

### **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; Malinauskienė, 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 Cu<sub>2</sub>Zn(Sn<sub>1-x</sub>Gex)<sub>4</sub> 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 Sb<sub>2</sub>S<sub>3</sub> 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 Cu<sub>2</sub>CdGeSe<sub>4</sub> 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/Cu<sub>2</sub>ZnSnSe<sub>4</sub>/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 Cu<sub>2</sub>ZnSnS<sub>4</sub> 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 Cu<sub>3</sub>BiS<sub>3</sub> 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 TiO<sub>2</sub>/Cu<sub>x</sub>O-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 Sb<sub>2</sub>S<sub>3</sub> 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 TiO<sub>2</sub> 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>

## 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-Kuusk, 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 Cu<sub>2</sub>ZnSnS<sub>4</sub> 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](#)

## Investigation of the solar cell materials Cu(In,Ga)Se<sub>2</sub> and Cu<sub>2</sub>ZnSnS<sub>4</sub> 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 Cu<sub>3</sub>BiS<sub>3</sub> 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 Cu<sub>2</sub>ZnSnSe<sub>4</sub>/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 Sb<sub>2</sub>S<sub>3</sub> 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 Cu<sub>2</sub>ZnSnS<sub>4</sub>/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 CuInSe<sub>2</sub> 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%20using%20various%20methods\\_Ho.pdf](http://eprints.intimal.edu.my/1267/1/CuInSe2%20thin%20films%20by%20using%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 2024 / p. 312 - 317 <https://doi.org/10.52202/078370-0035> [Conference proceedings at Scopus](#) [Article at Scopus](#)

## Radiative recombination in Cu<sub>2</sub>ZnSnSe<sub>4</sub> 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 Cu<sub>2</sub>ZnGe(S,Se)<sub>4</sub> 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](#)

## Sb<sub>2</sub>S<sub>3</sub> 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>

**Sb<sub>2</sub>S<sub>3</sub> 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; Looorts, Mihkel; Traksmäa, Rainer; Mellikov, Enn** Thin solid films 2013 / p. 14-17 : ill

**Solar energy harvesting through photovoltaic and photoelectrochemical means from appositely prepared CuInGaSe<sub>2</sub> 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; Looorts, 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 Cu<sub>2</sub>CdGeSe<sub>4</sub> 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 Cu<sub>2</sub>ZnSnSe<sub>4</sub> monograin formation in molten KI starting from binary chalcogenides**

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

**Synergistic effect of single-walled 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 Cu<sub>2</sub>ZnSnSe<sub>4</sub> 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 Cu<sub>2</sub>ZnSnS<sub>4</sub> 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 Cu<sub>2</sub>CdGe(S<sub>x</sub>Se<sub>1-x</sub>)<sub>4</sub> 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<sub>1-x</sub>Ga<sub>x</sub>Se<sub>2</sub> 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>