Paulo A Fernandes

List of Publications by Year
in descending order

59 papers	3,814 citations	147566 31 h-index	168136 53 g-index
60 all docs	60 docs citations	60 times ranked	3077 citing authors

#	Article	IF	Citations
1	Study of polycrystalline Cu2ZnSnS4 films by Raman scattering. Journal of Alloys and Compounds, 2011, 509, 7600-7606.	2.8	631
2	Growth and Raman scattering characterization of Cu2ZnSnS4 thin films. Thin Solid Films, 2009, 517, 2519-2523.	0.8	484
3	A study of ternary Cu₂SnS₃ and Cu₃SnS₄ thin films prepared by sulfurizing stacked metal precursors. Journal Physics D: Applied Physics, 2010, 43, 215403.	1.3	434
4	Photoluminescence and electrical study of fluctuating potentials in Cu<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>ZnSnS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>-based thin films. Physical Review B, 2011, 84, .	1.1	138
5	Cu_xSnS_{x+1} (x = 2, 3) thin films grown by sulfurization of metallic precursors deposited by dc magnetron sputtering. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 901-904.	0.8	133
6	Thermodynamic pathway for the formation of SnSe and SnSe2 polycrystalline thin films by selenization of metal precursors. CrystEngComm, 2013, 15, 10278.	1.3	129
7	Morphological and structural characterization of Cu2ZnSnSe4 thin films grown by selenization of elemental precursor layers. Thin Solid Films, 2009, 517, 2531-2534.	0.8	109
8	Precursors' order effect on the properties of sulfurized Cu₂ZnSnS₄thin films. Semiconductor Science and Technology, 2009, 24, 105013.	1.0	109
9	Growth and characterization of Cu2ZnSn(S,Se)4 thin films for solar cells. Solar Energy Materials and Solar Cells, 2012, 101, 147-153.	3.0	105
10	Secondary crystalline phases identification in Cu $$_2$$ 2 ZnSnSe $$_4$$ 4 thin films: contributions from Raman scattering and photoluminescence. Journal of Materials Science, 2014, 49, 7425-7436.	1.7	99
11	Cu2ZnSnS4 solar cells prepared with sulphurized dc-sputtered stacked metallic precursors. Thin Solid Films, 2011, 519, 7382-7385.	0.8	92
12	Hopping conduction and persistent photoconductivity in Cu₂ZnSnS₄thin films. Journal Physics D: Applied Physics, 2013, 46, 155107.	1.3	86
13	Admittance spectroscopy of Cu2ZnSnS4 based thin film solar cells. Applied Physics Letters, 2012, 100, .	1.5	82
14	On the identification of Sb2Se3 using Raman scattering. MRS Communications, 2018, 8, 865-870.	0.8	73
15	Effects of sulphurization time on Cu2ZnSnS4 absorbers and thin films solar cells obtained from metallic precursors. Solar Energy Materials and Solar Cells, 2013, 115, 157-165.	3.0	64
16	Annealing of RF-magnetron sputtered SnS2 precursors as a new route for single phase SnS thin films. Journal of Alloys and Compounds, 2014, 592, 80-85.	2.8	64
17	Assessment of the potential of tin sulphide thin films prepared by sulphurization of metallic precursors as cell absorbers. Thin Solid Films, 2011, 519, 7416-7420.	0.8	58
18	Growth pressure dependence of Cu2ZnSnSe4 properties. Solar Energy Materials and Solar Cells, 2010, 94, 2176-2180.	3.0	55

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19	A comparison between thin film solar cells made from coâ€evaporated CuIn_{1â€x}Ga_xSe₂ using a oneâ€stage process versus a threeâ€stage process. Progress in Photovoltaics: Research and Applications, 2015, 23, 470-478.	4.4	53
20	Mo bilayer for thin film photovoltaics revisited. Journal Physics D: Applied Physics, 2010, 43, 345501.	1.3	52
21	Passivation of Interfaces in Thin Film Solar Cells: Understanding the Effects of a Nanostructured Rear Point Contact Layer. Advanced Materials Interfaces, 2018, 5, 1701101.	1.9	50
22	Radiative transitions in highly doped and compensated chalcopyrites and kesterites: The case of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">Cu</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="normal">ZnSnS</mml:mi></mml:mrow><mml:mn>4</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 90, .	1.1	48
23	Study of optical and structural properties of Cu2ZnSnS4 thin films. Thin Solid Films, 2011, 519, 7390-7393.	0.8	47
24	Growth of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0020.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mi>Sb</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m thin films by selenization of RF sputtered binary precursors. Solar Energy Materials and Solar Cells, 2018, 187, 219-226.	3.0	45
25	Influence of the sulphurization time on the morphological, chemical, structural and electrical properties of Cu2ZnSnS4 polycrystalline thin films. Solar Energy Materials and Solar Cells, 2014, 123, 58-64.	3.0	44
26	Optical Lithography Patterning of SiO₂ Layers for Interface Passivation of Thin Film Solar Cells. Solar Rrl, 2018, 2, 1800212.	3.1	44
27	Effect of rapid thermal processing conditions on the properties of Cu2ZnSnS4 thin films and solar cell performance. Solar Energy Materials and Solar Cells, 2014, 126, 101-106.	3.0	42
28	Insulator Materials for Interface Passivation of Cu(In,Ga)Se₂ Thin Films. IEEE Journal of Photovoltaics, 2018, 8, 1313-1319.	1.5	39
29	Influence of selenization pressure on the growth of Cu2ZnSnSe4films from stacked metallic layers. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	36
30	Comparison of fluctuating potentials and donor-acceptor pair transitions in a Cu-poor Cu2ZnSnS4 based solar cell. Applied Physics Letters, 2014, 105, .	1.5	34
31	The influence of hydrogen in the incorporation of Zn during the growth of Cu2ZnSnS4 thin films. Solar Energy Materials and Solar Cells, 2011, 95, 3482-3489.	3.0	33
32	Front passivation of Cu(In,Ga)Se2 solar cells using Al2O3: Culprits and benefits. Applied Materials Today, 2020, 21, 100867.	2.3	28
33	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>... junctions. Physical Review Materials, 2018, 2, .	0.9	23
34	Anomalous persistent photoconductivity in Cu2ZnSnS4 thin films and solar cells. Solar Energy Materials and Solar Cells, 2015, 137, 164-168.	3.0	21
35	Rear Optical Reflection and Passivation Using a Nanopatterned Metal/Dielectric Structure in Thin-Film Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1421-1427.	1.5	21
36	A morphological and electronic study of ultrathin rear passivated Cu(In,Ga)Se2 solar cells. Thin Solid Films, 2019, 671, 77-84.	0.8	21

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37	Cu2ZnSnS4 absorber layers obtained through sulphurization of metallic precursors: Graphite box versus sulphur flux. Thin Solid Films, 2013, 535, 27-30.	0.8	18
38	Effect of selenization conditions on the growth and properties of Cu2ZnSn(S,Se)4 thin films. Thin Solid Films, 2015, 582, 188-192.	0.8	17
39	Phase selective growth of Cu12Sb4S13 and Cu3SbS4 thin films by chalcogenization of simultaneous sputtered metal precursors. Journal of Alloys and Compounds, 2019, 797, 1359-1366.	2.8	16
40	Understanding the AC Equivalent Circuit Response of Ultrathin Cu(In,Ga)Se₂ Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1442-1448.	1.5	15
41	Highâ€Performance and Industrially Viable Nanostructured SiO_{<i>x</i>} Layers for Interface Passivation in Thin Film Solar Cells. Solar Rrl, 2021, 5, 2000534.	3.1	15
42	Exploiting the Optical Limits of Thinâ€Film Solar Cells: A Review on Light Management Strategies in Cu(In,Ga)Se₂. Advanced Photonics Research, 2022, 3, .	1.7	15
43	Electronic Conduction Mechanisms and Defects in Polycrystalline Antimony Selenide. Journal of Physical Chemistry C, 2020, 124, 7677-7682.	1.5	14
44	On the Importance of Joint Mitigation Strategies for Front, Bulk, and Rear Recombination in Ultrathin Cu(In,Ga)Se₂ Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 27713-27725.	4.0	11
45	Will ultrathin CIGS solar cells overtake the champion thin-film cells? Updated SCAPS baseline models reveal main differences between ultrathin and standard CIGS. Solar Energy Materials and Solar Cells, 2022, 243, 111792.	3.0	11
46	Encapsulation of Nanostructures in a Dielectric Matrix Providing Optical Enhancement in Ultrathin Solar Cells. Solar Rrl, 2020, 4, 2000310.	3.1	10
47	Muonium states in Cu₂ZnSnS₄solar cell material. Journal of Physics: Conference Series, 2014, 551, 012045.	0.3	8
48	On the properties of Cu₂ZnSn(S,Se)₄thin films prepared by selenization of binary precursors using rapid thermal processing. Materials Research Express, 2014, 1, 045046.	0.8	7
49	Decoupling of Optical and Electrical Properties of Rear Contact CIGS Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1857-1862.	1.5	7
50	Optical and structural investigation of Cu₂ZnSnS₄ based solar cells. Physica Status Solidi (B): Basic Research, 2016, 253, 2129-2135.	0.7	4
51	SiO_x Patterned Based Substrates Implemented in Cu(In,Ga)Se₂ Ultrathin Solar Cells: Optimum Thickness. IEEE Journal of Photovoltaics, 2022, 12, 954-961.	1.5	4
52	Characterization of the Interfacial Defect Layer in Chalcopyrite Solar Cells by Depthâ€Resolved Muon Spin Spectroscopy. Advanced Materials Interfaces, 0, , 2200374.	1.9	2
53	Coupling of plasmonic nanoparticles on a semiconductor substrate <i>via</i> a modified discrete dipole approximation method. Physical Chemistry Chemical Physics, 2022, 24, 19705-19715.	1.3	2
54	SiO_x patterned based substrates implemented in Cu(In, Ga)Se₂ ultrathin solar cells: optimum thickness. , 2021, , .		1

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55	Perovskite Metalâ€"Oxideâ€"Semiconductor Structures for Interface Characterization. Advanced Materials Interfaces, 2021, 8, 2101004.	1.9	1
56	Detection of ZnS phases in CZTS thin-films by EXAFS. , 2011, , .		0
57	Equivalent Circuit For AC Response of Cu(In,Ga)Se2 Thin Film Solar Cells. , 2019, , .		0
58	Voids in Kesterites and the Influence of Lamellae Preparation by Focused Ion Beam for Transmission Electron Microscopy Analyses. IEEE Journal of Photovoltaics, 2019, 9, 565-570.	1.5	0
59	X-ray Photoelectron Spectroscopy for Studying Passivation Architectures of Cu(In,Ga)Se2 Cells. , 2021, , .		0