

Ageing of kesterite solar cells 1 : Degradation processes and their influence on solar cell parameters

Neubauer, Christian; Samiepour, Ali; Oueslati, Souhaib; Danilson, Mati; Meissner, Dieter Thin solid films 2019 / p. 595-599 : ill <https://doi.org/10.1016/j.tsf.2018.11.043> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Asymmetric NDI electron transporting SAM materials for application in photovoltaic devices

Svirskaitė, Lauryna Monika; Mandati, Sreekanth; Spalatu, Nicolae; Malinauskiene, Vida; Karazhanov, Smagul; Getautis, Vytautas; Malinauskas, Tadas Synthetic metals 2022 / art. 117214 <https://doi.org/10.1016/j.synthmet.2022.117214> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comprehensive study of photoluminescence and device properties in Cu₂Zn(Sn_{1-x}Gex)₄ monograins and monograin layer solar cells

Mengü, Idil; Muska, Katri; Pilvet, Maris; Mikli, Valdek; Dudutiene, Evelina; Kondrotas, Rokas; Krustok, Jüri; Kauk-Kuusik, Marit; Grossberg-Kuusk, Maarja Solar energy materials and solar cells 2024 / art. 113124 <https://doi.org/10.1016/j.solmat.2024.113124> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost-effective fluorene and thiophene containing hole conductors towards semi-transparent Sb₂S₃ absorber-based solar cells

Mandati, Sreekanth; Juneja, Nimish; Katerski, Atanas; Jegorove, Aiste; Daskeviciute-Geguziene, Sarune; Grzibovskis, Raitis; Vembris, Aivars; Spalatu, Nicolae; Magomedov, Artiom; Karazhanov, Smagul; Getautis, Vytautas; Krunks, Malle; Oja Acik, Ilona WCPEC-8 : 8th World Conference on Photovoltaic Energy Conversion 2022 / p. 470-473 <https://doi.org/10.4229/WCPEC-82022-2BV.2.70>

Deposition and characterization of zinc–tin oxide thin films with varying material compositions

Spasova, Stanka; Dulev, Vladimir; Benkovsky, Alexander; Palankovski, Vassil; Radeva, Ekaterina; Stoykov, Rumen; Nenova, Zoya; Dikov, Hristosko; Katerski, Atanas; Volobujeva, Olga Coatings 2025 / art. 225 <https://doi.org/10.3390/coatings15020225>

Detailed insight into the CZTS/CdS interface modification by air annealing in monograin layer solar cells

Kauk-Kuusik, Marit; Timmo, Kristi; Muska, Katri; Pilvet, Maris; Krustok, Jüri; Josepson, Raavo; Brammertz, Guy; Vermang, Bart; Danilson, Mati; Grossberg, Maarja ACS Applied Energy Materials 2021 / p. 12374–12382 <https://doi.org/10.1021/acsaem.1c02186> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Economic pulse electrodeposition for flexible CuInSe(2)solar cells

Mandati, Sreekanth; Misra, Prashant; Boosagulla, Divya; Rao, Tata Naransinga; Sarada, Bulusu V. Materials for renewable and sustainable energy 2020 / art. 19, 6 p. : ill <https://doi.org/10.1007/s40243-020-00177-3>

Effect of absorber surface modification on the optoelectronic properties of Cu₂CdGeSe₄ solar cells

Li, Xiaofeng; Pilvet, Maris; Timmo, Kristi; Grossberg, Maarja; Danilson, Mati; Mikli, Valdek; Kauk-Kuusik, Marit Thin solid films 2020 / art. 137822, 7 p. : ill <https://doi.org/10.1016/j.tsf.2020.137822> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effects of selenisation temperature on photoluminescence and photoluminescence excitation spectra of ZnO/CdS/Cu₂ZnSnSe₄/Mo/glass

Sulimov, Mikhail A.; Yakushev, M. V.; Marquez-Prieto, J.; Krustok, Jüri Thin solid films 2019 / p. 146-151 : ill <https://doi.org/10.1016/j.tsf.2019.01.002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Efficiency enhancement of Cu₂ZnSnS₄ monograin layer solar cells via absorber post-growth treatments

Timmo, Kristi; Dolcet Sadurni, Marc; Pilvet, Maris; Muska, Katri; Altosaar, Mare; Mikli, Valdek; Atlan, Fabien; Guc, Maxim; Izquierdo-Roca, Victor; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Solar energy materials and solar cells 2023 / art. 112090 <https://doi.org/10.1016/j.solmat.2022.112090> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Electronic and structural characterisation of Cu₃BiS₃ thin films for the absorber layer of sustainable photovoltaics

Yakushev, M.V.; Maiello, P.; Raadik, Taavi; Krustok, Jüri Thin solid films 2014 / p. 195-199 : ill <https://doi.org/10.1016/j.tsf.2014.04.057> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Enhanced efficiency of hybrid amorphous silicon solar cells based on single-walled carbon nanotubes and polymer composite thin film

Rajanna, Pramod M.; Gilshteyn, Evgenia P.; Yagafarov, Timur; Alekseeva, Alena A.; Anisimov, Anton S.; Neumüller, Alex; Sergeev, Oleg; Bereznev, Sergei; Maricheva, Jelena; Nasibulin, Albert Nanotechnology 2018 / 10 p. : ill <https://doi.org/10.1088/1361-6528/aaa647> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Formation and characterization of stable TiO₂/Cu_xO-based solar cells

Wisz, Grzegorz; Sawicka-Chudy, Paulina; Sibinski, Maciej; Yavorskyi, Rostyslav; Łabuz, Mirosław; Płoch, Dariusz; Bester, Mariusz Materials 2023 / art. 5683, 15 p. : ill <https://doi.org/10.3390/ma16165683> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

4.9 % efficient Sb₂S₃ solar cells from semi-transparent absorbers with fluorene-based thiophene terminated hole

conductors

Mandati, Sreekanth; Juneja, Nimish; Katerski, Atanas; Jegorove, Aiste; Grzibovskis, Raitis; Vembris, Aivars; **Dedova, Tatjana; Spalatu, Nicolae;** Magomedov, Artiom; Karazhanov, Smagul; Getautis, Vytautas; **Krunks, Malle; Oja Acik, Ilona** ACS Applied Energy Materials 2023 / p. 3822–3833 <https://doi.org/10.1021/acsaem.2c04097> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of blocking layers based on TiO₂ and ZnO prepared via direct current reactive magnetron sputtering on DSSC solar cells

Sibinski, Maciej; Sawicka-Chudy, Paulina; Wisz, Grzegorz; Gnida, Pawel; Schab-Balcerzak, Ewa; Wal, Andrzej; Yavorskyi, Rostyslav; Cholewa, Marian Scientific reports 2024 / art. 10676 <https://doi.org/10.1038/s41598-024-61512-6> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of Li and K co-doping on the optoelectronic properties of CZTS monograin powder

Muska, Katri; Timmo, Kristi; Pilvet, Maris; Kaupmees, Reelika; Raadik, Taavi; Mikli, Valdek; Grossberg-Kuusik, Maarja; Krustok, Jüri; Josepson, Raavo; Lange, Sven; **Kauk-Kuusik, Marit** Solar energy materials and solar cells 2023 / art. 112182 : ill <https://doi.org/10.1016/j.solmat.2023.112182> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Influence of order-disorder in Cu₂ZnSnS₄ powders on the performance of monograin layer solar cells

Timmo, Kristi; Kauk-Kuusik, Marit; Pilvet, Maris; Raadik, Taavi; Altosaar, Mare; Danilson, Mati; Grossberg, Maarja; Raudoja, Jaan; Ernits, Kaia Thin solid films 2017 / p. 122-126 : ill <https://doi.org/10.1016/j.tsf.2016.10.017> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Influence of sulfur source on growth of in-air sprayed ultrathin film Sb₂S₃ for enhanced solar cell performance

Asare, Ernest A.; Katerski, Atanas; Kriisa, Merike; Josepson, Raavo; Rotaru, Victoria; Guc, Maxim; Payno Zarceno, David; **Navarro-Güell, Alejandro;** Grzibovskis, Raitis; Vembris, Aivars; **Spalatu, Nicolae; Krunks, Malle; Oja Acik, Ilona** ACS applied materials & interfaces 2025 / p. 64753-64770 <https://doi.org/10.1021/acsami.5c17869>

Investigation of the solar cell materials Cu(In,Ga)Se₂ and Cu₂ZnSnS₄ with muon spin spectroscopy and density-functional calculations

Vilao, Rui C.; Marinopoulos, Apostolos G.; dos Santos, Diego Garcia; Alberto, Helena Vieira; Gil, Joao Campos; Mengyan, Patrick W.; **Kauk-Kuusik, Marit;** Lord, James; Weidinger, Alois Journal of applied physics 2024 / art. 055704 <https://doi.org/10.1063/5.0205837> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Investigation of the structural, optical and electrical properties of Cu₃BiS₃ semiconducting thin films

Yakushev, M. V.; Maiello, P.; **Raadik, Taavi; Krustok, Jüri** Energy procedia 2014 / p. 166-172 : ill <https://doi.org/10.1016/j.egypro.2014.12.359> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

A luminescence study of Cu₂ZnSnSe₄/Mo/glass films and solar cells with near stoichiometric copper content

Yakushev, M. V.; Sulimov, M. A.; Marquez-Prieto, J.; **Krustok, Jüri** Journal of physics D : applied physics 2019 / art. 055502, 10 p. : ill <https://doi.org/10.1088/1361-6463/aaefe3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimization of the Sb₂S₃ shell thickness in ZnO nanowire-based extremely thin absorber solar cells

Hector, Guislain; **Eensalu, Jako Siim; Katerski, Atanas; Oja Acik, Ilona; Kärber, Erki** Nanomaterials 2022 / art. 198 <https://doi.org/10.3390/nano12020198> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

p–n junction improvements of Cu₂ZnSnS₄/CdS monograin layer solar cells

Kauk-Kuusik, Marit; Timmo, Kristi; Danilson, Mati; Altosaar, Mare; Grossberg, Maarja; Ernits, Kaia Applied surface science 2015 / p. 795-798 : ill <https://doi.org/10.1016/j.apsusc.2015.09.094> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Preparation of CuInSe₂ thin films by using various methods : (a short review)

Soonmin, Ho; **Mandati, Sreekanth;** Chandran, Ramkumar; Mallik, Archana; Bhuiyan, M. A. S.; Deepa, K. G. Oriental journal of chemistry 2019 / p. 01-13 : ill http://eprints.intimal.edu.my/1267/1/CuInSe2%20thin%20films%20by%20uisng%20various%20methods_Ho.pdf

Producing pyrite based solar panels for the future lunar habitat

Kristmann, Katriin; Raadik, Taavi; Heemskerk, Marc Vincent; Woods, Arthur; Vogel, Andreas; Collins, Patrick; Gasperovics, Dimitrijs; Makaya, Advenit IAF Space Power Symposium : held at the 75th International Astronautical Congress (IAC 2024) : Milan, Italy, 14-18 October 2024 Proceedings of the International Astronautical Congress, IAC 2024 / p. 312 - 317 <https://doi.org/10.52202/078370-0035> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Radiative recombination in Cu₂ZnSnSe₄ thin films with Cu deficiency and Zn excess

Yakushev, M. V.; Marquez-Prieto, J.; Forbes, I.; Edwards, P. R.; Zhivulko, V. D.; Mudryi, A. V.; **Krustok, Jüri;** Martin, R. W. Journal of physics D : applied physics 2015 / p. 1-7 : ill <https://doi.org/10.1088/0022-3727/48/47/475109> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Routes to develop a [S]/([S]+[Se]) gradient in wide band-gap Cu₂ZnGe(S,Se)₄ thin-film solar cells

Ruiz-Perona, Andrea; Gurieva, Galina; Sun, Michael; Kodalle, Tim; Sanchez, Yudania; **Grossberg, Maarja**; Merino, Jose Manuel; Schorr, Susan; Leon, Maximo; Caballero, Raquel Journal of alloys and compounds 2021 / art. 159253, 9 p. : ill <https://doi.org/10.1016/j.jallcom.2021.159253> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sb₂S₃ thin films by ultrasonic spray in air : formation and application insolar cells

Krunks, Malle; Eensalu, Jako Siim; Kriisa, Merike; Tõnsuaadu, Kaia; Katerski, Atanas; Hussein, H.; Asare, E.; Spalatu, Nicolae; Oja Acik, Ilona JTACC+V4 2025 : 4th Journal of Thermal Analysis and Calorimetry Conference & 10th V4 (Joint Czech-Hungarian-Polish-Slovak) Thermoanalytical Conference : Book of Abstracts 2025 / p. 86 <https://static.akcongress.com/downloads/jtacc/jtacc2025/jtacc2025-boa.pdf>

Sb₂S₃ thin-film solar cells fabricated from an antimony ethyl xanthate based precursor in air

Eensalu, Jako Siim; Mandati, Sreekanth; Don, Christopher H.; Finch, Harry; Dhanak, Vinod R.; Major, Jonathan D.; Grzibovskis, Raitis; Tamm, Aile; Ritslaid, Peeter; **Josepson, Raavo**; Käämbre, Tanel; Vembris, Aivars; **Spalatu, Nicolae; Krunks, Malle; Oja Acik, Ilona** ACS applied materials & interfaces 2023 / p. 42622-42636 <https://doi.org/10.1021/acsami.3c08547> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Selenisation of sequentially electrodeposited Cu-Zn and Sn precursor layers

Ilijina, Julia; Volobujeva, Olga; Raadik, Taavi; Revathi, Naidu; Raudoja, Jaan; Loorits, Mihkel; Traksmaa, Rainer; Mellikov, Enn Thin solid films 2013 / p. 14-17 : ill

Solar energy harvesting through photovoltaic and photoelectrochemical means from appositely prepared CuInGaSe₂ absorbers on flexible substrates by a low-cost and industrially benign pulse electrodeposition technique

Mandati, Sreekanth; Misra, Prashant; Boosagulla, Divya; Tata, Narasinga Rao; Bulusu, Sarada V. Industrial and engineering chemistry research 2021 / p. 2197-2205 <https://doi.org/10.1021/acs.iecr.0c05934>

Solar PV Generation and Consumption Dataset of an Estonian Residential Dwelling

Hasan, Sayeed; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri Scientific Data 2025 / art. 481 <https://doi.org/10.1038/s41597-025-04747-w>

Sol-gel derived phosphors for optical applications : chapter 11

Rojas Hernandez, Rocio Estefania; Santos, Luis F.; Almeida, Rui M. Sol-gel derived optical and photonic materials 2020 / p. 253-270 : ill <https://doi.org/10.1016/B978-0-12-818019-8.00011-9>

Structural and compositional properties of CZTS thin films formed by rapid thermal annealing of electrodeposited layers

Lehner, Julia; Loorits, Mihkel; Revathi, Naidu; Raadik, Taavi; Raudoja, Jaan; Grossberg, Maarja; Mellikov, Enn; Volobujeva, Olga; Ganchev, Maxim Journal of crystal growth 2013 / p. 236-240 : ill <https://doi.org/10.1016/j.jcrysgro.2013.06.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Study of Cu₂CdGeSe₄ monograin powders synthesized by molten salt method for photovoltaic applications

Kauk-Kuusik, Marit; Li, Xiaofeng; Pilvet, Maris; Timmo, Kristi; Grossberg, Maarja; Raadik, Taavi; Danilson, Mati; Mikli, Valdek; Altosaar, Mare; Krustok, Jüri; Raudoja, Jaan Thin solid films 2018 / p. 15-19 <https://doi.org/10.1016/j.tsf.2018.09.025> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Study of Cu₂ZnSnSe₄ monograin formation in molten KI starting from binary chalcogenides

Klavina, Inga; Kaljuvee, Tiit; Timmo, Kristi; Raudoja, Jaan; Traksmaa, Rainer; Altosaar, Mare; Meissner, Dieter Thin solid films 2011 / p. 7399-7402 <https://www.sciencedirect.com/science/article/pii/S0040609011004305>

Synergistic effect of singlewalled carbon nanotubes and PEDOT:PSS in Thin film amorphous silicon hybrid solar cell

Alekseeva, Alena A.; Rajanna, Pramod M.; Anisimov, Anton S.; Sergeev, Oleg; Bereznev, Sergei; Nasibulin, Albert Physica status solidi (b) 2018 / 4 p. : ill <https://doi.org/10.1002/pssb.201700557> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis and characterisation of Cu₂ZnSnSe₄ thin films prepared via a vacuum evaporation-based route

Volobujeva, Olga; Bereznev, Sergei; Raudoja, Jaan; Otto, Kairi; Pilvet, Maris; Mellikov, Enn Thin solid films 2013 / p. 48-51 : ill <https://doi.org/10.1016/j.tsf.2012.12.080> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

ZnO nanowires for solar cells : a comprehensive review

Consonni, Vincent; Briscoe, Joe; Kärber, Erki Nanotechnology 2019 / art. 362001, 41 p : ill <https://doi.org/10.1088/1361-6528/ab1f2e> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Temperature dependent current transport properties in Cu₂ZnSnS₄ solar cells

Danilson, Mati; Kask, Erkki; Pokharel, Nikhil; Grossberg, Maarja; Kauk-Kuusik, Marit; Varema, Tiit; Krustok, Jüri Thin solid films 2015 / p. 162-165 : ill <https://doi.org/10.1016/j.tsf.2014.10.069> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Temperature dependent electroreflectance study of CdTe solar cells

Raadik, Taavi; Krustok, Jüri; Josepson, Raavo; Hiie, Jaan; Potlog, Tamara; Spalatu, Nicolae Thin solid films 2013 / p. 279-282
: ill <https://doi.org/10.1016/j.tsf.2012.12.083> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Temperature dependent optical and electrical characterization of SnS/CdS solar cell

Raadik, Taavi; Spalatu, Nicolae; Krustok, Jüri; Josepson, Raavo; Grossberg, Maarja Thin Solid Films 2022 / art. 139069
<https://doi.org/10.1016/j.tsf.2021.139069> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Temperature-dependent photoreflectance of SnS crystals

Raadik, Taavi; Grossberg, Maarja; Raudoja, Jaan; Traksmäa, Rainer; Krustok, Jüri Journal of physics and chemistry of solids 2013 / p. 1683-1685 : ill <https://doi.org/10.1016/j.jpcs.2013.06.002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The effect of S/Se ratio on the properties of Cu₂CdGe(SxSe_{1-x})₄ microcrystalline powders for photovoltaic applications

Li, Xiaofeng; Pilvet, Maris; Timmo, Kristi; Grossberg, Maarja; Mikli, Valdek; Kauk-Kuusik, Marit Solar energy 2020 / p. 646-652 : ill <https://doi.org/10.1016/j.solener.2020.09.045> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tunneling-enhanced interface recombination and current loss curves in kesterite solar cells

Krustok, Jüri; Timmo, Kristi; Kauk-Kuusik, Marit; Grossberg-Kuusk, Maarja Applied physics letters 2023 / art. 242102
<https://doi.org/10.1063/5.0175082> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Two-dimensional CuIn_{1-x}Ga_xSe₂ nano-flakes by pulse electrodeposition for photovoltaic applications

Mandati, Sreekanth; Dey, Suhash R.; Joshi, Shrikant V.; Sarada, Bulusu V. Solar energy 2019 / p. 396-404
<https://doi.org/10.1016/j.solener.2019.02.022>