Anna Vedda

List of Publications by Year
in descending order

120 papers	4,339 citations	117625 34 h-index	123424 61 g-index
122 all docs	122 docs citations	122 times ranked	2923 citing authors

#	Article	IF	Citations
1	Bandgap engineering for removing shallow traps in rare-earth Lu<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>Al<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>5</mml:mn></mml:msub></mml:math>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:	3.2	288
2	Efficient, fast and reabsorption-free perovskite nanocrystal-based sensitized plastic scintillators. Nature Nanotechnology, 2020, 15, 462-468.	31.5	226
3	The antisite LuAl defect-related trap in Lu3Al5O12:Ce single crystal. Physica Status Solidi (B): Basic Research, 2005, 242, R119-R121.	1.5	199
4	Traps and Timing Characteristics of LuAG:Ce3+ Scintillator. Physica Status Solidi A, 2000, 181, R10-R12.	1.7	194
5	1.3 Î¼m emitting SrF2:Nd3+ nanoparticles for high contrast in vivo imaging in the second biological window. Nano Research, 2015, 8, 649-665.	10.4	185
6	Complex oxide scintillators: Material defects and scintillation performance. Physica Status Solidi (B): Basic Research, 2008, 245, 1701-1722.	1.5	182
7	Shallow traps and radiative recombination processes in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Lu</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Al</mml:mi><mml:mn>5</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>12</mml:mn></mml:msub><mml:mo>:</mml:mo><mml:mi mathvariant="normal">Ce</mml:mi></mml:mrow></mml:math>single crystal scintillator. Physical Revi	3.2	168
8	Antisite defect-free Lu3(GaxAl1â^'x)5O12:Pr scintillator. Applied Physics Letters, 2006, 88, 141916.	3.3	143
9	Thermally stimulated tunneling in rare-earth-doped oxyorthosilicates. Physical Review B, 2008, 78, .	3.2	139
10	Pr³⁺-doped complex oxide single crystal scintillators. Journal Physics D: Applied Physics, 2009, 42, 055117.	2.8	128
11	Ce3+-doped fibers for remote radiation dosimetry. Applied Physics Letters, 2004, 85, 6356-6358.	3.3	123
12	Composite fast scintillators based on high-Z fluorescent metalâ€"organic framework nanocrystals. Nature Photonics, 2021, 15, 393-400.	31.4	93
13	Towards Bright and Fast Lu₃Al₅O₁₂:Ce,Mg Optical Ceramics Scintillators. Advanced Optical Materials, 2016, 4, 731-739.	7.3	87
14	Multifunctional Role of Rare Earth Doping in Optical Materials: Nonaqueous Solâ€"Gel Synthesis of Stabilized Cubic HfO₂ Luminescent Nanoparticles. ACS Nano, 2013, 7, 7041-7052.	14.6	84
15	Tunneling process in thermally stimulated luminescence of mixedLuxY1â^'xAlO3:Cecrystals. Physical Review B, 2000, 61, 8081-8086.	3.2	70
16	Scintillation characteristics of Lu3Al5O12:Ce optical ceramics. Journal of Applied Physics, 2007, 101, 033515.	2.5	64
17	Scintillator Materialsâ€"Achievements, Opportunities, and Puzzles. IEEE Transactions on Nuclear Science, 2008, 55, 1035-1041.	2.0	60
18	Size-Dependent Luminescence in HfO₂ Nanocrystals: Toward White Emission from Intrinsic Surface Defects. Chemistry of Materials, 2016, 28, 3245-3253.	6.7	54

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19	Radioluminescence Sensitization in Scintillators and Phosphors: Trap Engineering and Modeling. Journal of Physical Chemistry C, 2014, 118, 9670-9676.	3.1	53
20	Shallow traps inPbWO4studied by wavelength-resolved thermally stimulated luminescence. Physical Review B, 1999, 60, 4653-4658.	3.2	52
21	Electron traps related to oxygen vacancies inPbWO4. Physical Review B, 2003, 67, .	3.2	49
22	Feasibility study for the use of Ce3+-doped optical fibres in radiotherapy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 562, 449-455.	1.6	48
23	Ce-doped optical fibre as radioluminescent dosimeter in radiotherapy. Radiation Measurements, 2008, 43, 888-892.	1.4	48
24	Effect of reducing sintering atmosphere on Ce-doped solâ€“gel silica glasses. Journal of Non-Crystalline Solids, 2009, 355, 1140-1144.	3.1	46
25	Insights into Microstructural Features Governing Ce3+ Luminescence Efficiency in Solâ^'Gel Silica Glasses. Chemistry of Materials, 2006, 18, 6178-6185.	6.7	44
26	Electron capture inPbWO4: Mo andPbWO4:Mo,La single crystals: ESR and TSL study. Physical Review B, 2005, 71, .	3.2	39
27	The Harmful Effects of Sintering Aids in <scp><scp>Pr</scp></scp>:<scp><scp>Lu</scp><scp>AG</scp></scp> Optical Ceramic Scintillator. Journal of the American Ceramic Society, 2012, 95, 2130-2132.	3.8	39
28	Feasibility study for the use of cerium-doped silica fibres in proton therapy. Radiation Measurements, 2010, 45, 635-639.	1.4	38
29	Highly luminescent scintillating hetero-ligand MOF nanocrystals with engineered Stokes shift for photonic applications. Nature Communications, 2022, 13, .	12.8	38
30	Real-time dosimetry with Yb-doped silica optical fibres. Physics in Medicine and Biology, 2017, 62, 4218-4236.	3.0	37
31	Optical methods for the evaluation of the thermal ionization barrier of lanthanide excited states in luminescent materials. Physical Review B, 2012, 85, .	3.2	36
32	Defect-Driven Radioluminescence Sensitization in Scintillators: The Case of Lu₂Si₂O₇:Pr. Journal of Physical Chemistry C, 2013, 117, 20201-20208.	3.1	36
33	Thermoluminescence of Zr-codoped Lu3Al5O12:Ce crystals. Physica Status Solidi A, 2003, 195, R1-R3.	1.7	35
34	O^{â€“} centers in LuAG:Ce,Mg ceramics. Physica Status Solidi - Rapid Research Letters, 2015, 9, 245-249.	2.4	35
35	Optical properties of Ce3+-doped solâ€“gel silicate glasses. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 486, 259-263.	1.6	34
36	Thermally stimulated luminescence of Ce and Tb doped SiO2 solâ€“gel glasses. Journal of Non-Crystalline Solids, 2005, 351, 3699-3703.	3.1	33

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37	Infrared luminescence for real time ionizing radiation detection. Applied Physics Letters, 2014, 105, .	3.3	33
38	Incorporation of Ce3+ in crystalline Gd-silicate nanoclusters formed in silica. Journal of Luminescence, 2012, 132, 461-466.	3.1	28
39	Tunneling recombinations in scintillators, phosphors, and dosimeters. Radiation Measurements, 2018, 118, 86-97.	1.4	27
40	Vibrational spectroscopy of OH-related groups in Ce3+- and Gd3+-doped silicate glasses. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 486, 408-411.	1.6	26
41	Study of the radioluminesence spectra of doped silica optical fibre dosimeters for stem effect removal. Journal Physics D: Applied Physics, 2013, 46, 015101.	2.8	25
42	Insight into the Influence of ZnO Defectivity on the Catalytic Generation of Environmentally Persistent Free Radicals in ZnO/SiO₂ Systems. Journal of Physical Chemistry C, 2019, 123, 21651-21661.	3.1	25
43	Efficient Medium-Speed PbWO4:Mo,Y Scintillator. Physica Status Solidi A, 2000, 182, R3-R5.	1.7	24
44	The radiation hardness of Pr:LuAG scintillating ceramics. Ceramics International, 2014, 40, 3715-3719.	4.8	24
45	Demonstration of cellular imaging by using luminescent and anti-cytotoxic europium-doped hafnia nanocrystals. Nanoscale, 2018, 10, 7933-7940.	5.6	24
46	Characterization of a Ce3+ doped SiO2 optical dosimeter for dose measurements in HDR brachytherapy. Radiation Measurements, 2013, 56, 312-315.	1.4	23
47	Role of Y Admixture in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mrow><mml:mi>Lu</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mm ... Physical Review Applied, 2016, 6, .	3.8	23
48	Influence of cerium doping concentration on the optical properties of Ce,Mg:LuAG scintillation ceramics. Journal of the European Ceramic Society, 2018, 38, 3246-3254.	5.7	23
49	Evidences of Rare Earth Ion Aggregates in a Solâˆ'Gel Silica Matrix:Â The Case of Cerium and Gadolinium. Chemistry of Materials, 2004, 16, 3352-3356.	6.7	22
50	Shallow Traps in ${m YAlO}_{3}:{m Ce}$ Single Crystal Perovskites. IEEE Transactions on Nuclear Science, 2008, 55, 1114-1117.	2.0	22
51	Defect states in Pr3+ doped lutetium pyrosilicate. Optical Materials, 2012, 34, 872-877.	3.6	22
52	ESR and TSL study of hole and electron traps in LuAG:Ce,Mg ceramic scintillator. Optical Materials, 2015, 45, 252-257.	3.6	21
53	Radiation hardness of Ce-doped sol-gel silica fibers for high energy physics applications. Optics Letters, 2018, 43, 903.	3.3	21
54	Luminescence and scintillation characteristics of heavily Pr3+-doped PbWO4 single crystals. Journal of Applied Physics, 2008, 104, 093514.	2.5	20

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55	Crystal Composition and Afterglow in Mixed Silicates: The Role of Melting Temperature. Physical Review Applied, 2015, 4, .	3.8	20
56	Understanding Thermal and Aâ€Thermal Trapping Processes in Lead Halide Perovskites Towards Effective Radiation Detection Schemes. Advanced Functional Materials, 2021, 31, 2104879.	14.9	20
57	Optical and Structural Properties of Pb and Ce Doped ${hbox {SrHfO}}_{3}$ Powders. IEEE Transactions on Nuclear Science, 2010, 57, 1245-1250.	2.0	19
58	Role of Optical Fiber Drawing in Radioluminescence Hysteresis of Yb-Doped Silica. Journal of Physical Chemistry C, 2015, 119, 15572-15578.	3.1	19
59	Trapping and Recombination Centers in Cesium Hafnium Chloride Single Crystals: EPR and TSL Study. Journal of Physical Chemistry C, 2019, 123, 19402-19411.	3.1	19
60	Fabrication and scintillation properties of highly transparent Pr:LuAG ceramics using Sc,La-based isovalent sintering aids. Ceramics International, 2013, 39, 5985-5990.	4.8	18
61	A Low-cost Beam Profiler Based On Cerium-doped Silica Fibers. Physics Procedia, 2017, 90, 215-222.	1.2	18
62	The influence of air annealing on the microstructure and scintillation properties of Ce,Mg:Lu<scp>AG</scp> ceramics. Journal of the American Ceramic Society, 2019, 102, 1805-1813.	3.8	18
63	Can Pr-Doped YAP Scintillator Perform Better?. IEEE Transactions on Nuclear Science, 2010, 57, 1168-1174.	2.0	17
64	The influence of the stem effect in Eu-doped silica optical fibres. Radiation Measurements, 2013, 56, 316-319.	1.4	17
65	Rare Earth Doped Silica Optical Fibre Sensors for Dosimetry in Medical and Technical Applications. Advances in Optics, 2014, 2014, 1-9.	0.3	17
66	Phosphorescence of SiO2 optical fibres doped with Ce3+ ions. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1024-1027.	0.8	16
67	The role of air annealing on the optical and scintillation properties of Mg co-doped Pr:LuAG transparent ceramics. Optical Materials, 2017, 72, 201-207.	3.6	16
68	CaloCube: A new-concept calorimeter for the detection of high-energy cosmic rays in space. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 845, 421-424.	1.6	16
69	Effect of deep traps on the optical properties of Tb3+ doped sol-gel silica. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1056-1059.	0.8	15
70	Crystal Growth and Scintillating Properties of Zr/Si-Codoped ${m YAlO}_{3}:{m Pr}^{3+}$. IEEE Transactions on Nuclear Science, 2008, 55, 1476-1479.	2.0	15
71	Intrinsic trapping and recombination centers in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CdWO</mml:mtext></mml:mrow><mml:mn>4</mml:mn></mml: using thermally stimulated luminescence. Physical Review B, 2009, 80, .	3.2	15
72	Electron self-trapped at molybdenum complex in lead molybdate: An EPR and TSL comparative study. Journal of Luminescence, 2017, 192, 767-774.	3.1	15

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73	Fabrication and luminescence of Ce-doped GGAG transparent ceramics, effect of sintering parameters and additives. Ceramics International, 2019, 45, 23283-23288.	4.8	15
74	Charge trapping processes and energy transfer studied in lead molybdate by EPR and TSL. Journal of Luminescence, 2019, 205, 457-466.	3.1	15
75	Radiation induced trap levels in SIMOX oxides: low temperature thermally stimulated luminescence. IEEE Transactions on Nuclear Science, 1998, 45, 1396-1401.	2.0	14
76	Evidences of Rare-Earth Nanophases Embedded in Silica Using Vibrational Spectroscopy. IEEE Transactions on Nuclear Science, 2010, 57, 1361-1369.	2.0	14
77	Optical properties and radiation hardness of Pr-doped sol-gel silica: Influence of fiber drawing process. Journal of Luminescence, 2017, 192, 661-667.	3.1	14
78	Luminescent properties of binary MO-2SiO2 (MÂ= Ca2+, Sr2+, Ba2+) glasses doped with Ce3+, Tb3+ and Dy3+. Journal of Alloys and Compounds, 2018, 765, 207-212.	5.5	14
79	Morphology Related Defectiveness in ZnO Luminescence: From Bulk to Nano-Size. Nanomaterials, 2020, 10, 1983.	4.1	14
80	Feasibility of dose assessment in radiological diagnostic equipments using Ce-doped radio-luminescent optical fibers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 612, 407-411.	1.6	13
81	Calocubeâ€"A highly segmented calorimeter for a space based experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 824, 609-613.	1.6	13
82	The Bright Xâ€Ray Stimulated Luminescence of HfO₂ Nanocrystals Activated by Ti Ions. Advanced Optical Materials, 2020, 8, 1901348.	7.3	13
83	Functionalized Scintillating Nanotubes for Simultaneous Radio- and Photodynamic Therapy of Cancer. ACS Applied Materials & Interfaces, 2021, 13, 12997-13008.	8.0	13
84	Multipurpose Ce-doped Ba-Gd silica glass scintillator for radiation measurements. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1015, 165762.	1.6	13
85	Luminescence and scintillation properties of Y3Al5O12:Pr single crystal. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1012-1015.	0.8	12
86	Eu Incorporation into Solâ€"Gel Silica for Photonic Applications: Spectroscopic and TEM Evidences of Î±-Quartz and Eu Pyrosilicate Nanocrystal Growth. Journal of Physical Chemistry C, 2013, 117, 26831-26848.	3.1	12
87	The CALOCUBE project for a space based cosmic ray experiment: design, construction, and first performance of a high granularity calorimeter prototype. Journal of Instrumentation, 2019, 14, P11004-P11004.	1.2	12
88	Crystal growth and scintillating properties of (Pr,Si)â€doped YAlO₃. Crystal Research and Technology, 2007, 42, 1324-1328.	1.3	10
89	CALOCUBE: an approach to high-granularity and homogenous calorimetry for space based detectors. Journal of Physics: Conference Series, 2015, 587, 012029.	0.4	10
90	CaloCube: an innovative homogeneous calorimeter for the next-generation space experiments. Journal of Physics: Conference Series, 2017, 928, 012013.	0.4	10

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91	Radio-luminescence spectral features and fast emission in hafnium dioxide nanocrystals. Physical Chemistry Chemical Physics, 2018, 20, 15907-15915.	2.8	10
92	Infrared spectroscopic properties of low-phonon lanthanide-doped KLuS2 crystals. Journal of Luminescence, 2019, 211, 100-107.	3.1	10
93	Neutron/Î³ discrimination by an emission-based phoswich approach. Radiation Measurements, 2019, 129, 106203.	1.4	10
94	Suppression of Host Luminescence in the Pr:LuAG Scintillator. IEEE Transactions on Nuclear Science, 2008, 55, 1197-1200.	2.0	9
95	On the stabilization of Ce, Tb, and Eu ions with different oxidation states in silica-based glasses. Journal of Alloys and Compounds, 2019, 797, 302-308.	5.5	9
96	Dual Cherenkov and Scintillation Response to High-Energy Electrons of Rare-Earth-Doped Silica Fibers. Physical Review Applied, 2019, 11, .	3.8	9
97	Silver centers luminescence in phosphate glasses subjected to Xâ€Rays or combined Xâ€rays and femtosecond laser exposure. International Journal of Applied Glass Science, 2020, 11, 15-26.	2.0	9
98	Photo- and radio-luminescence properties of 3CaO-2SiO 2 and 3CaF 2 -2SiO 2 glasses doped by<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0007.gif" overflow="scroll"><mml:msup><mml:mrow><mml:mi>Ce</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn><mml:mo>+</mi Journal of Luminescence, 2017, 188, 289-294.	3.1	8
99	Luminescence and charge trapping features of archPbMoO4 lead molybdate crystals grown from archaeological lead. Journal of Luminescence, 2020, 224, 117305.	3.1	8
100	Evidence of Optically Stimulated Luminescence in Lu₃Al₅O₁₂:Ce. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900103.	1.8	7
101	Thermoluminescence study of cerium-doped lanthanum halides. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1004-1007.	0.8	6
102	CaloCube: a new concept calorimeter for the detection of high energy cosmic rays in space. Journal of Physics: Conference Series, 2019, 1162, 012042.	0.4	6
103	Analysis and comparison of the Core-to-Valence Luminescence mechanism in a large CLYC crystal under neutron and Î³-ray irradiation through optical filtering selection of the scintillation light. Sensors and Actuators A: Physical, 2021, 332, 113151.	4.1	6
104	Temperature dependence of a Ce3+ doped SiO2 radioluminescent dosimeter for inÂvivo dose measurements in HDR brachytherapy. Radiation Measurements, 2014, 71, 324-328.	1.4	5
105	Stokes Shift Engineered Mn:CdZnS/ZnS Nanocrystals as Reabsorptionâ€Free Nanoscintillators in High Loading Polymer Composites. Advanced Optical Materials, 2022, 10, .	7.3	5
106	Influence of the fiber drawing process on mechanical and vibrational properties of sol-gel silica glass. Journal of Non-Crystalline Solids, 2021, 555, 120534.	3.1	4
107	Substantial reduction of trapping by Mg co-doping in LuAG:Ce, Mg epitaxial garnet films. Journal of Luminescence, 2021, 238, 118230.	3.1	4
108	UniBEaM: A silica fiber monitor for charged particle beams. AIP Conference Proceedings, 2017, , .	0.4	3

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109	Development of a new optical-based quasi-digital particle discrimination technique using inorganic scintillators. Radiation Measurements, 2020, 135, 106370.	1.4	3
110	Trapping Mechanisms and Delayed Recombination Processes in Scintillating Ce-Doped Solâ€“Gel Silica Fibers. Journal of Physical Chemistry C, 2021, 125, 11489-11498.	3.1	3
111	Medical Applications of Nanomaterials. NATO Science for Peace and Security Series B: Physics and Biophysics, 2017, , 369-386.	0.3	2
112	A New Approach to Calorimetry in Space-Based Experiments for High-Energy Cosmic Rays. Universe, 2019, 5, 72.	2.5	2
113	Correction to â€œEvidences of Rare-Earth Nanophases Embedded in Silica Using Vibrational Spectroscopyâ€•[Jun 10 1361-1369. IEEE Transactions on Nuclear Science, 2010, 57, 2405-2405.	2.0	0
114	Nanophosphor GdOBr:Ce via combustion synthesis: luminescence results. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 227-231.	0.8	0
115	A flexible scintillation light apparatus for rare events searches. Journal of Physics: Conference Series, 2016, 718, 062021.	0.4	0
116	The FLARES project: An innovative detector technology for rare events searches. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 845, 334-337.	1.6	0
117	CaloCube: a novel calorimeter for high-energy cosmic rays in space. Journal of Instrumentation, 2017, 12, C06004-C06004.	1.2	0
118	CaloCube: a novel calorimeter for high-energy cosmic rays in space. EPJ Web of Conferences, 2017, 136, 02011.	0.3	0
119	Characterization of Yb-doped silica optical fiber as real-time dosimeter. , 2017, , .		0
120	Recent Advances in Scintillating Optical Fibre Dosimeters. , 2018, , 253-262.		0