Levent GÃ¼tay

List of Publications by Year
in descending order

69 papers	1,932 citations	304743 22 h-index	265206 42 g-index
72 all docs	72 docs citations	72 times ranked	1893 citing authors

#	Article	IF	Citations
1	Raman analysis of monoclinic Cu2SnS3 thin films. Applied Physics Letters, 2012, 100, .	3.3	232
2	Thin film solar cells based on the ternary compound Cu2SnS3. Thin Solid Films, 2012, 520, 6291-6294.	1.8	232
3	Why do we make Cu(In,Ga)Se2 solar cells non-stoichiometric?. Solar Energy Materials and Solar Cells, 2013, 119, 18-25.	6.2	119
4	Discrimination and detection limits of secondary phases in Cu2ZnSnS4 using X-ray diffraction and Raman spectroscopy. Thin Solid Films, 2014, 569, 113-123.	1.8	98
5	Route Toward High-Efficiency Single-Phase Cu$_{f 2}$ZnSn(S,Se)$_{f 4}$ Thin-Film Solar Cells: Model Experiments and Literature Review. IEEE Journal of Photovoltaics, 2011, 1, 200-206.	2.5	91
6	Device Characteristics of an 11.4% CZTSe Solar Cell Fabricated from Sputtered Precursors. Advanced Energy Materials, 2018, 8, 1703295.	19.5	80
7	Direct Synthesis of Single-Phase p-Type SnS by Electrodeposition from a Dicyanamide Ionic Liquid at High Temperature for Thin Film Solar Cells. Journal of Physical Chemistry C, 2013, 117, 4383-4393.	3.1	70
8	Degradation and passivation of CuInSe2. Applied Physics Letters, 2012, 101, .	3.3	60
9	Cu₂ZnSnSe₄ thin film solar cells produced via coâ€evaporation and annealing including a SnSe₂ capping layer. Progress in Photovoltaics: Research and Applications, 2014, 22, 51-57.	8.1	56
10	Spectrally resolved photoluminescence studies on Cu(In,Ga)Se2 solar cells with lateral submicron resolution. Thin Solid Films, 2007, 515, 6212-6216.	1.8	51
11	Detecting ZnSe secondary phase in Cu2ZnSnSe4 by room temperature photoluminescence. Applied Physics Letters, 2013, 102, .	3.3	49
12	The three A symmetry Raman modes of kesterite in Cu_2ZnSnSe_4. Optics Express, 2013, 21, A695.	3.4	45
13	Cu2SnS3 based thin film solar cells from chemical spray pyrolysis. Thin Solid Films, 2019, 669, 436-439.	1.8	39
14	Local fluctuations of absorber properties of Cu(In,Ga)Se2 by sub-micron resolved PL towards â€œreal lifeâ€• conditions. Thin Solid Films, 2009, 517, 2222-2225.	1.8	38
15	Physical routes for the synthesis of kesterite. JPhys Energy, 2019, 1, 042003.	5.3	34
16	Subgrain size inhomogeneities in the luminescence spectra of thin film chalcopyrites. Applied Physics Letters, 2010, 97, .	3.3	29
17	Feedback mechanism for the stability of the band gap of CuInSe<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>. Physical Review B, 2012, 86, .	3.2	29
18	Influence of copper excess on the absorber quality of CuInSe2. Applied Physics Letters, 2011, 99, .	3.3	28

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19	Influence of silver incorporation on CZTSSe solar cells grown by spray pyrolysis. Materials Science in Semiconductor Processing, 2018, 76, 31-36.	4.0	27
20	Structural properties and quality of the photoexcited state in Cu(In1âˆ'xGax)Se2 solar cell absorbers with lateral submicron resolution. Thin Solid Films, 2005, 480-481, 259-263.	1.8	26
21	Vacancy defects in epitaxial thin film<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="bold">CuGaSe</mml:mi><mml:mn mathvariant="bold">2</mml:mn></mml:msub></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="bold">CuInSe</mml:mi><mml:mn mathvariant="bold">2</mml:mn></mml:msub></mml:math>. Physical Review B, 2012, 86, .	3.2	26
22	Defect levels in the epitaxial and polycrystalline CuGaSe2 by photocurrent and capacitance methods. Journal of Applied Physics, 2011, 110, 103711.	2.5	24
23	Lone conduction band in Cu2ZnSnSe4. Applied Physics Letters, 2012, 100, .	3.3	19
24	Resilient and reproducible processing for CZTSe solar cells in the range of 10%. Progress in Photovoltaics: Research and Applications, 2018, 26, 1003-1006.	8.1	19
25	Lateral variations of optoelectronic quality of Cu(In1â€"xGax)Se2 in the submicron-scale. Thin Solid Films, 2005, 487, 8-13.	1.8	18
26	Defect level signatures in CuInSe2 by photocurrent and capacitance spectroscopy. Thin Solid Films, 2013, 535, 366-370.	1.8	18
27	Photoinduced current transient spectroscopy of defect levels in CuInSe₂ and CuGaSe₂ epitaxial and polycrystalline layers. Journal Physics D: Applied Physics, 2012, 45, 335101.	2.8	16
28	Preparation of CuGaSe2 absorber layers for thin film solar cells by annealing of efficiently electrodeposited Cuâ€"Ga precursor layers from ionic liquids. Thin Solid Films, 2011, 519, 7254-7258.	1.8	15
29	Influence of secondary phase CuxSe on the optoelectronic quality of chalcopyrite thin films. Applied Physics Letters, 2011, 98, 201910.	3.3	15
30	MOVPE of CuGaSe2 on GaAs in the presence of a CuxSe secondary phase. Journal of Crystal Growth, 2011, 315, 82-86.	1.5	14
31	Optical properties of Cu_2ZnSnSe_4 thin films and identification of secondary phases by spectroscopic ellipsometry. Optics Express, 2017, 25, 5327.	3.4	13
32	Reaction Pathway for Efficient Cu₂ZnSnSe₄ Solar Cells from Alloyed Cuï£¿Sn Precursor via a Cuâ€Rich Selenization Stage. Solar Rrl, 2020, 4, 2000124.	5.8	13
33	Ensemble analyses by Minkowski-operations for spatially resolved structural and optoelectronic features of Cu(In,Ga)(Se2,S2) absorbers. Thin Solid Films, 2009, 517, 2427-2430.	1.8	12
34	Multiple phases of Cu2ZnSnSe4 detected by room temperature photoluminescence. Journal of Applied Physics, 2014, 116, .	2.5	12
35	Photoluminescence, open circuit voltage, and photocurrents in Cu(In,Ga)Se2 solar cells with lateral submicron resolution. Thin Solid Films, 2006, 511-512, 678-683.	1.8	11
36	Subwavelength inhomogeneities in Cu(In,Ga)Se2thin films revealed by near-field scanning optical microscopy. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1005-1008.	1.8	11

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37	Improvement of the structural and electronic properties of CZTSSe solar cells from spray pyrolysis by a CuGe seed layer. RSC Advances, 2017, 7, 20406-20411.	3.6	11
38	Modifications of the CZTSe/Mo back-contact interface by plasma treatments. RSC Advances, 2019, 9, 26850-26855.	3.6	11
39	Lateral features of Cu(In0.7Ga0.3)Se2-heterodiodes in the Î¼m-scale by confocal luminescence and focused light beam induced currents. Thin Solid Films, 2007, 515, 6127-6131.	1.8	10
40	Spatial variations of optoelectronic properties in single crystalline CuGaSe2 thin films studied by photoluminescence. Thin Solid Films, 2011, 519, 7332-7336.	1.8	10
41	CuInSe 2 semiconductor formation by laser annealing. Thin Solid Films, 2015, 582, 23-26.	1.8	9
42	Analyses of Local Open Circuit Voltages in Polycrystalline Cu(In,Ga)Se₂ Thin Film Solar Cell Absorbers on the Micrometer Scale by Confocal Luminescence. Chimia, 2007, 61, 801-805.	0.6	8
43	Detection of a MoSe2 secondary phase layer in CZTSe by spectroscopic ellipsometry. Journal of Applied Physics, 2015, 118, 185302.	2.5	8
44	In-situ XRD investigation of re-crystallization and selenization of CZTS nanoparticles. Journal of Alloys and Compounds, 2016, 686, 24-29.	5.5	8
45	Interpretation of quasi-Fermi level splitting in Cu(Ga,In)Se2-absorbers by confocally recorded spectral luminescence and numerical modeling. Thin Solid Films, 2009, 517, 2344-2348.	1.8	7
46	In-situ investigation of the order-disorder transition in Cu2ZnSnSe4 by optical transmission spectroscopy. AIP Advances, 2017, 7, 025303.	1.3	7
47	The effect of excess selenium on the opto-electronic properties of Cu₂ZnSnSe₄ prepared from Cuâ€“Sn alloy precursors. RSC Advances, 2019, 9, 20857-20864.	3.6	7
48	Steep sulfur gradient in CZTSSe solar cells by H₂S-assisted rapid surface sulfurization. RSC Advances, 2021, 11, 12687-12695.	3.6	7
49	Optoelectronic Properties of MoS₂ in Proximity to Carrier Selective Metal Oxides. Advanced Optical Materials, 2022, 10, .	7.3	7
50	Defect levels in CuGaSe2 by modulated photocurrent spectroscopy. Thin Solid Films, 2011, 519, 7308-7311.	1.8	6
51	Temperature dependence of potential fluctuations in chalcopyrites. , 2011, , .		5
52	Depth-resolved and temperature dependent analysis of phase formation processes in Cuâ€“Znâ€“Snâ€“Se films on ZnO substrates. Journal of Materials Science: Materials in Electronics, 2017, 28, 7730-7738.	2.2	5
53	Potential of CZTSe Solar Cells Fabricated by an Alloy-Based Processing Strategy. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2019, 74, 673-682.	1.5	5
54	Rapid formation of large-area MoS2 monolayers by a parameter resilient atomic layer deposition approach. APL Materials, 2021, 9, .	5.1	5

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55	Tuning of Precursor Composition and Formation Pathway of Kesterite Absorbers Using an Inâ€Process Composition Shift: A Path toward Higher Efficiencies?. Solar Rrl, 2021, 5, 2100237.	5.8	5
56	Micro-patterned deposition of MoS2 ultrathin-films by a controlled droplet dragging approach. Scientific Reports, 2021, 11, 13993.	3.3	5
57	Extraction of features from 2-d laterally sub-micron resolved photoluminescence in Cu(In,Ga)Se2 absorbers by Fourier transforms and Minkowski-operations. Thin Solid Films, 2006, 511-512, 309-315.	1.8	4
58	Analysis of Band Gap Fluctuations in Cu(In,Ga)Se2 by Confocal Optical Transmission and Photoluminescence. Materials Research Society Symposia Proceedings, 2007, 1012, 1.	0.1	4
59	Non-uniformities of opto-electronic properties in Cu(In,Ga)Se2 thin films and their influence on cell performance studied with confocal photoluminescence. , 2009, , .		4
60	In-situ XRD investigation of selenization of CZTS nanoparticles. Journal of Alloys and Compounds, 2017, 714, 35-38.	5.5	4
61	A vapor-phase-assisted growth route for large-scale uniform deposition of MoS₂ monolayer films. RSC Advances, 2019, 9, 107-113.	3.6	4
62	Vapor-Phase Incorporation of Ge in CZTSe Absorbers for Improved Stability of High-Efficiency Kesterite Solar Cells. Applied Sciences (Switzerland), 2022, 12, 1376.	2.5	4
63	Molecular beam epitaxy of Cu<inf>2</inf>ZnSnSe<inf>4</inf> thin films grown on GaAs(001). , 2013, , .		3
64	Defect signatures in copper gallium diselenide. , 2011, , .		2
65	The importance of Se partial pressure in the laser annealing of CuInSe<inf>2</inf> electrodeposited precursors. , 2014, , .		2
66	Influence of Cu-Zn disorder in Cu2ZnSnSe4 absorbers on optical transitions: A spectroscopic ellipsometry study. Optical Materials, 2019, 93, 93-97.	3.6	2
67	Hybrid chemical bath deposition-CdS/sputter-Zn(O,S) alternative buffer for Cu2ZnSn(S,Se)4 based solar cells. Journal of Applied Physics, 2020, 127, .	2.5	2
68	Depth-resolved and temperature-dependent analysis of phase formation mechanisms in selenized Cu-Zn-Sn precursors by Raman spectroscopy. , 2016, , .		0
69	SiOxNy back-contact barriers for CZTSe thin-film solar cells. PLoS ONE, 2021, 16, e0245390.	2.5	0