

# Rui C Vilao

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8498151/publications.pdf>

Version: 2024-02-01

69  
papers

1,416  
citations

430754

18  
h-index

345118

36  
g-index

69  
all docs

69  
docs citations

69  
times ranked

1002  
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 $\text{In}_2\text{O}_3$ . Implications for conductivity. Physical Review B, 2009, 80, .	1.1	135
3	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
4	Shallow donor muonium states in II-VI semiconductor compounds. Physical Review B, 2001, 64, .	1.1	68
5	Novel Muonium State in CdS. Physical Review Letters, 1999, 83, 5294-5297.	2.9	61
6	Hydrogen impurity in yttria: <i>Ab initio</i> and SR perspectives. Physical Review B, 2012, 85, .	1.1	32
7	Muonium donor in rutile $\text{TiO}_2$ : comparison with hydrogen. Physical Review B, 2015, 92, .	1.1	31
8	Muonium spectroscopy in ZnSe: Metastability and conversion. Physical Review B, 2005, 72, .	1.1	30
9	Shallow versus deep hydrogen states in ZnO and HgO. Journal of Physics Condensed Matter, 2001, 13, 9001-9010.	0.7	29
10	Acceptor level of interstitial muonium in ZnSe and ZnS. Physical Review B, 2008, 77, .	1.1	27
11	Hydrogen impurity in paratellurite $\text{TeO}_3$ : Muon-spin rotation and <i>ab initio</i> studies. Physical Review B, 2011, 84, .	1.1	24
12	Isolated hydrogen configurations in zirconia as seen by muon spin spectroscopy and <i>ab initio</i> calculations. Physical Review B, 2016, 94, .	1.1	24
13	Slow-muon study of quaternary solar-cell materials: Single layers and $\text{p-n}$ junctions. Physical Review Materials, 2018, 2, .	0.8	23
14	Location of the H level: Experimental limits for muonium. Physica B: Condensed Matter, 2006, 376-377, 587-590.	1.3	21
15	Electronic structure of interstitial hydrogen in lutetium oxide from DFT and comparison study with $\text{Lu}_2\text{O}_3$ . Physical Review B, 2016, 94, .	1.1	21
16	Modeling hydrogen in $\text{CuInSe}_2$ and $\text{CuInS}_2$ solar cell materials using implanted muons. Physical Review B, 1999, 59, 1912-1916.	1.1	20
17	Double-resonance determination of electron-factors in muonium shallow-donor states. Journal of Physics Condensed Matter, 2004, 16, S4707-S4720.	0.7	20
18	The first 25 years of semiconductor muonics at ISIS, modelling the electrical activity of hydrogen in inorganic semiconductors and high- $\epsilon$ dielectrics. Physica Scripta, 2013, 88, 068503.	1.2	20

#	ARTICLE	IF	CITATIONS
19	Shallow donor versus deep acceptor state in II–VI semiconductor compounds. <i>Physica B: Condensed Matter</i> , 2003, 326, 124-127.	1.3	19
20	Role of the transition state in muon implantation. <i>Physical Review B</i> , 2017, 96, .	1.1	19
21	Muonium states in HgO. <i>Journal of Physics Condensed Matter</i> , 2001, 13, L613-L618.	0.7	16
22	Nuclear inelastic scattering with <sup>161</sup> Dy. <i>Physical Review B</i> , 2001, 63, .	1.1	15
23	Muon diffusion and trapping in chalcopyrite semiconductors. <i>Physica B: Condensed Matter</i> , 2003, 326, 181-184.	1.3	14
24	Muoniated radicals in the organic semiconductor zinc-phthalocyanine. <i>Physica B: Condensed Matter</i> , 2003, 326, 94-96.	1.3	13
25	Mechanisms of electron polarization of shallow muonium in CdTe and CdS. <i>Physical Review B</i> , 2010, 81, .	1.1	13
26	Defect levels and hyperfine constants of hydrogen in beryllium oxide from hybrid-functional calculations and muonium spectroscopy. <i>Philosophical Magazine</i> , 2017, 97, 2108-2128.	0.7	13
27	Muon implantation experiments in films: Obtaining depth-resolved information. <i>Review of Scientific Instruments</i> , 2020, 91, 023906.	0.6	13
28	Probing the shallow-donor muonium wave function in ZnO and CdS via transferred hyperfine interactions. <i>Physica B: Condensed Matter</i> , 2001, 308-310, 920-923.	1.3	12
29	Electron polarization and formation probability of bound muonium in CdS and Si. <i>Physical Review B</i> , 2012, 86, .	1.1	12
30	Thermal spike in muon implantation. <i>Physical Review B</i> , 2019, 99, .	1.1	11
31	Hydrogen states in CuInSe <sub>2</sub> a <sup>1</sup> / <sub>4</sub> SR study. <i>Physica B: Condensed Matter</i> , 2003, 340-342, 965-968.	1.3	10
32	Barrier model in muon implantation and application to $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{Lu} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:math} \text{variant="normal"} \rangle \text{O} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ . <i>Physical Review B</i> , 2018, 98, .	1.1	10
33	Information on hydrogen states in II–VI semiconductor compounds from a study of their muonium analogues. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 580, 438-441.	0.7	9
34	Delayed electron capture and formation in ZnSe. <i>Physica B: Condensed Matter</i> , 2009, 404, 888-891.	1.3	9
35	Muonium states in Cu <sub>2</sub> ZnSnS <sub>4</sub> solar cell material. <i>Journal of Physics: Conference Series</i> , 2014, 551, 012045.	0.3	8
36	Electronic structure and migration of interstitial hydrogen in the rutile phase of TiO <sub>2</sub> . <i>Journal of Physics Condensed Matter</i> , 2018, 30, 425503.	0.7	8

#	ARTICLE	IF	CITATIONS
37	Powder Pattern Hyperfine Spectroscopy of Shallow- Donor Muonium Centres. <i>Hyperfine Interactions</i> , 2001, 136/137, 471-477.	0.2	7
38	Hydrogen In Oxides, Modelled By Muonium. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	7
39	Muoniated radical states in the organic semiconductor phthalocyanine. <i>Physical Review B</i> , 2006, 73, .	1.1	7
40	High-field study of muonium states in HfO <sub>2</sub> and ZrO <sub>2</sub> . <i>Journal of Physics: Conference Series</i> , 2014, 551, 012048.	0.3	7
41	CdS versus ZnSnO buffer layers for a CIGS solar cell: a depth-resolved analysis using the muon probe. <i>EPJ Web of Conferences</i> , 2020, 233, 05004.	0.1	7
42	High-temperature trapping of muons in CuInSe <sub>2</sub> and CuInS <sub>2</sub> . <i>Physica B: Condensed Matter</i> , 2000, 289-290, 567-569.	1.3	6
43	Oxide muonics and the 3- model for deep and shallow hydrogen states in dielectric and semiconducting oxides. <i>Physica B: Condensed Matter</i> , 2006, 376-377, 385-388.	1.3	6
44	Muon-Spin-Rotation study of yttria-stabilized zirconia (ZrO <sub>2</sub> :Y): Evidence for muon and electron separate traps. <i>Journal of Physics: Conference Series</i> , 2014, 551, 012050.	0.3	6
45	Spin exchange of muonium in CdS. <i>Physica B: Condensed Matter</i> , 2009, 404, 834-836.	1.3	5
46	Possible donor and acceptor energies for Mu in ZnSe. <i>Physica B: Condensed Matter</i> , 2009, 404, 827-830.	1.3	5
47	Hydrogen states in mixed-cation CuIn(1-x)Ga <sub>x</sub> Se <sub>2</sub> chalcopyrite alloys: a combined study by first-principles density-functional calculations and muon-spin spectroscopy. <i>Philosophical Magazine</i> , 0, , 1-23.	0.7	5
48	Muon and hydrogen states in II-VI semiconductor compounds. A $\mu$ SR study. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2003, 0, 711-714.	0.8	4
49	Oxide muonics: A new compendium. <i>Physica B: Condensed Matter</i> , 2006, 374-375, 379-382.	1.3	4
50	Paramagnetic rare-earth oxide Nd <sub>2</sub> O <sub>3</sub> investigated by muon spin spectroscopy. <i>Physical Review B</i> , 2019, 100, .	1.1	4
51	Hyperfine Parameters for Muonium in Copper (I), Silver (I) and Cadmium Oxides. <i>Hyperfine Interactions</i> , 2004, 158, 313-316.	0.2	3
52	g-Sign determination with circularly polarised RF fields. <i>Physica B: Condensed Matter</i> , 2006, 374-375, 475-479.	1.3	3
53	Low-energy muon [LEM] study of Zn-phthalocyanine and ZnO thin films. <i>Physica B: Condensed Matter</i> , 2009, 404, 870-872.	1.3	3
54	Muonium as a probe of electron spin polarisation in CdTe. <i>Physica B: Condensed Matter</i> , 2009, 404, 5110-5112.	1.3	3

#	ARTICLE	IF	CITATIONS
55	Berimbau: A simple instrument for teaching basic concepts in the physics and psychoacoustics of music. American Journal of Physics, 2014, 82, 1149-1156.	0.3	3
56	Reply to "Comment on "Role of the transition state in muon implantation" and "Thermal spike in muon implantation". Physical Review B, 2020, 101, .	1.1	3
57	Optical spectroscopy of muon/hydrogen defects in 6H-SiC. Journal of Applied Physics, 2020, 127, 095702.	1.1	3
58	Sapphire $\mu$ SR puzzle: Joint and density functional theory study. Physical Review B, 2021, 103, .	1.1	3
59	Shallow-level muonium centre in CdS. Physica B: Condensed Matter, 2000, 289-290, 563-566.	1.3	2
60	Muonium states in II-VI zinc chalcogenide semiconductors. Physica B: Condensed Matter, 2006, 374-375, 383-386.	1.3	2
61	Dynamics of muoniated radical states in phthalocyanines. Physica B: Condensed Matter, 2006, 374-375, 426-429.	1.3	2
62	Spin-exchange of axially symmetric Mu states in polycrystalline media. Physica B: Condensed Matter, 2009, 404, 859-861.	1.3	2
63	Muonium in nano-crystalline II-VI semiconductors. Physica B: Condensed Matter, 2009, 404, 837-840.	1.3	2
64	Microscopic study of carrier transport in the organic semiconductor zinc phthalocyanine. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 996-999.	0.8	2
65	Characterization of the Interfacial Defect Layer in Chalcopyrite Solar Cells by Depth-Resolved Muon Spin Spectroscopy. Advanced Materials Interfaces, 0, , 2200374.	1.9	2
66	Muonium In ZnTe As A Model For Isolated Hydrogen. AIP Conference Proceedings, 2005, , .	0.3	1
67	Muonium diffusion dynamics in mercury oxide. Physica B: Condensed Matter, 2006, 374-375, 423-425.	1.3	1
68	Detailed hyperfine structure of muoniated radicals in planar phthalocyanines. Physica B: Condensed Matter, 2009, 404, 933-935.	1.3	1
69	Modelling isolated hydrogen impurity in Lu2O3 with muonium spectroscopy. EPJ Web of Conferences, 2020, 233, 04001.	0.1	0