

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](#)

Bandgap fluctuations, hot carriers, and band-to-acceptor recombination in Cu₂ZnSn(S,Se)₄ microcrystals

Krustok, Jüri; Kaupmees, Reelika; Abbasi, Nafiseh; Muska, Katri; Mengü, Idil; Timmo, Kristi Physica status solidi - rapid research letters 2023 / art. 2300077, 5 p. : ill <https://doi.org/10.1002/pssr.202300077> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Broad-band photoluminescence of donor-acceptor pairs in tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ microcrystals

Krustok, Jüri; Raadik, Taavi; Kaupmees, Reelika; Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare; Mikli, Valdek; Grossberg, Maarja Journal of physics D: applied physics 2021 / art. 105102, 7 p. : ill <https://doi.org/10.1088/1361-6463/abce29> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Characterization of Cu₂ZnSnSe₄ monograin layer solar cells

Altosaar, Mare; Timmo, Kristi; Danilson, Mati; Raudoja, Jaan; Mellikov, Enn Proceedings of the International Conference on Solar Cells : IC-SOLACE 2008 : January 21-23, 2008, Cochin, India 2008 / p. 103-105 : ill

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](#)

Characterization of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin materials grown in molten CdI₂ and LiI : [conference paper]

Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / p. 29 https://fmdtk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf

Chemical etching of Cu₂ZnSn(S,Se)₄ monograin powder

Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan; Grossberg, Maarja; Danilson, Mati; Volobujeva, Olga; Mellikov, Enn 35th IEEE Photovoltaic Specialists Conference : Honolulu, HI, June 20-25, 2010 : conference proceedings 2010 / p. 1982-1985 : ill

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](#)

Chemical treatment of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin powder

Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 24 <http://fmdtk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

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](#)

CZTS monograin powders and thin films

Mellikov, Enn; Meissner, Dieter; Altosaar, Mare; Kauk, Marit; Krustok, Jüri; Öpik, Andres; Volobujeva, Olga; Iljina, Julia; Timmo, Kristi; Klavina, J.; Raudoja, Jaan; Grossberg, Maarja; Varema, Tiit; Muska, Katri; Ganchev, Maxim; Bereznev, Sergei; Danilson, Mati Advanced materials research 2011 / p. 8-13

Cu₂Zn_{1-x}CdSn(Se_{1-y}Sy)₄ solid solutions as absorber materials for solar cells

Altosaar, Mare; Raudoja, Jaan; Timmo, Kristi; Danilson, Mati; Grossberg, Maarja; Krustok, Jüri; Mellikov, Enn Physica status solidi (a) : applications and materials science 2008 / 1, p. 167-170 : ill <https://colab.ws/articles/10.1002%2Fpssa.200776839>

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-Kuusk, 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](#)

Cu₂ZnSnSe₄ films from binary precursors

Volobujeva, Olga; Mellikov, Enn; Timmo, Kristi; Danilson, Mati; Bereznev, Sergei Journal of Renewable and Sustainable Energy 2013 / art. 031618 <https://doi.org/10.1063/1.4811242> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cu₂ZnSnSe₄ monograin powders for solar cell application [Electronic resource]

Altosaar, Mare; Raudoja, Jaan; Timmo, Kristi; Danilson, Mati; Grossberg, Maarja; Krunks, Malle; Varema, Tiit; Mellikov, Enn 2006 IEEE 4th World Conference on Photovoltaic Energy Conversion - WCPEC 2006 / [CD-ROM]

Cu₂(Zn_xSn_{2-x})(SySe_{1-y})₄ monograin materials for photovoltaics

Mellikov, Enn; Altosaar, Mare; Raudoja, Jaan; Timmo, Kristi; Volobujeva, Olga; Kauk, Marit; Krustok, Jüri; Varema, Tiit; Grossberg, Maarja; Danilson, Mati; Muska, Katri; Ernits, Kaia; Lehner, Franz; Meissner, Dieter Materials Challenges in Alternative and Renewable Energy: a collection of papers presented at the Materials Challenges in Alternative and Renewable Energy Conference February 21-24, 2010, Cocoa Beach, Florida 2011 / p. 137-142 : ill

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](#)

CuInSe₂ monograin growth in the liquid phase of potassium iodide

Timmo, Kristi; Altosaar, Mare; Kauk, Marit; Raudoja, Jaan; Mellikov, Enn Thin solid films 2007 / 15, p. 5884-5886 <https://www.sciencedirect.com/science/article/pii/S0040609006016385>

Defect studies in Cu₂ZnSnSe₄ and Cu₂ZnSn(Se_{0.75}S_{0.25})₄ by admittance and photoluminescence spectroscopy

Kask, Erkki; Grossberg, Maarja; Josepson, Raavo; Salu, Pille; Timmo, Kristi; Krustok, Jüri Materials science in semiconductor processing 2013 / p. 992-996 : ill <https://doi.org/10.1016/j.mssp.2013.02.009> [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](#)

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](#)

The effect of tin doping on the band structure and optical properties of polycrystalline antimony selenide

Uslu, Mehmet Ender; Danilson, Mati; Timmo, Kristi; Grossberg-Kuusk, Maarja Physica B : condensed matter 2024 / art. 415744 <https://doi.org/10.1016/j.physb.2024.415744> [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}Bi_xSe (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>

Effects of sulphur and tin disulphide vapour treatments of Cu₂ZnSnS(Se)₄ absorber materials for monograin solar cells

Kauk, Marit; Muska, Katri; Altosaar, Mare; Raudoja, Jaan; Pilvet, Maris; Varema, Tiit; Timmo, Kristi; Volobujeva, Olga Energy procedia 2011 / p. 197-202 <https://www.sciencedirect.com/science/article/pii/S1876610211020030>

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](#)

Formation of properties of CuInSe₂ and Cu₂ZnSn(S,Se)₄ monograin powders synthesized in molten KI =

Kaaliunjodiidsulandaja keskkonnas kasvatatud monoterapulbrite CuInSe₂ ja Cu₂ZnSn(S,Se)₄ omaduste kujundamine Timmo, Kristi 2011

Further developments in CIS monograin layer solar cells technology

Altosaar, Mare; Danilson, Mati; Kauk, Marit; Krustok, Jüri; Mellikov, Enn; Raudoja, Jaan; Timmo, Kristi; Varema, Tiit Solar energy materials and solar cells 2005 / p. 25-32 : ill

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

Identification of excitons and biexcitons in Sb₂Se₃ under high photoluminescence excitation density

Krustok, Jüri; Kondrotas, Rokas; Nedzinskas, Ramunas; Timmo, Kristi; Kaupmees, Reelika; Mikli, Valdek; Grossberg, Maarja Advanced optical materials 2021 / 8 p. : ill <https://doi.org/10.1002/adom.202100107> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of Cu₂ZnSn(SexS_{1-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](#)

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](#)

Kuidas saada roheline energia ekspordiks? Õppides TalTechi uues magistriprogrammis!

Grossberg-Kuusk, Maarja; Timmo, Kristi delfi.ee 2025 <https://www.delfi.ee/artikkel/120372237/kuidas-saada-rohelise-energia-ekspordiks-oppides-taltech-i-uues-magistriprogrammis>

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](#)

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](#)

Muonium states in Cu₂ZnSnS₄ solar cell material

Alberto, Helena Vieira; Vilão, R.C.; Gil, J.M.; Duarte, J. Piroto; Viera, R.B.L.; Weidinger, Alois; Leitão, J.P.; Da Cunha, A.F.; Timmo, Kristi; Loooris, Mihkel 13th International Conference on Muon Spin Rotation, Relaxation and Resonance (muSR2014), 1-6 June 2014. Grindelwald, Switzerland (C14-06-01.1) 2014 / 6 p. : ill <https://doi.org/10.1088/1742-6596/551/1/012045> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at Scopus](#)

Naatriumiga legeerimise mõju monoterapulbrilise CuInSe₂ omadustele

Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan; Danilson, Mati; Grossberg, Maarja XXIX Eesti keemiapäevad : teaduskonverentsi ettekannete teesid = 29th Estonian Chemistry Days : abstracts of scientific conference 2005 / lk. 111-112

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](#)

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](#)

The optoelectronic properties of Sb₂(Se_{1-x}, S_x)₃ (x= 0 - 1) solid solutions

Ender, Mehmet; Volobujeva, Olga; Timmo, Kristi; Grossberg, Maarja GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 4 https://fmdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf

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 and Raman study of Cu₂ZnSn(SexS_{1-x})₄ monograins for photovoltaic applications

Grossberg, Maarja; Krustok, Jüri; Raudoja, Jaan; Timmo, Kristi; Altosaar, Mare; Raadik, Taavi Thin solid films 2011 / p. 7403-7406 : ill

Physical routes for the synthesis of kesterite

Ratz, T.; Brammertz, Guy; Caballero, R.; Timmo, Kristi Journal of Physics Energy 2019 / art. 042003, 23 p. : ill <https://doi.org/10.1088/2515-7655/ab281c>

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](#)

Radiative recombination in Cu₂ZnSnSe₄ monograins studied by photoluminescence spectroscopy

Grossberg, Maarja; Krustok, Jüri; Timmo, Kristi; Altosaar, Mare Thin solid films 2009 / 7, p. 2489-2492 : ill <https://www.sciencedirect.com/science/article/abs/pii/S0040609008014053>

Radiative recombination model for BiSeI 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](#)

Reaction enthalpies of Cu₂ZnSnSe₄ synthesis in KI

Leinemann, Inga; Timmo, Kristi; Grossberg, Maarja; Kaljuvee, Tiit; Tõnsuaadu, Kaia; Traksmäa, Rainer; Altosaar, Mare; Meissner, Dieter Journal of thermal analysis and calorimetry 2015 / p. 1555-1564 : ill <https://doi.org/10.1007/s10973-014-4339-5> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reaction pathway to Cu₂ZnSnSe₄ formation in CdI₂ : part 1. Chemical reactions and enthalpies in mixtures of CdI₂-ZnSe, CdI₂-SnSe, and CdI₂-CuSe

Leinemann, Inga; Nkwusi, Godswill; Timmo, Kristi; Volobujeva, Olga; Danilson, Mati; Raudoja, Jaan vt.ka Mäddasson, Jaan; Kaljuvee, Tiit; Traksmäa, Rainer; Altosaar, Mare; Meissner, Dieter Journal of thermal analysis and calorimetry 2018 / p.409 - 421 : ill <https://doi.org/10.1007/s10973-018-7102-5> [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](#)

Research in solar cell technologies at Tallinn University of Technology

Mellikov, Enn; Altosaar, Mare; Krunks, Malle; Krustok, Jüri; Varema, Tiit; Volobujeva, Olga; Grossberg, Maarja; Kaupmees, Liina; Dedova, Tatjana; Timmo, Kristi; Ernits, Kaia; Kois, Julia; Oja Acik, Ilona; Danilson, Mati; Bereznev, Sergei Thin solid

Solubility of CuInSe₂ in potassium iodide

Kauk, Marit; Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan Conference on Knowledge-based Materials and Technologies for Sustainable Chemistry : 1-5 June 2005, Tallinn, Estonia : abstract book 2005 / p. 90

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 kasutamise 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 Cu₂ZnSnSe₄ 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>

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 structural and optoelectronic properties of Cu₂Zn(Sn_{1-x}Ge_x)Se₄ (x = 0 to 1) alloy compounds

Grossberg, Maarja; Timmo, Kristi; Raadik, Taavi; Kärber, Erki; Mikli, Valdek; Krustok, Jüri Thin solid films 2015 / p. 176-179 : ill <https://doi.org/10.1016/j.tsf.2014.10.055> [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_{6x}S_{1-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](#)

Sulfur-containing Cu₂ZnSnSe₄ monograin powders for solar cells

Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan; Muska, Katri; Pilvet, Maris; Kauk, Marit; Varema, Tiit; Danilson, Mati; Volobujeva, Olga; Mellikov, Enn Solar energy materials & solar cells 2010 / 11, p. 1889-1892 : ill

Synthesis and characterization of tetrahedrite absorber materials for photovoltaic application

Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 17 l. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

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](#)

Synthesis and characterization of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin material for photovoltaic application [Online resource]

Ghisani, Fairouz; Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [4.-5. veebr. 2019, Tartu : teesid] 2019 / 1 p <http://fntdk.ut.ee/teesid-2019/>

Synthesis and characterization of tetrahedrite Cu₁₀Cd₂Sb₄S₁₃ monograin powders for photovoltaic applications = Tetraedriitsete Cu₁₀Cd₂Sb₄S₁₃ monoterapulbrite süntees ja iseloomustamine kasutamiseks päikesepatareides

Ghisani, Fairouz 2022 <https://doi.org/10.23658/taltech.45/2022> <https://digikogu.taltech.ee/et/Item/916bb43a-3742-40c3-b91a-06a06cafd299> https://www.ester.ee/record=b5507330*est

Tailoring composition and properties of CuInSe₂ materials for solar cell application

Kauk, Marit; Timmo, Kristi; Kaupmees, Liina; Altosaar, Mare; Raudoja, Jaan The Fourth International Conference on Advanced Optical Materials and Devices : (AOMD-4) : Tartu, Estonia, July 6-9, 2004 : abstracts 2004 / p. 44

Tailoring the composition and properties of CuInSe₂ materials for solar cell application

Kauk, Marit; Altosaar, Mare; Raudoja, Jaan; Timmo, Kristi; Grossberg, Maarja; Varema, Tiit; Ernits, Kaia Proceedings of SPIE 2005 / Optical materials and applications, p. 224

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>

The effect of sodium doping to CuInSe₂ monograin powder properties

Timmo, Kristi; Altosaar, Mare; Raudoja, Jaan; Mellikov, Enn; Varema, Tiit; Danilson, Mati; Grossberg, Maarja Thin solid films 2007 / 15, p. 5887-5890

The influence of doping with donor type impurities on the properties of CuInSe₂

Kauk, Marit; Altosaar, Mare; Raudoja, Jaan; Timmo, Kristi; Varema, Tiit; Danilson, Mati; Grossberg, Maarja; Mellikov, Enn Physica status solidi (c) 2008 / 2, p. 609-611 : ill <https://onlinelibrary.wiley.com/doi/abs/10.1002/pssc.200776831>

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](#)