

Sergiu Levcenco

List of Publications by Year in descending order

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3693
citing authors

#	ARTICLE	IF	CITATIONS
1	Optoelectronic and material properties of solution-processed Earth-abundant Cu ₂ BaSn(S, Se) ₄ films for solar cell applications. Nano Energy, 2021, 80, 105556.	8.2	23
2	Optoelectronic property comparison for isostructural Cu ₂ BaGeSe ₄ and Cu ₂ BaSnS ₄ solar absorbers. Journal of Materials Chemistry A, 2021, 9, 23619-23630.	5.2	10
3	Electroreflectance of $\text{Cu}_2\text{BaSnS}_4$. Physical Review Materials, 2021, 5, 050301.	0.9	0
4	Photoluminescence study of solution-deposited Cu ₂ BaSnS ₄ thin films. APL Materials, 2021, 9, .	2.2	5
5	Cu/Zn disorder in stoichiometric Cu ₂ ZnSn(S _{1-x} Se _x) ₄ semiconductors: A complementary neutron and anomalous X-ray diffraction study. Journal of Alloys and Compounds, 2020, 846, 156304.	2.8	10
6	Polarized infrared reflectivity of Cu ₂ CdSnS ₄ single crystals. Applied Physics Letters, 2020, 117, 182102.	1.5	2
7	Sn Substitution by Ge: Strategies to Overcome the Open-Circuit Voltage Deficit of Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 5830-5839.	2.5	32
8	Reaction Pathway for Efficient Cu ₂ ZnSnSe ₄ Solar Cells from Alloyed Cu _{1-x} Sn Precursor via a Cu-Rich Selenization Stage. Solar Rrl, 2020, 4, 2000124.	3.1	13
9	Investigation of near-stoichiometric polycrystalline CuInSe ₂ thin films by photoreflectance spectroscopy. Journal of Applied Physics, 2020, 127, 125701.	1.1	3
10	Effect of Ag incorporation on structure and optoelectronic properties of (Ag _{1-x} Cu _x) ₂ ZnSnSe ₄ solid solutions. Physical Review Materials, 2020, 4, .	0.9	12
11	Radiative recombination properties of near-stoichiometric CuInS_2 thin films. Physical Review Materials, 2020, 4, .	0.9	2
12	Suppressed Deep Traps and Bandgap Fluctuations in Cu ₂ CdSnS ₄ Solar Cells with ~8% Efficiency. Advanced Energy Materials, 2019, 9, 1902509.	10.2	65
13	The electrical and optical properties of kesterites. JPhys Energy, 2019, 1, 044002.	2.3	43
14	Radiative emission from Cu ₂ ZnSnS ₄ /ZnSn core/shell nanocrystals. Journal of Materials Chemistry C, 2019, 7, 6129-6133.	2.7	1
15	Conformal monolayer contacts with lossless interfaces for perovskite single junction and monolithic tandem solar cells. Energy and Environmental Science, 2019, 12, 3356-3369.	15.6	519
16	Open-Circuit Voltages Exceeding 1.26 V in Planar Methylammonium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 110-117.	8.8	296
17	Spectroscopic ellipsometry study of Cu ₂ ZnSnS ₄ bulk poly-crystals. Applied Physics Letters, 2018, 112, 161901.	1.5	6
18	High-field hopping magnetotransport in kesterites. Journal of Magnetism and Magnetic Materials, 2018, 459, 246-251.	1.0	4

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19	Synergistic Effects of Double Cation Substitution in Solution-Processed CZTS Solar Cells with over 10% Efficiency. <i>Advanced Energy Materials</i> , 2018, 8, 1802540.	10.2	113
20	Metal acetate based synthesis of small-sized $\text{Cu}_2\text{ZnSnS}_4$ nanocrystals: effect of injection temperature and synthesis time. <i>RSC Advances</i> , 2017, 7, 11752-11760.	1.7	17
21	Identifying the Real Minority Carrier Lifetime in Nonideal Semiconductors: A Case Study of Kesterite Materials. <i>Advanced Energy Materials</i> , 2017, 7, 1700167.	10.2	106
22	Time resolved photoluminescence on $\text{Cu}(\text{In}, \text{Ga})\text{Se}_2$ absorbers: Distinguishing degradation and trap states. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	32
23	Chemistry and Dynamics of Ge in Kesterite: Toward Band-Gap-Graded Absorbers. <i>Chemistry of Materials</i> , 2017, 29, 9399-9406.	3.2	59
24	Mechanisms of charge transfer and electronic properties of $\text{Cu}_2\text{ZnGeS}_4$ from investigations of the high-field magnetotransport. <i>Scientific Reports</i> , 2017, 7, 10685.	1.6	6
25	Synthesis and Characterization of V-Doped In_2S_3 Thin Films on FTO Substrates. <i>Journal of Physical Chemistry C</i> , 2016, 120, 28753-28761.	1.5	31
26	Orientation-distribution mapping of polycrystalline materials by Raman microspectroscopy. <i>Scientific Reports</i> , 2016, 5, 18410.	1.6	31
27	Radiative recombination from localized states in CZT(S, Se) investigated by combined PL and TRPL at low temperatures. , 2016, , .		1
28	Earth abundant thin film solar cells from co-evaporated Cu_2SnS_3 absorber layers. <i>Journal of Alloys and Compounds</i> , 2016, 689, 182-186.	2.8	24
29	Temperature dependency of Cu/Zn ordering in CZTSe kesterites determined by anomalous diffraction. <i>Physica Status Solidi (B): Basic Research</i> , 2016, 253, 1890-1897.	0.7	39
30	Polarized Raman scattering study of kesterite type $\text{Cu}_2\text{ZnSnS}_4$ single crystals. <i>Scientific Reports</i> , 2016, 6, 19414.	1.6	88
31	Optical phonons in the kesterite $\text{Cu}_2\text{ZnGeS}_4$ semiconductor: polarized Raman spectroscopy and first-principle calculations. <i>RSC Advances</i> , 2016, 6, 13278-13285.	1.7	35
32	Deep Defects in $\text{Cu}_2\text{ZnSnS}_4$ Kesterite Single Crystals. <i>Journal of Applied Physics</i> , 2016, 120, 124301.	1.5	67
33	Time-resolved investigation of $\text{Cu}(\text{In}, \text{Ga})\text{Se}_2$ growth and Ga gradient formation during fast selenisation of metallic precursors. <i>Progress in Photovoltaics: Research and Applications</i> , 2015, 23, 1131-1143.	4.4	49
34	Fine-tuning the Sn Content in CZTSSe Thin Films to Achieve 10.8% Solar Cell Efficiency from Spray-Deposited Water-Ethanol-Based Colloidal Inks. <i>Advanced Energy Materials</i> , 2015, 5, 1501404.	10.2	120
35	X-ray diffraction investigation on $\text{Cu}_2\text{ZnSiSe}_4$ single and polycrystalline crystals. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , 2015, 230, 507-511.	0.4	14
36	Investigations of the main loss mechanisms in $\text{Cu}_2\text{ZnSn}(\text{S}, \text{Se})_4$ solar cells spray-coated from water-ethanol based ink: Reducing the density of defects to reach efficiencies close to 10%. , 2015, , .		0

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37	Preparation and optical characterization of Cu ₂ ZnGeSe ₄ thin films. <i>Optical Materials</i> , 2015, 40, 76-80.	1.7	17
38	Defect study of Cu ₂ ZnSn(S _x Se _{1-x}) ₄ thin film absorbers using photoluminescence and modulated surface photovoltage spectroscopy. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	30
39	Birefringence of Cu ₂ ZnSiSe ₄ single crystals. <i>Journal of Alloys and Compounds</i> , 2015, 635, 188-193.	2.8	6
40	Light-Induced Increase of Electron Diffusion Length in a p-n Junction Type CH ₃ NH ₃ PbBr ₃ Perovskite Solar Cell. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 2469-2476.	2.1	91
41	Improved performance of Ge _x alloyed CZTGeS ₂ thin film solar cells through control of elemental losses. <i>Progress in Photovoltaics: Research and Applications</i> , 2015, 23, 376-384.	4.4	186
42	Excitonic and band-band transitions of Cu ₂ ZnSiS ₄ determined from reflectivity spectra. <i>Solid State Communications</i> , 2014, 190, 44-48.	0.9	5
43	Variable-range hopping conductivity in Cu ₂ ZnGeSe ₄ single crystals. <i>Solar Energy Materials and Solar Cells</i> , 2014, 127, 87-91.	3.0	11
44	Exciton spectra and energy band structure of Cu ₂ ZnSiSe ₄ . <i>Journal of Alloys and Compounds</i> , 2014, 587, 393-397.	2.8	12
45	Phase-transition-driven growth of compound semiconductor crystals from ordered metastable nanorods. <i>Nature Communications</i> , 2014, 5, 3133.	5.8	98
46	Spectroscopic ellipsometry study of Cu ₂ ZnSnSe ₄ bulk crystals. <i>Applied Physics Letters</i> , 2014, 105, 061909.	1.5	26
47	Defects in Cu ₂ ZnSn(S,Se) ₄ solar cells studied by photoluminescence, admittance and IVT. , 2014, , .		1
48	Optical phonons in the wurtzstannite Cu ₂ ZnGeS ₄ semiconductor: Polarized Raman spectroscopy and first-principle calculations. <i>Physical Review B</i> , 2014, 89, .	1.1	24
49	Scaling of the Temperature Dependent Resistivity in 111 Iron-Pnictide Superconductors. <i>Journal of Superconductivity and Novel Magnetism</i> , 2013, 26, 2727-2734.	0.8	1
50	Energy spectrum of near-edge holes and conduction mechanisms in Cu ₂ ZnSiSe ₄ single crystals. <i>Journal of Alloys and Compounds</i> , 2013, 580, 481-486.	2.8	21
51	Polarized Raman scattering analysis of Cu ₂ ZnSiS ₄ and Cu ₂ ZnSiSe ₄ single crystals. <i>Journal of Applied Physics</i> , 2013, 114, 173507.	1.1	29
52	Spectroscopic ellipsometry study of Cu ₂ ZnGeSe ₄ and Cu ₂ ZnSiSe ₄ poly-crystals. <i>Materials Chemistry and Physics</i> , 2013, 141, 58-62.	2.0	43
53	Polarized Raman scattering analysis of Cu ₂ ZnSnSe ₄ and Cu ₂ ZnGeSe ₄ single crystals. <i>Journal of Applied Physics</i> , 2013, 114, 193514.	1.1	70
54	Characterization of Cu ₂ SnSe ₃ by spectroscopic ellipsometry. <i>Thin Solid Films</i> , 2013, 535, 384-386.	0.8	4

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55	Structural and optical properties of Cu ₂ ZnSnS ₄ thin film absorbers from ZnS and Cu ₃ SnS ₄ nanoparticle precursors. <i>Thin Solid Films</i> , 2013, 535, 10-13.	0.8	98
56	Features of the acceptor band and properties of localized carriers from studies of the variable-range hopping conduction in single crystals of p-Cu ₂ ZnSnS ₄ . <i>Solar Energy Materials and Solar Cells</i> , 2013, 112, 127-133.	3.0	36
57	Compositionally Tunable Photoluminescence Emission in Cu ₂ ZnSn(S _{1-x} Se _x) ₄ Nanocrystals. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 9120-9124.	7.2	98
58	Photoluminescence characterization of Cu ₂ ZnGeS ₄ single crystals. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2013, 10, 1079-1081.	0.8	14
59	Free-to-bound recombination in near stoichiometric Cu ₂ ZnSnS ₄ single crystals. <i>Physical Review B</i> , 2012, 86, .	1.1	97
60	Scaling of the Temperature Dependent Resistivity in 11 Iron-Pnictide Superconductors. <i>Journal of Superconductivity and Novel Magnetism</i> , 2012, 25, 1753-1759.	0.8	1
61	Determination of the dielectric function of MnIn ₂ S ₄ single crystals by spectroscopic ellipsometry. <i>Journal of Physics and Chemistry of Solids</i> , 2012, 73, 720-723.	1.9	2
62	Comparative study of tetragonal Cu ₂ In ₇ Se _{11.5} and trigonal CuIn ₅ Se ₈ by spectroscopic ellipsometry. <i>Materials Chemistry and Physics</i> , 2011, 125, 77-81.	2.0	3
63	Scaling of the Temperature Dependent Resistivity and Hall Effect in Ba(Fe _{1-x} Co _x)As ₂ . <i>Journal of Superconductivity and Novel Magnetism</i> , 2011, 24, 2285-2292.	0.8	5
64	Scaling of the temperature-dependent resistivity in SrFe _{2-x} Ni _x As ₂ . <i>Physica C: Superconductivity and Its Applications</i> , 2011, 471, 237-241.	0.6	7
65	Resistivity scaling 1111 iron-pnictide superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 2011, 471, 509-514.	0.6	5
66	Scaling of the temperature-dependent resistivity in 122 iron-pnictide superconductors. <i>Superconductor Science and Technology</i> , 2011, 24, 105004.	1.8	6
67	Optical constants of Cu(In _{0.7} Ga _{0.3}) ₅ Se ₈ and Cu(In _{0.4} Ga _{0.6}) ₅ Se ₈ crystals. <i>Journal of Physics and Chemistry of Solids</i> , 2010, 71, 1443-1446.	1.9	0
68	Optical constants of Cu ₂ ZnGeS ₄ bulk crystals. <i>Journal of Applied Physics</i> , 2010, 108, .	1.1	60
69	Optical constants of Cu(In _{1-x} Gax) ₅ Se ₈ crystals. <i>Journal of Applied Physics</i> , 2010, 107, 033502.	1.1	12
70	Dielectric functions and optical constants modeling for CuIn ₃ Se ₅ and CuIn ₅ Se ₈ . <i>Journal of Applied Physics</i> , 2008, 103, .	1.1	18
71	Analysis of the optical properties of Cu(In _{1-x} Gax) ₃ Se ₅ crystals. <i>Journal of Applied Physics</i> , 2008, 104, 093507.	1.1	3
72	Modeling the optical constants of Cu ₂ In ₄ Se ₇ and CuGa ₃ Se ₅ crystals. <i>Journal of Applied Physics</i> , 2007, 101, 013524.	1.1	15

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73	Optical spectra and energy band structure of single crystalline CuGaS_2 and CuInS_2 . Journal of Physics Condensed Matter, 2007, 19, 456222.	0.7	27
74	Optical constants of CuGa_5Se_8 crystals. Journal of Applied Physics, 2007, 102, .	1.1	8
75	Dielectric functions and fundamental band gaps of $\text{Cu}_2\text{In}_4\text{Se}_7$, CuGa_3Se_5 and CuGa_5Se_8 crystals. Journal Physics D: Applied Physics, 2007, 40, 740-748.	1.3	21
76	Optical characterization of CuIn_3Se_5 , CuGa_3Se_5 and CuGa_5Se_8 crystals by spectroscopic ellipsometry. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2913-2918.	0.8	11
77	Urbach's tail in the absorption spectra of CuIn_5Se_8 and CuGa_3Se_5 single crystals. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2909-2912.	0.8	8
78	Fundamental absorption edge in CuIn_5Se_8 and CuGa_3Se_5 single crystals. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2904-2908.	0.8	5
79	Optical properties of CuGa_3Se_5 single crystals. Journal Physics D: Applied Physics, 2006, 39, 1515-1520.	1.3	12
80	Optical properties of monocrystalline CuIn_5Se_8 . Journal of Applied Physics, 2006, 99, 073513.	1.1	20
81	Scaling properties of $\text{YBa}_2\text{Cu}_3\text{O}_x$ films. Superconductor Science and Technology, 2005, 18, 1437-1440.	1.8	6
82	Microscopic insight into the impact of the KF post-deposition treatment on optoelectronic properties of $(\text{Ag,Cu})(\text{In,Ga})\text{Se}_2$ solar cells. Progress in Photovoltaics: Research and Applications, 0, , .	4.4	1