

Antimicrobial particles based on Cu₂ZnSnS₄ monograins

Žalneravicius, Rokas; Pakštas, Vidas; Grinciene, Giedre; Klimas, Vaclovas; Paškevičius, Algimantas; **Timmo, Kristi; Kauk-Kuusik, Marit**; Franckevicius, Marius; Niaura, Gediminas; Talaikis, Martynas; Jagminas, Arunas; Ramanavicius, Arunas Colloids and Surfaces B: Biointerfaces 2023 / art. 113275 <https://doi.org/10.1016/j.colsurfb.2023.113275> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Band gap engineering by cationic substitution in Sn(Zr_{1-x}Ti_x)Se₃ alloy for bottom sub-cell application in solar cells

Kondrotas, Rokas; Pakštas, Vidas; Franckevicius, Marius; Suchodolskis, Arturas; Tumenas, Saulius; Jasinskas, Vidmantas; Juskenas, Remigijus; Krotkus, Arunas; **Muska, Katri; Kauk-Kuusik, Marit** Journal of materials chemistry A 2023 / p. 26488–26498 : ill <https://doi.org/10.1039/D3TA05550G> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Characterization of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin materials grown in molten CdI₂ and LiI

Ghisani, Fairouz; **Timmo, Kristi; Altosaar, Mare; Mikli, Valdek; Pilvet, Maris; Kaupmees, Reelika; Krustok, Jüri; Grossberg, Maarja; Kauk-Kuusik, Marit** Thin solid films 2021 / art. 138980 <https://doi.org/10.1016/j.tsf.2021.138980> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Chemical etching of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin powder materials for solar cell applications

Ghisani, Fairouz; **Timmo, Kristi; Altosaar, Mare; Mikli, Valdek; Danilson, Mati; Grossberg, Maarja; Kauk-Kuusik, Marit** Materials science in semiconductor processing 2022 / art. 106291 <https://doi.org/10.1016/j.mssp.2021.106291> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparative study of SnS recrystallization in molten CdI₂, SnCl₂ and KI

Timmo, Kristi; Kauk-Kuusik, Marit; Pilvet, Maris; Mikli, Valdek; Kärber, Erki; Raadik, Taavi; Leinemann, Inga; Altosaar, Mare; Raudoja, Jaan Physica status solidi (c) 2016 / p. 8-12 : ill <https://doi.org/10.1002/pssc.201510082> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Compositionally tunable structure and optical properties of Cu_{1.85}(Cd_xZn_{1-x})_{1.1}SnS_{4.1} (0 ≤ x ≤ 1) monograin powders

Pilvet, Maris; Kauk-Kuusik, Marit; Altosaar, Mare; Grossberg, Maarja; Danilson, Mati; Timmo, Kristi; Mere, Arvo; Mikli, Valdek Thin solid films 2015 / p. 180-183 : ill <https://doi.org/10.1016/j.tsf.2014.10.091> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings 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-Kuusik, 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](#)

Cu₂ZnSnS₄ monograin layer solar cells for flexible photovoltaic applications

Kauk-Kuusik, Marit; Timmo, Kristi; Pilvet, Maris; Muska, Katri; Danilson, Mati; Krustok, Jüri; Josepson, Raavo; Mikli, Valdek; Grossberg-Kuusik, Maarja Journal of materials chemistry A 2023 / p. 23640-23652 <https://doi.org/10.1039/D3TA04541B> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cu(In,Ga)Se₂ monograin powders with different Ga content for solar cells

Timmo, Kristi; Kauk-Kuusik, Marit; Pilvet, Maris; Altosaar, Mare; Grossberg, Maarja; Danilson, Mati; Kaupmees, Reelika; Mikli, Valdek; Raudoja, Jaan; Varema, Tiit Solar energy 2018 / p. 648–655 : ill <https://doi.org/10.1016/j.solener.2018.10.078> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Detailed photoluminescence study of Cu₂Ge(SSe)₃ microcrystals

Kuusik, Jüri; Kaupmees, Reelika; Li, Xiaofeng; Kauk-Kuusik, Marit; Grossberg, Maarja AIP advances 2021 / art. 085105 <https://doi.org/10.1063/5.0053928> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of band gap tuned Cu₂Zn(Sn_{1-x}Gex)₄ monograin powders

Mengü, Idil; Grossberg-Kuusik, Maarja; Muska, Katri; Pilvet, Maris; Mikli, Valdek; Kaupmees, Reelika; Krustok, Jüri; Kauk-Kuusik, Marit Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 39 l. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Doping and alloying of kesterites

Romanyuk, Yaroslav E.; Haass, Stefan G.; Giraldo, Sergio; **Kauk-Kuusik, Marit** Journal of Physics Energy 2019 / art. 044004, 22 p. : ill <https://doi.org/10.1088/2515-7655/ab23bc>

Eesti teadlaste osalusel arendatud päikesepaneelid saab teha odavatest ja maakoorest laialt levinud materjalidest

Kauk-Kuusik, Marit toostusuudised.ee 2025 [Eesti teadlaste osalusel arendatud päikesepaneele saab teha odavatest ja maakoorest laialt levinud materjalidest](#)

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](#)

Effect of germanium incorporation on the properties of kesterite Cu₂ZnSn(S,Se)₄ monograins

Oueslati, Souhaib; Grossberg, Maarja; Kauk-Kuusik, Marit; Mikli, Valdek; Ernits, Kaia; Meissner, Dieter; Krustok, Jüri Thin solid films 2019 / p. 315–320 : ill <https://doi.org/10.1016/j.tsf.2018.11.020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effects of cationic substitution on the properties of Sb_{1-x}BixS₂ (x = 0–1) compounds

Dolcet Sadurni, Marc; Timmo, Kristi; Mikli, Valdek; Krustok, Jüri; Danilson, Mati; Suchodolskis, Arturas; Radu, Cristian; Bocirnea, Amelia Elena; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Journal of Alloys and Compounds 2025 / art. 182292 <https://doi.org/10.1016/j.jallcom.2025.182292>

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](#)

Enhanced grain orientation in Sb₂Se₃ thin films deposited on Mo/BSG substrates via RF-sputtering and selenization

Uslu, Mehmet Ender; Muska, Katri; Pilvet, Maris; Bereznev, Sergei; Mikli, Valdek; Kauk-Kuusik, Marit; Grossberg-Kuusk, Maarja Materials science in semiconductor processing 2024 / art. 108835 <https://doi.org/10.1016/j.mssp.2024.108835> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Growth of CZTS-based monograins and their application to membrane solar cells

Mellikov, Enn; Altosaar, Mare; Kauk-Kuusik, Marit; Timmo, Kristi; Meissner, Dieter; Grossberg, Maarja; Krustok, Jüri; Volobujeva, Olga Copper zinc tin sulfide-based thin film solar cells 2015 / p. 289-309 : ill

Growth of Cu₂CDGESE₄ monograin powders in molten salts [Online resource]

Li, Xiaofeng; Kauk-Kuusik, Marit Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [4.-5. veebr. 2019, Tartu : teesid] 2019 / 2 p <http://fmdtk.ut.ee/teesid-2019/>

Hydrogen states in mixed-cation CuIn(1-x)Ga_xSe₂ chalcopyrite alloys : a combined study by first-principles density-functional calculations and muon-spin spectroscopy

Marinopoulos, Apostolos G.; Vilao, Rui C.; Alberto, Helena Vieira; Ribeiro, E. F. M.; Gil, J. M.; Mengyan, P. W.; Goeks, M. R.; Kauk-Kuusik, Marit; Lord, J. S. Philosophical magazine 2021 / p. 2412-2434 <https://doi.org/10.1080/14786435.2021.1972178> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of Cu₂ZnSn(S_{1-x}Se_x)₄ (x=0.3) compositional ratios on the monograin powder properties and solar cells

Muska, Katri; Kauk-Kuusik, Marit; Grossberg, Maarja; Altosaar, Mare; Pilvet, Maris; Varema, Tiit; Timmo, Kristi; Volobujeva, Olga; Mere, Arvo Thin solid films 2013 / p. 35-38 : ill <https://doi.org/10.1016/j.tsf.2012.10.031> [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-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](#)

In Ambient Air Processed Cu₂ZnSnS₄ Absorber Layers from DMSO-Based Precursors: Enhanced Efficiency via Device Post-annealing

Nasyori, Achmad; Pilvet, Maris; Saar, Annabel; Krustok, Jüri; Danilson, Mati; Kaupmees, Reelika; Mikli, Valdek; Gong, Yuancai; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Journal of Materials Chemistry A 2025 <https://doi.org/10.1039/D5TA04554A>

In-depth photoluminescence analysis of Cu₂GeS₃ microcrystals under pulsed and continuous-wave excitation

Krustok, Jüri; Kokla, Joel; Kaupmees, Reelika; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Journal of Physics Energy 2025 <https://doi.org/10.1088/2515-7655/adc836>

Influence of alkali iodide fluxes on Cu₂ZnSnS₄ monograin powder properties and performance of solar cells

Timmo, Kristi; Pilvet, Maris; Muska, Katri; Altosaar, Mare; Mikli, Valdek; Kaupmees, Reelika; Josepson, Raavo; Krustok, Jüri; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Materials advances 2023 / p. 4509-4519 : ill <https://doi.org/10.1039/D3MA00444A> [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](#)

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](#)

Kesterite monograins for solar cells and water splitting applications

Oueslati, Souhaib; Pilvet, Maris; Grossberg, Maarja; Kauk-Kuusik, Marit; Krustok, Jüri; Meissner, Dieter Thin solid films 2021 / art. 138981 <https://doi.org/10.1016/j.tsf.2021.138981> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Kuidas ammutada päikesest võimalikult palju elektrit?

Käärt, Ulvar Horisont 2018 / lk. 34-38 : fot https://www.ester.ee/record=b1072243*est <http://www.horisont.ee/arhiiv-2018/Horisont-5-2018.pdf>
https://artiklid.elnet.ee/record=b2865298*est

Kübeke hõbedat vase asemele päikesepeünisesse

Vill, Ants Director. Inseneeria 2021 / lk. 50-57 : fot <https://director.ee/2021/02/03/kubeke-hobedat-vase-asemele-paikesepeunisses/>
http://www.ester.ee/record=b2336521*est

Low temperature time resolved photoluminescence in ordered and disordered Cu₂ZnSnS₄ single crystals

Raadik, Taavi; Krustok, Jüri; Kauk-Kuusik, Marit; Timmo, Kristi; Grossberg, Maarja; Ernits, Kaia; Bleuse, J. Physica B : condensed matter 2017 / p. 47-50 : ill <https://doi.org/10.1016/j.physb.2016.12.011> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Meie Eesti naised : Naisteadlased, kes parandavad tervist, vaimset heaolu, päikeseenergeetikat ja Eesti majandust

Velthut-Meikas, Agne; Bachmann, Maie; Leoste, Janika; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit goodnews.ee 2023
[Meie Eesti naised : Naisteadlased, kes parandavad tervist, vaimset heaolu, päikeseenergeetikat ja Eesti majandust](#)

Modification of the optoelectronic properties of Cu₂CdSnS₄ through low-temperature annealing

Pilvet, Maris; Kauk-Kuusik, Marit; Grossberg, Maarja; Raadik, Taavi; Mikli, Valdek; Traksmäa, Rainer; Raudoja, Jaan; Timmo, Kristi; Krustok, Jüri Journal of alloys and compounds 2017 / p. 820-825 : ill <https://doi.org/10.1016/j.jallcom.2017.06.307>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Nano-scale sulfurization of the Cu₂ZnSnSe₄ crystal surface for photovoltaic applications

Kauk-Kuusik, Marit; Li, Xiaofeng; Pilvet, Maris; Timmo, Kristi; Mikli, Valdek; Kaupmees, Reelika; Danilson, Mati; Grossberg, Maarja Journal of materials chemistry A 2019 / p. 24884-24890 : ill <https://doi.org/10.1039/C9TA08020A> [Journal metrics at Scopus](#)
[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Novel Cu₂CdSnS₄ and Cu₂ZnGeSe₄ absorber materials for monograin layer solar cell application

Timmo, Kristi; Kauk-Kuusik, Marit; Altosaar, Mare; Raudoja, Jaan; Raadik, Taavi; Grossberg, Maarja; Varema, Tiit; Pilvet, Maris; Leinemann, Inga; Volobujeva, Olga; Mellikov, Enn EU PVSEC proceedings 2013 / p. 2385-2388 : ill

Observation of band gap fluctuations and carrier localization in Cu₂CdGeSe₄

Krustok, Jüri; Raadik, Taavi; Kaupmees, Reelika; Grossberg, Maarja; Kauk-Kuusik, Marit; Timmo, Kristi; Mere, Arvo Journal of physics D : applied physics 2019 / art. 285102 , 7 p. : ill <https://doi.org/10.1088/1361-6463/ab1afd> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Observation of photoluminescence edge emission in CuSbSe₂ absorber material for photovoltaic applications

Penezko, Aleksei; Kauk-Kuusik, Marit; Volobujeva, Olga; Traksmäa, Rainer; Grossberg, Maarja Applied physics letters 2019 / art. 092101, 4 p. : ill <https://doi.org/10.1063/1.5114893> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical and structural properties of orthorhombic and tetragonal polymorphs of Cu₂CdGeSe₄

Grossberg, Maarja; Raadik, Taavi; Krustok, Jüri; Kauk-Kuusik, Marit; Timmo, Kristi; Kaupmees, Reelika; Mikli, Valdek; Mere, Arvo Thin solid films 2018 / p. 44-47 <https://doi.org/10.1016/j.tsf.2018.09.031> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical study of valence band splitting and resonant acceptor states in Cu₂GeS₃ microcrystals

Krustok, Jüri; Kaupmees, Reelika; Kokla, Joel; Kauk-Kuusik, Marit Applied physics letters 2024 / art. 242111
<https://doi.org/10.1063/5.0245139>

Photoelectrochemical properties and band positions of Cd-substituted tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin

materials grown in molten CdI₂ and LiI

Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare; Oueslati, Souhaib; **Pilvet, Maris; Kauk-Kuusik, Marit** Thin Solid Films 2022 / art. 139030 <https://doi.org/10.1016/j.tsf.2021.139030> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photoluminescence study of deep donor- deep acceptor pairs in Cu₂ZnSnS₄

Krustok, Jüri; Raadik, Taavi; Grossberg, Maarja; Kauk-Kuusik, Marit; Trifiletti, V.; Binetti, S. Materials science in semiconductor processing 2018 / p. 52-55 : ill <https://doi.org/10.1016/j.mssp.2018.02.025> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photoluminescence study of disordering in the cation sublattice of Cu₂ZnSnS₄

Grossberg, Maarja; Krustok, Jüri; Raadik, Taavi; Kauk-Kuusik, Marit; Raudoja, Jaan Current applied physics 2014 / p. 1424-1427 : ill <https://doi.org/10.1016/j.cap.2014.08.013> [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](#)

Post-growth annealing effect on the performance of Cu₂ZnSnSe₄ monograin layer solar cells

Kauk-Kuusik, Marit; Altosaar, Mare; Muska, Katri; Pilvet, Maris; Raudoja, Jaan; Timmo, Kristi; Varema, Tiit; Grossberg, Maarja; Mellikov, Enn; Volobujeva, Olga Thin solid films 2013 / p. 18-21 : ill <https://doi.org/10.1016/j.tsf.2012.11.075> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Preparation and characterization of SbSeI thin films

Dolcet Sadurni, Marc; Timmo, Kristi; Mikli, Valdek; Volobujeva, Olga; Mengü, Idil; Krustok, Jüri; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Journal of science: Advanced materials and devices 2024 / art. 100664 <https://doi.org/10.1016/j.jsamd.2023.100664> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Properties of Cu-Sb-Se thin films deposited by magnetron co-sputtering for solar cell applications

Penežko, Aleksei; Kauk-Kuusik, Marit; Volobujeva, Olga; Grossberg, Maarja Thin solid films 2021 / art. 139004 <https://doi.org/10.1016/j.tsf.2021.139004> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Properties of CuSbSe₂ and Sb₂Se₃ absorber materials for solar cell applications = Päikesepatarei absorbermaterjalide CuSbSe₂ ja Sb₂Se₃ omaduste uurimine

Penežko, Aleksei 2022 <https://doi.org/10.23658/taltech.74/2022> <https://digikogu.taltech.ee/et/Item/8767ee79-5fa2-4d9a-a63a-73835304d779> https://www.ester.ee/record=b5528448*est

Properties of CuSbSe₂ thin film solar cell absorbers deposited by magnetron co-sputtering

Penežko, Aleksei; Grossberg, Maarja; Volobujeva, Olga; Kauk-Kuusik, Marit GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 71 <http://fmtdk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

Pulsed laser deposition of chalcogenide sulfides from multi- and single-component targets: the non-stoichiometric material transfer

Schou, Jorgen; Gansukh, Mungunshagai; Ettlinger, Rebecca B.; Cazzaniga, Andrea; **Grossberg, Maarja; Kauk-Kuusik, Marit;** Canulescu, Stela Applied physics. A, Materials science & processing 2018 / Art. nr. 78 <https://doi.org/10.1007/s00339-017-1475-3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Päikeseneergeetika materjalide uuringud Eestis

Kauk-Kuusik, Marit; Grossberg, Maarja; Oja Acik, Ilona; Krunks, Malle Teadusmõte Eestis (X). Tehnikateadused. 3 : [artiklikogumik] 2019 / lk. 59-65 : ill., fot https://www.ester.ee/record=b5208765*est

Pyrite as promising monograin layer solar cell absorber material for in-situ solar cell fabrication on the Moon

Kristmann, Katriin; Raadik, Taavi; Altosaar, Mare; Grossberg-Kuusk, Maarja; Krustok, Jüri; Pilvet, Maris; Mikli, Valdek; Kauk-Kuusik, Marit; Makaya, Advenit Acta Astronautica 2022 / P. 420-424 <https://doi.org/10.1016/j.actaastro.2022.07.043> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Pyrite as prospective monograin layer solar cell absorber material for in-situ solar cell fabrication on the Moon

Kristmann, Katriin; Raadik, Taavi; Altosaar, Mare; Grossberg, Maarja; Krustok, Jüri; Pilvet, Maris; Mikli, Valdek; Kauk-Kuusik, Marit IAC 2021 congress proceedings 2021 / p. 1-6 : ill <https://deepzone3.ttu.ee/~juri.krustok/PDF-s/IAC-21.C3.4.7.x64087.pdf> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Pyrite FeS₂ solar cells fabrication for lunar base energy production

Kristmann, Katriin; Raadik, Taavi; Altosaar, Mare; Grossberg-Kuusk, Maarja; Krustok, Jüri; Pilvet, Maris; Mikli, Valdek; Kauk-Kuusik, Marit; Makaya, Advenit IAC 2022 congress proceedings 2022 / art. 190266 [Pyrite FeS₂ solar cells fabrication for lunar base energy production](#) [Conference proceedings at Scopus](#) [Article at Scopus](#)

Radiative recombination model for BiSe microcrystals : unveiling deep defects through photoluminescence
Dolcet Sadurni, Marc; Krustok, Jüri; Timmo, Kristi; Mikli, Valdek; Kondrotas, Rokas; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit Journal of Physics Energy 2024 / art. 045004 <https://doi.org/10.1088/2515-7655/ad8377> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Radiative recombination pathways in ordered and disordered CZTSe microcrystals
Mengü, Idil; Krustok, Jüri; Kaupmees, Reelika; Mikli, Valdek; Kauk-Kuusik, Marit; Grossberg-Kuusk, Maarja Materials chemistry and physics 2023 / art. 127685 <https://doi.org/10.1016/j.matchemphys.2023.127685> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reduced recombination through the CZTS/CdS interface engineering in monograin layer solar cells
Kauk-Kuusik, Marit; Timmo, Kristi; Muska, Katri; Pilvet, Maris; Krustok, Jüri; Danilson, Mati; Mikli, Valdek; Josepson, Raavo; Grossberg, Maarja JPhys Energy 2022 / art. 024007 <https://doi.org/10.1088/2515-7655/ac618d> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Studies of novel lowcost absorbers CUSBS2 and CUSBSE2 for solar cells [Online resource]
Penežko, Aleksei; Grossberg, Maarja; Kauk-Kuusik, Marit Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [4.-5. veebr. 2019, Tartu : teesid] 2019 / 1 p. : ill <http://fntdk.ut.ee/teesid-2019/>

Study of (AgxCu_{1-x})₂ZnSn(S,Se)₄ monograins synthesized by molten salt method for solar cell applications
Oueslati, Souhaib; Kauk-Kuusik, Marit; Neubauer, Christian; Mikli, Valdek; Meissner, Dieter; Brammertz, Guy; Vermang, B.; Krustok, Jüri; Grossberg, Maarja Solar energy 2020 / p. 586-595 <https://doi.org/10.1016/j.solener.2020.02.002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Study of composition and thermal treatments of quaternary compounds for monograin layer solar cells = Päikesepatareides kasutatavate monoterapulbriliste nelikühendite koostise ja termotötluste uurimine
Muska, Katri 2012 https://www.ester.ee/record=b2882895*est

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 Cu₂Ge(S,Se)₃ and Cu₂CdGe(S,Se)₄ monograin powders for photovoltaic applications
Li, Xiaofeng; Timmo, Kristi; Kauk-Kuusik, Marit Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 32 l. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Study of Cu₂Ge(S,Se)₃ and Cu₂CdGe(S,Se)₄ monograin powders for photovoltaic applications = Cu₂Ge(S,Se)₃ ja Cu₂CdGe(S,Se)₄ monoterapulbrite uurimine ning kasutamine päikesepatareides
Li, Xiaofeng 2022 <https://doi.org/10.23658/taltech.17/2022> <https://digikogu.taltech.ee/et/Item/54ffb72b-bac3-433f-b3bc-30a94df83592> https://www.ester.ee/record=b5499086*est

Study of Cu₂(Zn,Cd)SnS₄ absorber materials for monograin layer solar cells = Päikesepatareides kasutatavate Cu₂(Zn,Cd)SnS₄ absorbermaterjalide uurimine
Pilvet, Maris 2017 <https://digi.lib.ttu.ee/i/?8446> https://www.ester.ee/record=b4689398*est

Study of point defects in wide- bandgap Cu₂CdGeS₄ microcrystals by temperature and laser power dependent photoluminescence spectroscopy
Krustok, Jüri; Raadik, Taavi; Li, Xiaofeng; Kauk-Kuusik, Marit; Timmo, Kristi; Oueslati, Souhaib; Grossberg, Maarja Journal of physics D : applied physics 2020 / 10 p. : ill <https://doi.org/10.1088/1361-6463/ab83c1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Study of the optical properties of Sb₂(Se_{1-x}S_x)₃ (x = 0-1) solid solutions
Uslu, Mehmet Ender; Kondrotas, Rokas; Nedzinskas, Ramunas; Volobujeva, Olga; Timmo, Kristi; Kauk-Kuusik, Marit; Krustok, Jüri; Grossberg, Maarja Materials science in semiconductor processing 2022 / art. 106571 <https://doi.org/10.1016/j.mssp.2022.106571> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Study of the structure and optoelectronic properties of Cu₂Ge(S_{1-x}Se_x)₃ microcrystalline powders
Li, Xiaofeng; Timmo, Kristi; Grossberg, Maarja; Pilvet, Maris; Kaupmees, Reelika; Krustok, Jüri; Muska, Katri; Mikli, Valdek; Kauk-Kuusik, Marit Thin solid films 2022 / art. 139053, 6 p. : ill <https://doi.org/10.1016/j.tsf.2021.139053> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis and characterization of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin material for photovoltaic application
Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan; Mikli, Valdek; Pilvet, Maris; Kauk-Kuusik, Marit; Grossberg, Maarja Materials science in semiconductor processing 2020 / art. 104973 <https://doi.org/10.1016/j.mssp.2020.104973> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

[Scopus Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis and physical characteristics of narrow bandgap chalcogenide SnZrSe₃ : [version 2; peer review: 2 approved]

Kondrotas, Rokas; Juškeenas, Remigijus; Krotkus, Arunas; Pakštas, Vidas; Suchodolskis, Arturas; Mekys, Algirdas; Franckevičius, Marius; Talaikis, Martynas; **Muska, Katri; Li, Xiaofeng; Kauk-Kuusik, Marit**; Kravtsov, Victor Open Research Europe 2023 / art. 138 <https://doi.org/10.12688/openreseurope.15168.2> <https://open-research-europe.ec.europa.eu/articles/2-138> <https://doi.org/10.5281/zenodo.7867349> [Journal metrics at Scopus](#) [Article at Scopus](#)

Synthesis of Cu₂(ZnCd)SnS₄ absorber material for monograin membrane applications

Nkwusi, Godswill; Leinemann, Inga; Raudoja, Jaan; Mikli, Valdek; Kauk-Kuusik, Marit; Altosaar, Mare; Mellikov, Enn Materials Research Society symposium proceedings 2014 / 6 p. : ill <https://doi.org/10.1557/opl.2014.245> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Tallinna Tehnikaülikooli teadlased lõid uue põlvkonna päikesepatarei [Võrguväljaanne]

Kauk-Kuusik, Marit novaator.err.ee 2020 / fot [Tallinna Tehnikaülikooli teadlased lõid uue põlvkonna päikesepatarei](#)

TalTech toob päikeselise tuleviku

Ehitaja 2023 / lk. 34-35 : fot https://www.ester.ee/record=b1072123*est https://artiklid.elnet.ee/record=b2904074*est

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 photorefectance study of Cu₂SnS₃ thin films produced by pulsed laser deposition

Raadik, Taavi; Grossberg, Maarja; Krustok, Jüri; Kauk-Kuusik, Marit Applied physics letters 2017 / p. 261105-1 - 261105-4 : ill <https://doi.org/10.1063/1.4990657> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The effect of Ag alloying of Cu₂(Zn,Cd)SnS₄ on the monograin powder properties and solar cell performance

Timmo, Kristi; Altosaar, Mare; Pilvet, Maris; Mikli, Valdek; Grossberg, Maarja; Danilson, Mati; Raadik, Taavi; Josepson, Raavo; Krustok, Jüri; Kauk-Kuusik, Marit Journal of materials chemistry A 2019 / p. 24281-24291 : ill <https://doi.org/10.1039/C9TA07768E> TTÜ teadlased tõstsid uue põlvkonna päikesepaneelide tõhusust [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](#)

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

Li, Xiaofeng; Kauk-Kuusik, Marit; Timmo, Kristi; Pilvet, Maris; Grossberg, Maarja; Raadik, Taavi; Danilson, Mati; Mikli, Valdek GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 52 <http://fmt.dk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

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](#)

Uued inimesed ja positsioonid

Kõrbe Kaare, Kati; Veltri, Niccolo; Grossberg-Kuusk, Maarja; Kauk-Kuusik, Marit; Konist, Alar; Sildever, Sirje; Avarmaa, Mari Mente et Manu 2023 / lk. 49-53 : fot https://www.ester.ee/record=b1242496*est

Uus materjal suurendab päikesepaneelide tõhusust

Imeline Teadus 2020 / lk. 20 : fot https://www.ester.ee/record=b2747925*est

Умная эстонка разрабатывает солнечные батареи, которые можно интегрировать в одежду

limon.ee 2023 [Умная эстонка разрабатывает солнечные батареи, которые можно интегрировать в одежду](#)

Ученые: солнечные панели можно делать и из дешевых материалов

Kauk-Kuusik, Marit dv.ee 2025 [Ученые: солнечные панели можно делать и из дешевых материалов](#)