031106.	5.1	7

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55	Growth and characterization of Sc₂O₃ doped Ta₂O₅ thin films. Applied Optics, 2020, 59, A106.	1.8	7
56	Modifications of ion beam sputtered tantala thin films by secondary argon and oxygen bombardment. Applied Optics, 2020, 59, A150.	1.8	7
57	Investigation of laser annealing mechanisms in thin film coatings by photothermal microscopy. Optics Express, 2019, 27, 5729.	3.4	6
58	Carrier Recombination Dynamics Investigations of Strain-Compensated InGaAsN Quantum Wells. IEEE Photonics Journal, 2012, 4, 2382-2389.	2.0	5
59	High-Power Ultrashort Pulse Lasers to Pump Plasma-Based Soft X-Ray Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-15.	2.9	5
60	Scandium oxide thin films deposited by dual ion beam sputtering for high-power laser applications. , 2010, , .		4
61	Investigation of effects of assisted ion bombardment on mechanical loss of sputtered tantala thin films for gravitational wave interferometers. Physical Review D, 2019, 100, .	4.7	4
62	Characterization of absorptance homogeneity in thin-film coatings for high-power lasers by thermal lensing microscopy. Applied Optics, 2019, 58, 7233.	1.8	4
63	2D dynamic ionization simulation from ultrashort pulses in multilayer dielectric interference coatings. , 2020, , .		4
64	Single-shot large field of view Fourier transform holography with a picosecond plasma-based soft X-ray laser. Optics Express, 2020, 28, 35898.	3.4	4
65	Structure and morphology of low mechanical loss TiO2-doped Ta2O5. Optical Materials Express, 2020, 10, 1687.	3.0	3
66	SiO2/HfO2 multilayers: impact of process parameters and stack geometry on the optical and structural properties. , 2008, , .		3
67	Energy Dispersive Diffraction in a Diamond Anvil High Pressure Cell Using Synchrotron and Conventional X-Radiation. Advances in X-ray Analysis, 1983, 27, 331-337.	0.0	2
68	Depth determination of critical fluence-limiting defects within planarized and non-planarized mirror coatings. , 2015, , .		2
69	Laser induced damage in coatings for cryogenic Yb:YAG active mirror amplifiers. Optics Letters, 2020, 45, 4476.	3.3	2
70	Simple collimator for use with diamondâ€anvil cells in a synchrotron beam. Review of Scientific Instruments, 1984, 55, 1511-1513.	1.3	1
71	Pressureâ€induced changes in the crystal structure and electrical properties of bulk InP. Journal of Applied Physics, 1989, 66, 1658-1661.	2.5	1
72	Sub-38 nm resolution microscopy with a tabletop 13 nm wavelength laser. , 2006, , .		1

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73	Table top extreme ultraviolet holography. , 2007, , .		1
74	Impacts of SiO2 planarization on optical thin film properties and laser damage resistance. , 2016, , .		1
75	Soft X-Ray Laser Ablation Mass Spectrometry for Chemical Composition Imaging in Three Dimensions (3D) at the Nanoscale. Springer Proceedings in Physics, 2018, , 221-230.	0.2	1
76	Deposition of conformal thin film coatings on sawtooth substrates using ion bombardment. Journal of Applied Physics, 2021, 130, .	2.5	1
77	Absorptance homogeneity and its relaxation in thin films by photothermal microscopy. , 2019, , .		1
78	Nanopatterning and Nanomachining with Table-top Extreme Ultraviolet Lasers. Materials Research Society Symposia Proceedings, 2006, 961, 1.	0.1	0
79	Nano-scale ablation with a compact extreme ultraviolet laser. , 2006, , .		0
80	Nanometer-scale resolution microscopy with compact extreme ultraviolet lasers. , 2006, , .		0
81	High brightness injection-seeded table-top soft x-ray laser using a dense plasma amplifier. , 2007, , .		0
82	Compact High Repetition Rate Soft X-Ray Lasers: A Doorway To High Intensity Coherent Soft X-Ray Science On A Table-Top. AIP Conference Proceedings, 2007, , .	0.4	0
83	Nanopillars and arrays of nanoholes fabricated by extreme ultraviolet interferometric laser lithography. , 2007, , .		0
84	Holographic nano-imaging realized with compact extreme ultraviolet lasers. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
85	High brightness injection-seeded table-top soft x-ray laser using a dense plasma amplifier. , 2007, , .		0
86	Single-shot extreme ultraviolet microscopy with 54 nm resolution using a desktop-size capillary discharge laser. , 2008, , .		0
87	Near-wavelength resolution extreme ultraviolet imaging with a desktop-size laser. , 2008, , .		0
88	Table top ultraviolet lasers enable new nano-patterning schemes. , 2009, , .		0
89	Laser based aerial microscope for at-wavelength characterization of extreme ultraviolet lithography masks. , 2010, , .		0
90	Investigation of the carrier escape and capture processes in InGaAsN quantum well lasers. , 2011, , .		0

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91	Movies of nanoscale dynamics by soft x-ray microscopy. , 2011, , .		0
92	Nanoscale resolution image plane holographic microscopy. , 2013, , .		0
93	Ultrasensivite three dimensional nanoscale chemical imaging. , 2015, , .		0
94	Soft x-ray laser ablation mass spectrometry for materials study and nanoscale chemical imaging. Proceedings of SPIE, 2015, , .	0.8	0
95	Comparative STEREO-LID (Spatio-TEmporally REsolved Optical Laser-Induced Damage) studies of critical defect distributions in IBS, ALD, and electron-beam coated dielectric films. Proceedings of SPIE, 2015, , .	0.8	0
96	Strategies for designing high performance interference coatings for 1â€“2 Î¼m high energy lasers. , 2016, , .		0
97	Soft x-ray ablation mass spectrometry: high sensitivity elemental trace analysis. Proceedings of SPIE, 2017, , .	0.8	0
98	Progress in high repetition rate soft x-ray laser development and pump lasers at Colorado State University. , 2017, , .		0
99	High Average Power Table-Top Soft X-Ray Lasers Using Diode-Pumped Laser Drivers. Springer Proceedings in Physics, 2018, , 11-19.	0.2	0
100	High Repetition Rate Petawatt Laser and High-Contrast Ultra-High Intensity Second Harmonic Beamline. , 2018, , .		0
101	Development of High Energy, Picosecond Lasers with Kilowatt Average Power. , 2018, , .		0
102	Development and Characterization of Kilowatt-Average-Power, Cryogenically-Cooled Yb:YAG Laser Amplifiers. , 2019, , .		0
103	Nanoscale Isotopic Imaging by Extreme Ultraviolet Laser Ablation Mass Spectrometry. , 2019, , .		0
104	Single-shot picosecond resolution Fourier transform holographic microscopy with large field of view using a compact soft x-ray laser. , 2021, , .		0
105	Survey of metal oxides for coatings of ultra-stable optical cavities. , 2021, , .		0
106	Optical interference coatings for high performance lasers. , 2019, , .		0
107	Rapid quasi non-destructive 3D chemical visualization with tabletop x-ray laser mass spectrometry. , 2019, , .		0
108	Extreme ultraviolet laser ablation of solid targets. , 2019, , .		0

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109	Extreme ultraviolet laser ablation mass spectrometry for chemical mapping at the nanoscale. , 2021, , .		0
110	Optical and structural properties of thin film amorphous oxides for photonic structures. , 2020, , .		0
111	1 kHz Repetition Rate 1.1 J Picosecond Laser. , 2021, , .		0
112	Extreme Ultraviolet Laser Ablation Mass Spectrometry: A New Tool for Chemical Mapping at the Nanoscale. , 2022, , .		0