

Maurizio Mattarelli

List of Publications by Year in descending order

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90
papers

1,863
citations

236833

25
h-index

289141

40
g-index

90
all docs

90
docs citations

90
times ranked

1991
citing authors

#	ARTICLE	IF	CITATIONS
1	On the goethite to hematite phase transformation. Journal of Thermal Analysis and Calorimetry, 2010, 102, 867-873.	2.0	139
2	Mechanisms of Ag to Er energy transfer in silicate glasses: A photoluminescence study. Physical Review B, 2007, 75, .	1.1	121
3	Non-contact mechanical and chemical analysis of single living cells by microspectroscopic techniques. Light: Science and Applications, 2018, 7, 17139-17139.	7.7	91
4	Low wavenumber Raman scattering of nanoparticles and nanocomposite materials. Journal of Raman Spectroscopy, 2007, 38, 647-659.	1.2	73
5	Design of photonic structures by sol-gel-derived silica nanospheres. Journal of Non-Crystalline Solids, 2007, 353, 674-678.	1.5	69
6	Self-absorption and radiation trapping in Er ³⁺ -doped TeO ₂ -based glasses. Europhysics Letters, 2005, 71, 394-399.	0.7	59
7	Sol-gel-derived Er-activated SiO ₂ -HfO ₂ planar waveguides for 1.5 μ m application. Journal of Non-Crystalline Solids, 2004, 345-346, 580-584.	1.5	56
8	Assessment of spectroscopic properties of erbium ions in a soda-lime silicate glass after silver-sodium exchange. Optical Materials, 2005, 27, 1743-1747.	1.7	56
9	ARTIFICIAL OR NATURAL ORIGIN OF HEMATITE-BASED RED PIGMENTS IN ARCHAEOLOGICAL CONTEXTS: THE CASE OF RIPARO DALMERI (TRENTO, ITALY). Archaeometry, 2011, 53, 950-962.	0.6	53
10	Pulsed laser deposition of active waveguides. Thin Solid Films, 2003, 433, 39-44.	0.8	52
11	Investigation of the role of silver on spectroscopic features of Er ³⁺ -activated Ag-exchanged silicate and phosphate glasses. Journal of Non-Crystalline Solids, 2005, 351, 1738-1742.	1.5	52
12	Nickel based catalysts for methane dry reforming: Effect of supports on catalytic activity and stability. International Journal of Hydrogen Energy, 2019, 44, 28065-28076.	3.8	51
13	Vibration spectroscopy of weakly interacting mesoscopic colloids. Soft Matter, 2012, 8, 4235.	1.2	48
14	Eigenvibrations of Submicrometer Colloidal Spheres. Journal of Physical Chemistry Letters, 2010, 1, 2440-2444.	2.1	46
15	Optical spectroscopy of TeO ₂ -GeO ₂ glasses activated with Er ³⁺ and Tm ³⁺ ions. Journal of Non-Crystalline Solids, 2005, 351, 1759-1763.	1.5	43
16	Tm ³⁺ -activated transparent oxy-fluoride glass-ceramics: structural and spectroscopic properties. Journal of Non-Crystalline Solids, 2004, 345-346, 354-358.	1.5	41
17	Er ³⁺ ion dispersion in tellurium oxychloride glasses. Optical Materials, 2007, 29, 503-509.	1.7	38
18	Optical properties of Dy ³⁺ -doped yttrium-aluminium borate. Journal of Physics Condensed Matter, 2004, 16, 465-471.	0.7	36

#	ARTICLE	IF	CITATIONS
19	On the actual spatial resolution of Brillouin Imaging. <i>Optics Letters</i> , 2020, 45, 1063.	1.7	35
20	Design and implementation of a new contactless triple piezoelectrics wind energy harvester. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 17813-17822.	3.8	32
21	Bio-mechanical characterization of a CAD/CAM PMMA resin for digital removable prostheses. <i>Dental Materials</i> , 2021, 37, e118-e130.	1.6	31
22	Silver to erbium energy transfer in phosphate glasses. <i>Journal of Non-Crystalline Solids</i> , 2007, 353, 498-501.	1.5	29
23	Er ³⁺ -doped tellurite waveguides deposited by excimer laser ablation. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2003, 105, 65-69.	1.7	28
24	Evaluation of local field effect on the $\tau_{13}^{\bullet 24}$ lifetimes in Er-doped silica-hafnia planar waveguides. <i>Physical Review B</i> , 2007, 75, .	1.1	28
25	Raman micro-spectroscopy: A powerful tool for the monitoring of dynamic supramolecular changes in living cells. <i>Biophysical Chemistry</i> , 2013, 182, 58-63.	1.5	27
26	Spectroscopic assessment of silica-titania and silica-hafnia planar waveguides. <i>Philosophical Magazine</i> , 2004, 84, 1659-1666.	0.7	26
27	Relevant Length Scales in Brillouin Imaging of Biomaterials: The Interplay between Phonons Propagation and Light Focalization. <i>ACS Photonics</i> , 2020, 7, 2319-2328.	3.2	25
28	Ultrasensitive glass ceramics: The structure factor and the quenching of the Rayleigh scattering. <i>Applied Physics Letters</i> , 2007, 91, 061911.	1.5	24
29	Femtosecond laser direct writing of gratings and waveguides in high quantum efficiency erbium-doped Baccarat glass. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 205106.	1.3	24
30	Aggregation processes in micellar solutions: a Raman study. <i>Journal of Raman Spectroscopy</i> , 2012, 43, 1877-1883.	1.2	23
31	Mechanism of low-frequency Raman scattering from the acoustic vibrations of dielectric nanoparticles. <i>Physical Review B</i> , 2006, 74, .	1.1	22
32	Elongated polystyrene spheres as resonant building blocks in anisotropic colloidal crystals. <i>Soft Matter</i> , 2013, 9, 9129.	1.2	21
33	Nanocomposite Er-Ag silicate glasses. <i>Journal of Optics</i> , 2006, 8, S450-S454.	1.5	20
34	Erbium-activated modified silica glasses with high $4I_{13/2}$ luminescence quantum yield. <i>Optical Materials</i> , 2006, 28, 1325-1328.	1.7	19
35	Er ³⁺ -activated silica-hafnia glass-ceramics planar waveguides. , 2006, 6183, 438.		19
36	Transparency and long-ranged fluctuations: The case of glass ceramics. <i>Physical Review B</i> , 2010, 82, .	1.1	18

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37	Stress effects on the elastic properties of amorphous polymeric materials. Journal of Chemical Physics, 2014, 141, 214901.	1.2	16
38	Cusp-like temperature behavior of the nonergodicity factor in polybutadiene revealed by a joint light and x-ray Brillouin scattering investigation. Physical Review B, 2002, 65, .	1.1	15
39	Development and validation of a Ni-based catalyst for carbon dioxide dry reforming of methane process coupled to solid oxide fuel cells. International Journal of Hydrogen Energy, 2019, 44, 16582-16593.	3.8	15
40	Bioinspired Reactive Interfaces Based on Layered Double Hydroxides-Zn Rich Hydroxyapatite with Antibacterial Activity. ACS Biomaterials Science and Engineering, 2021, 7, 1361-1373.	2.6	15
41	Effect of boundary conditions on piezoelectric buckled beams for vibrational noise harvesting. European Physical Journal: Special Topics, 2015, 224, 2855-2866.	1.2	13
42	Non-contact elastography methods in mechanobiology: a point of view. European Biophysics Journal, 2022, 51, 99-104.	1.2	13
43	Characterization of erbium doped lithium niobate crystals and waveguides. Optical Materials, 2006, 28, 1292-1295.	1.7	11
44	Brillouin light and X-ray study of glass-forming polybutadiene. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 273-281.	0.6	9
45	Optical and spectroscopic characterization of permanently densified GeO ₂ glasses. Philosophical Magazine, 2008, 88, 3907-3914.	0.7	9
46	Comment on "Selection rules for Brillouin light scattering from eigenvibrations of a sphere" [Chem. Phys. Lett. 461 (2008) 111]. Chemical Physics Letters, 2012, 524, 112-115.	1.2	9
47	Disentanglement of Multiple Scattering Contribution in Brillouin Microscopy. ACS Photonics, 2022, 9, 2087-2091.	3.2	9
48	Electro-optic modulator for high resolution Brillouin scattering measurements. Review of Scientific Instruments, 2001, 72, 198-200.	0.6	8
49	Sol-gel erbium-doped silica-hafnia planar and channel waveguides. , 2003, , .		8
50	Pulsed Laser Deposition of Er doped tellurite films on large area. Journal of Physics: Conference Series, 2007, 59, 475-478.	0.3	8
51	Brillouin-Raman microspectroscopy for the morpho-mechanical imaging of human lamellar bone. Journal of the Royal Society Interface, 2022, 19, 20210642.	1.5	8
52	Effect of Eu ³⁺ and Ce ³⁺ codoping on the relaxation of Er ³⁺ in silica-hafnia and tellurite glasses. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 793-796.	0.8	7
53	Er ³⁺ local structure and its optical properties in ZnO-PbO tellurite glasses. Journal of Non-Crystalline Solids, 2014, 383, 153-156.	1.5	7
54	Correlative Brillouin and Raman spectroscopy data acquired on single cells. Data in Brief, 2020, 29, 105223.	0.5	7

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55	Fast MoS ₂ thickness identification by transmission imaging. Applied Nanoscience (Switzerland), 2021, 11, 605-610.	1.6	7
56	Fabrication and characterization of optical planar waveguides activated by erbium ions for 1.5- μ m applications. , 2004, 5451, 574.		6
57	Spectroscopic assessment of rare-earth activated planar waveguides and microcavities. Applied Surface Science, 2005, 248, 3-7.	3.1	6
58	Diagnostic techniques for photonic materials based on Raman and Brillouin spectroscopies. Optoelectronics Letters, 2007, 3, 188-191.	0.4	6
59	Raman and Er ³⁺ spectroscopy of hafnia single crystals and nanocrystals. Optical Materials, 2009, 31, 1362-1365.	1.7	6
60	Phononic crystals of spherical particles: A tight binding approach. Journal of Chemical Physics, 2013, 139, 174710.	1.2	6
61	High charge density silica micro-electrets fabricated by electron beam. Smart Materials and Structures, 2018, 27, 075052.	1.8	6
62	Pulsed laser deposition of Er ³⁺ -doped oxyfluoride thin films. Journal of Non-Crystalline Solids, 2005, 351, 1810-1813.	1.5	5
63	Fabrication and optical assessment of sol-gel-derived photonic bandgap dielectric structures. , 2006, 6182, 454.		5
64	Er ³⁺ -activated silica inverse opals synthesized by the solgel method. Optoelectronics Letters, 2007, 3, 184-187.	0.4	5
65	Influence of thermal treatment in high and low frequency dynamics of silica porous systems. Journal of Non-Crystalline Solids, 2004, 345-346, 61-65.	1.5	4
66	Tm ³⁺ -Activated Transparent Oxyfluoride Glass Ceramics: A Study by Raman Scattering of the Nanocrystal Size Distribution. Glass Physics and Chemistry, 2005, 31, 519-524.	0.2	4
67	Optical and spectroscopic properties of erbium-activated modified silica glass with 1.54 μ m high quantum efficiency. , 2005, , .		4
68	The influence of the fictive temperature and the OH content on the dynamical properties of vitreous silica: comparison of Raman, Brillouin, and neutron scattering spectra. Journal of Physics Condensed Matter, 2007, 19, 205149.	0.7	4
69	Ethanol Steam Reforming on Lanthanum Ni-ZrO ₂ Catalysts. ACS Sustainable Chemistry and Engineering, 0, , .	3.2	4
70	Optical spectroscopy of Er ³⁺ and Ce ³⁺ -codoped TeO ₂ -WO ₃ -Na ₂ O glasses. , 2004, , .		3
71	Micro-Raman mapping of micro-gratings in Baccarat glass directly written using femtosecond laser. Proceedings of SPIE, 2008, , .	0.8	3
72	Structural and optical characterization of the local environment of Er ³⁺ ions in PbO-ZnO tellurite glasses. Journal of Physics Condensed Matter, 2012, 24, 505101.	0.7	3

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73	Er ³⁺ - and Tm ³⁺ -Containing Ultra-Transparent Oxyfluoride-Based Glass Ceramics for Wavelength Division Multiplexing Optical Amplifiers. <i>Glass Physics and Chemistry</i> , 2005, 31, 377-381.	0.2	2
74	Nanocomposite photonic glasses and confined structures optimizing Er ³⁺ -luminescent properties. , 2007, , .		2
75	Optical scattering in glass ceramics. <i>Philosophical Magazine</i> , 2008, 88, 4125-4130.	0.7	2
76	Transition across a sharp interface: Data from Raman and Brillouin imaging spectroscopy. <i>Data in Brief</i> , 2020, 33, 106368.	0.5	2
77	Brillouin light and X-ray study of glass-forming polybutadiene. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , 2002, 82, 273-281.	0.6	2
78	Photoluminescence Spectroscopy of Er ³⁺ /Yb ³⁺ Co-Activated Silica-Alumina Monolithic Xerogels. <i>Journal of Sol-Gel Science and Technology</i> , 2004, 32, 267-271.	1.1	1
79	Homogeneous and nanocomposite rare-earth-activated glasses for photonic devices. , 2006, , .		1
80	Investigation of Er ³⁺ coordination in zinc-lead tellurite bulk glasses and silica-hafnia glass ceramics waveguides. <i>Journal of Physics: Conference Series</i> , 2013, 430, 012089.	0.3	1
81	Palaeolithic Paintings at Riparo Dalmeri, a Northern Italian Rock Shelter: Materials, Technologies, Techniques. , 2011, , 187-192.		1
82	Pulsed laser deposition of highly-doped Er-ion containing modified silicate glass for waveguide amplifiers fabrication. , 0, , .		0
83	Doped tellurite waveguides fabricated by pulsed laser deposition. , 0, , .		0
84	Spectroscopic properties of Er ³⁺ -activated Ag-exchanged silicate and phosphate glasses. , 2005, , .		0
85	Optical and spectroscopic properties of a new erbium-doped soda-lime-alumino-silicate glass for integrated optical amplifiers. , 2006, , .		0
86	Nanocomposite Photonic Glasses, Waveguiding Glass Ceramics and Confined Structures Tailoring Er ³⁺ Spectroscopic Properties. , 2007, , .		0
87	The Action of Ligands in the Aggregation Process of Soft Colloidal Solution Monitored by Raman Spectroscopy. <i>Food Biophysics</i> , 2013, 8, 203-208.	1.4	0
88	Glasses & Diamond: Issues Related to the Archaeometric Investigation of an Archaeological Bead. <i>Procedia Chemistry</i> , 2013, 8, 11-19.	0.7	0
89	Effect of heat treatment on green luminescence broadening of Er-doped ZnO-PbO tellurite glass ceramics. , 2013, , .		0
90	Multimodal imaging for mechanical and chemical mapping at the microscale: applications on single cells and tissues. , 2021, , .		0