JoÃ£o M Gil

List of Publications by Year
in descending order

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104 papers	1,924 citations	331259 21 h-index	288905 40 g-index
109 all docs	109 docs citations	109 times ranked	1600 citing authors

#	Article	IF	Citations
1	Experimental Confirmation of the Predicted Shallow Donor Hydrogen State in Zinc Oxide. Physical Review Letters, 2001, 86, 2601-2604.	2.9	415
2	Shallow donor state of hydrogen in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>In</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>SnO</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:ms Implications for conductivi. Physical Review B, 2009, 80, .	1.1	135
3	Analysis of MÃ¶ssbauer spectra of silicate glasses using a two-dimensional Gaussian distribution of hyperfine parameters. Journal of Non-Crystalline Solids, 1996, 194, 48-57.	1.5	71
4	Oxide muonics: II. Modelling the electrical activity of hydrogen in wide-gap and high-permittivity dielectrics. Journal of Physics Condensed Matter, 2006, 18, 1079-1119.	0.7	70
5	Shallow donor muonium states in II-VI semiconductor compounds. Physical Review B, 2001, 64, .	1.1	68
6	Mesoporous zeolite-chitosan composite for enhanced capture and catalytic activity in chemical fixation of CO2. Carbohydrate Polymers, 2018, 198, 401-406.	5.1	67
7	Novel Muonium State in CdS. Physical Review Letters, 1999, 83, 5294-5297.	2.9	61
8	Carbon dioxide capture and conversion by an environmentally friendly chitosan based meso-tetrakis(4-sulfonatophenyl) porphyrin. Carbohydrate Polymers, 2017, 175, 575-583.	5.1	52
9	Carbon dioxide adsorption and cycloaddition reaction of epoxides using chitosanâ€“graphene oxide nanocomposite as a catalyst. Journal of Environmental Sciences, 2018, 69, 77-84.	3.2	49
10	Oxide muonics: I. Modelling the electrical activity of hydrogen in semiconducting oxides. Journal of Physics Condensed Matter, 2006, 18, 1061-1078.	0.7	43
11	Hydrogen impurity in yttria:Ab initioand<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î¼</mml:mi></mml:math>SR perspectives. Physical Review B, 2012, 85, .	1.1	32
12	Muonium donor in rutile<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml comparison with hydrogen. Physical Review B, 2015, 92, .	1.1	31
13	Muonium spectroscopy in ZnSe: Metastability and conversion. Physical Review B, 2005, 72, .	1.1	30
14	Shallow versus deep hydrogen states in ZnO and HgO. Journal of Physics Condensed Matter, 2001, 13, 9001-9010.	0.7	29
15	Highly active P25@Pd/C nanocomposite for the degradation of Naphthol Blue Black with visible light. Journal of Molecular Structure, 2018, 1153, 346-352.	1.8	28
16	Acceptor level of interstitial muonium in ZnSe and ZnS. Physical Review B, 2008, 77, .	1.1	27
17	Hydrogen impurity in paratellurite<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow></mml:math>-TeO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>: Muon-spin rotation andab initiostudies. Physical Review B, 2011, 84, .	1.1	24
18	Isolated hydrogen configurations in zirconia as seen by muon spin spectroscopy andab initiocalculations. Physical Review B, 2016, 94, .	1.1	24

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19	Reduction of 4-nitrophenol to 4-aminophenol using a novel Pd@Ni_xBâ€“SiO₂/RGO nanocomposite: enhanced hydrogen spillover and high catalytic performance. RSC Advances, 2015, 5, 60658-60666.	1.7	23
20	Slow-muon study of quaternary solar-cell materials: Single layers and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>p</mml:mi><mml:mo>â^'</mml:mo><mml:mi>n</mml:mi></mml:mrow></mml:math> junctions. Physical Review Materials, 2018, 2, .	3.9	23
21	Location of the H level: Experimental limits for muonium. Physica B: Condensed Matter, 2006, 376-377, 587-590.	1.3	21
22	Electronic structure of interstitial hydrogen in lutetium oxide from<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mtext>DFT</mml:mtext><mml:mo>+</mml:mo><mml:mi>U</mml:mi></m and comparison study with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î¼</mml:mi><mml:mi>SR</mml:mi></mml:mrow></mml Physical Review B, 2016, 94, .	1.1	21
23	Modeling hydrogen inCuInSe2andCuInS2solar cell materials using implanted muons. Physical Review B, 1999, 59, 1912-1916.	1.1	20
24	The first 25 years of semiconductor muonics at ISIS, modelling the electrical activity of hydrogen in inorganic semiconductors and high-Îºdielectrics. Physica Scripta, 2013, 88, 068503.	1.2	20
25	Shallow donor versus deep acceptor state in IIâ€“VI semiconductor compounds. Physica B: Condensed Matter, 2003, 326, 124-127.	1.3	19
26	Gelatin-assisted solâ€“gel derived TiO2 microspheres for hydrogen storage. International Journal of Hydrogen Energy, 2015, 40, 4945-4950.	3.8	19
27	Role of the transition state in muon implantation. Physical Review B, 2017, 96, .	1.1	19
28	Redox equilibria of iron in Ti-bearing calcium silicate quenched glasses. Journal of Non-Crystalline Solids, 1992, 151, 39-50.	1.5	16
29	Muonium states in HgO. Journal of Physics Condensed Matter, 2001, 13, L613-L618.	0.7	16
30	Nuclear inelastic scattering with161Dy. Physical Review B, 2001, 63, .	1.1	15
31	Muon diffusion and trapping in chalcopyrite semiconductors. Physica B: Condensed Matter, 2003, 326, 181-184.	1.3	14
32	Reversible sequestering of CO2 on a multiporous crystalline framework of 2-quinolyl-porphyrin. Tetrahedron Letters, 2013, 54, 2449-2451.	0.7	14
33	Calixarene functionalization of TiO2 nanoarrays: an effective strategy for enhancing the sensor versatility. Journal of Materials Chemistry A, 2018, 6, 10649-10654.	5.2	14
34	Muoniated radicals in the organic semiconductor zinc-phthalocyanine. Physica B: Condensed Matter, 2003, 326, 94-96.	1.3	13
35	Mechanisms of electron polarization of shallow muonium in CdTe and CdS. Physical Review B, 2010, 81, .	1.1	13
36	Defect levels and hyperfine constants of hydrogen in beryllium oxide from hybrid-functional calculations and muonium spectroscopy. Philosophical Magazine, 2017, 97, 2108-2128.	0.7	13

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37	Muon implantation experiments in films: Obtaining depth-resolved information. Review of Scientific Instruments, 2020, 91, 023906.	0.6	13
38	Magnetic phase transitions in RFe9.5Mo2.5 intermetallics studied by 57Fe MÃ¶ssbauer spectroscopy, magnetisation and Î¼+SR. Journal of Magnetism and Magnetic Materials, 1996, 164, 305-318.	1.0	12
39	Probing the shallow-donor muonium wave function in ZnO and CdS via transferred hyperfine interactions. Physica B: Condensed Matter, 2001, 308-310, 920-923.	1.3	12
40	Electron polarization and formation probability of bound muonium in CdS and Si. Physical Review B, 2012, 86, .	1.1	12
41	A novel capacitive device for the study of volumetric expansion of hydride powders. International Journal of Hydrogen Energy, 2015, 40, 14900-14910.	3.8	12
42	Synthesis and characterization of g/Niâ€“SiO2 composite for enhanced hydrogen storage applications. International Journal of Hydrogen Energy, 2019, 44, 23249-23256.	3.8	11
43	Thermal spike in muon implantation. Physical Review B, 2019, 99, .	1.1	11
44	PAC study of O-H and O-D in Ta. Hyperfine Interactions, 1983, 15, 463-466.	0.2	10
45	Landau diamagnetism of a weakly bound muonium atom. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 290, 181-186.	0.9	10
46	Hydrogen states in CuInSe2â€”a Î¼SR study. Physica B: Condensed Matter, 2003, 340-342, 965-968.	1.3	10
47	Barrier model in muon implantation and application to <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Lu</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:mrow></mml:math>. Physical Review B, 2018, 98, .	1.1	10
48	Study of Nbî—¸H phases using perturbed angular correlation techniques. Journal of the Less Common Metals, 1984, 103, 227-232.	0.9	9
49	A magnetization and neutron powder diffraction study of compounds (R = Y, Dy, Ho, Er). Journal of Physics Condensed Matter, 1998, 10, 4101-4112.	0.7	9
50	Information on hydrogen states in IIâ€“VI semiconductor compounds from a study of their muonium analogues. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 580, 438-441.	0.7	9
51	Delayed electron capture and formation in ZnSe. Physica B: Condensed Matter, 2009, 404, 888-891.	1.3	9
52	Phase transitions in the tantalum-hydrogen system observed by PAC. Hyperfine Interactions, 1983, 16, 791-794.	0.2	8
53	Dependence of the hydrogen spin dynamics on the conductivity type in CdTe as evidenced by its muonium analogue. Europhysics Letters, 2004, 67, 247-253.	0.7	8
54	Muonium states in Cu₂ZnSnS₄solar cell material. Journal of Physics: Conference Series, 2014, 551, 012045.	0.3	8

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55	Electronic structure and migration of interstitial hydrogen in the rutile phase of TiO2. Journal of Physics Condensed Matter, 2018, 30, 425503.	0.7	8
56	The Secondary Scintillation of Rare Gases under the Influence of Magnetic Fields. IEEE Transactions on Nuclear Science, 1980, 27, 208-211.	1.2	7
57	Powder Pattern Hyperfine Spectroscopy of Shallow- Donor Muonium Centres. Hyperfine Interactions, 2001, 136/137, 471-477.	0.2	7
58	Hydrogen In Oxides, Modelled By Muonium. AIP Conference Proceedings, 2005, , .	0.3	7
59	Muoniated radical states in the organic semiconductor phthalocyanine. Physical Review B, 2006, 73, .	1.1	7
60	High-field study of muonium states in HfO2and ZrO2. Journal of Physics: Conference Series, 2014, 551, 012048.	0.3	7
61	CdS versus ZnSnO buffer layers for a CIGS solar cell: a depth-resolved analysis using the muon probe. EPJ Web of Conferences, 2020, 233, 05004.	0.1	7
62	High-temperature trapping of muons in CuInSe2 and CuInS2. Physica B: Condensed Matter, 2000, 289-290, 567-569.	1.3	6
63	Oxide muonics and the 3- model for deep and shallow hydrogen states in dielectric and semiconducting oxides. Physica B: Condensed Matter, 2006, 376-377, 385-388.	1.3	6
64	Muon-Spin-Rotation study of yttria-stabilized zirconia (ZrO2:Y): Evidence for muon and electron separate traps. Journal of Physics: Conference Series, 2014, 551, 012050.	0.3	6
65	Pac studies of ZrMn2+x alloys and their hydrides. Hyperfine Interactions, 1990, 60, 731-734.	0.2	5
66	Spin exchange of muonium in CdS. Physica B: Condensed Matter, 2009, 404, 834-836.	1.3	5
67	Possible donor and acceptor energies for Mu in ZnSe. Physica B: Condensed Matter, 2009, 404, 827-830.	1.3	5
68	Hydrogen states in mixed-cation CuIn(1-x)GaxSe2 chalcopyrite alloys: a combined study by first-principles density-functional calculations and muon-spin spectroscopy. Philosophical Magazine, 0, , 1-23.	0.7	5
69	Electric field gradients in different niobium hydride phases. Journal of the Less Common Metals, 1987, 129, 145-151.	0.9	4
70	Level crossing resonance in ice: Identification of two diamagnetic muon states. Hyperfine Interactions, 1994, 86, 747-752.	0.2	4
71	Muon and hydrogen states in II-VI semiconductor compounds. A Î¼SR study. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 711-714.	0.8	4
72	Oxide muonics: A new compendium. Physica B: Condensed Matter, 2006, 374-375, 379-382.	1.3	4

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73	Paramagnetic rare-earth oxide Nd2O3 investigated by muon spin spectroscopy. Physical Review B, 2019, 100, .	1.1	4
74	Study of Hydrogen and Deuterium Trapping at Oxygen Impurities in Niobium*. Zeitschrift Fur Physikalische Chemie, 1985, 145, 141-145.	1.4	3
75	Î³-Î³ Perturbed angular correlation studies of dysprosium hydrides. Journal of the Less Common Metals, 1987, 130, 155-162.	0.9	3
76	Ordering of the Nbâ€”H Î²-Phase Studied by PAC*. Zeitschrift Fur Physikalische Chemie, 1989, 163, 193-198.	1.4	3
77	Hyperfine Parameters for Muonium in Copper (I), Silver (I) and Cadmium Oxides. Hyperfine Interactions, 2004, 158, 313-316.	0.2	3
78	Low-energy muon [LEM] study of Zn-phthalocyanine and ZnO thin films. Physica B: Condensed Matter, 2009, 404, 870-872.	1.3	3
79	Muonium as a probe of electron spin polarisation in CdTe. Physica B: Condensed Matter, 2009, 404, 5110-5112.	1.3	3
80	Reply to â€œComment on â€˜Role of the transition state in muon implantationâ€™ and â€˜Thermal spike in muon implantationâ€â€™. Physical Review B, 2020, 101, .	1.1	3
81	Sapphire <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î±</mml:mi><mml:mo>â^'</mml:mo><mml:mrow><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> puzzle: Joint <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î¼</mml:mi><mml:mi>SR</mml:mi></mml:mrow></mml:math> and density functional theory study. Physical Review B, 2021, 103, .	1.1	3
82	Muon level crossing resonance in aluminium. Hyperfine Interactions, 1994, 85, 59-65.	0.2	2
83	Muon spin-lattice relaxation and muonium diffusion in ice. Hyperfine Interactions, 1994, 85, 67-72.	0.2	2
84	Study of (R = Y, Ho) compounds by neutron powder diffraction, ac susceptibility and magnetization. Journal of Physics Condensed Matter, 1999, 11, 687-701.	0.7	2
85	Shallow-level muonium centre in CdS. Physica B: Condensed Matter, 2000, 289-290, 563-566.	1.3	2
86	Muonium states in IIâ€“VI zinc chalcogenide semiconductors. Physica B: Condensed Matter, 2006, 374-375, 383-386.	1.3	2
87	Dynamics of muoniated radical states in phthalocyanines. Physica B: Condensed Matter, 2006, 374-375, 426-429.	1.3	2
88	Spin-exchange of axially symmetric Mu states in polycrystalline media. Physica B: Condensed Matter, 2009, 404, 859-861.	1.3	2
89	Muonium in nano-crystalline IIâ€“VI semiconductors. Physica B: Condensed Matter, 2009, 404, 837-840.	1.3	2
90	Microscopic study of carrier transport in the organic semiconductor zincâ€phthalocyanine. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 996-999.	0.8	2

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91	Study of Hydrogen in Hf₇Ni₁₀ Combined with TiV_{0.8}Cr_{1.2} by PAC. Solid State Phenomena, 0, 170, 293-297.	0.3	2
92	Characterization of the Interfacial Defect Layer in Chalcopyrite Solar Cells by Depthâ€Resolved Muon Spin Spectroscopy. Advanced Materials Interfaces, 0, , 2200374.	1.9	2
93	Study of RFe9.5Mo2.5H (R=Y, Dy, Ho, Er) and RFe9.5Mo2.5N (R=Y, Dy) compounds by MÃ¶ssbauer spectroscopy, magnetisation and neutron powder diffraction. Journal of Magnetism and Magnetic Materials, 2000, 213, 293-303.	1.0	1
94	Muon diffusion in intermetallic compounds of the MoSi2-type structure. Journal of Physics Condensed Matter, 2001, 13, 5285-5293.	0.7	1
95	Muonium In ZnTe As A Model For Isolated Hydrogen. AIP Conference Proceedings, 2005, , .	0.3	1
96	Muonium diffusion dynamics in mercury oxide. Physica B: Condensed Matter, 2006, 374-375, 423-425.	1.3	1
97	Detailed hyperfine structure of muoniated radicals in planar phthalocyanines. Physica B: Condensed Matter, 2009, 404, 933-935.	1.3	1
98	Instrumentation and characterization of materials for hydrogen storage. CiÃªncia & Tecnologia Dos Materiais, 2016, 28, 99-105.	0.5	1
99	Hydrogen and deuterium trapping at nitrogen in tantalum studied by PAC. Hyperfine Interactions, 1990, 60, 923-927.	0.2	0
100	Advanced nanomaterials. Applied Surface Science, 2017, 424, 1.	3.1	0
101	ANM 2017: 1st International Conference on Advanced Polymer Materials. Polymer International, 2018, 67, 1329-1329.	1.6	0
102	State of the art Energy Materials. Applied Surface Science, 2019, 474, 1.	3.1	0
103	Modelling isolated hydrogen impurity in Lu2O3 with muonium spectroscopy. EPJ Web of Conferences, 2020, 233, 04001.	0.1	0
104	Study of Nitrogen in Niobium and Tantalum Using the Perturbed Angular Correlation Method. , 1988, , 269-274.		0