

Analysis of the edge emission of highly conductive CuGaTe₂

Krustok, Jüri; Grossberg, Maarja; Jagomägi, Andri; Danilson, Mati; Raudoja, Jaan Thin solid films 2007 / 15, p. 6192-6195
<https://www.sciencedirect.com/science/article/abs/pii/S0040609006016117>

Application of modulation spectroscopy methods in photovoltaic materials research = Modulatsioonspektroskoopia meetodite rakendamise päikeseenergeetika materjalide uurimiseks

Raadiik, Taavi 2015 <https://digi.lib.ttu.ee/i/?2521> https://www.ester.ee/record=b4482452*est

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

Krustok, Jüri; Raadiik, 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](#)

Characteristic low-energy Raman modes in twisted bilayer graphene

Kahro, Tauno; Niilisk, Ahti; Rähn, Mihkel; Grossberg, Maarja; Alles, Harry TÜ ja TTÜ doktorikool "Funktsionaalsed materjalid ja tehnoloogiad" : 04.-05. märts 2014, Tartu 2014 / [1] p. : 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](#)

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 vapour deposition of WS₂ monolayers [Online resource]

Kaupmees, Reelika; Grossberg, Maarja; Krustok, Jüri Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [4.-5. veebr. 2019, Tartu : teesid] 2019 / 1 p <http://fmtdk.ut.ee/teesid-2019/>

Comparison of copper zinc tin selenide formation in molten potassium iodide and sodium iodide as flux materials

Leinemann, Inga; Raudoja, Jaan; Grossberg, Maarja; Traksmäa, Rainer; Kaljuvee, Tiit; Altosaar, Mare; Meissner, Dieter Conference proceedings of the Conference of Young Scientists on Energy Issues : Kaunas, Lithuania, 27-28 May, 2010 2011 / [8] p https://www.researchgate.net/publication/284715158_COMPARISON_OF_COPPER_ZINC_TIN_SELENIDE_FORMATION_IN_MOLTEN_POTASSIUM_IODIDE_AND_SODIUM_IODIDE_AS_FLUX_MATERIALS

Compositional dependence of Raman scattering and photoluminescence emission in Cu-Ga-Se films grown by MOCVD

Grossberg, Maarja; Krustok, Jüri; Siebentritt, Susanne; Albert, Jürgen Physica B : condensed matter 2009 / 14/15, p. 1984-1988 : ill

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>

Cu₂ZnSnSe₄ films by selenization of Sn-Zn-Cu sequential films

Volobujeva, Olga; Raudoja, Jaan; Mellikov, Enn; Grossberg, Maarja; Bereznev, Sergei; Traksmäa, Rainer Journal of physics and chemistry of solids 2009 / p. 567-570 : ill

Cu₂ZnSnSe₄ formation and reaction enthalpies in molten NaI starting from binary chalcogenides

Leinemann, Inga; Zhang, Weihao; Kaljuvee, Tiit; Tõnsuaadu, Kaia; Traksmäa, Rainer; Raudoja, Jaan; Grossberg, Maarja; Altosaar, Mare; Meissner, Dieter Journal of thermal analysis and calorimetry 2014 / p. 1313-1321 : ill <https://doi.org/10.1007/s10973->

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 preparation through a new solution based selenisation process

Kauk, Marit; Altosaar, Mare; Grossberg, Maarja; Varema, Tiit 17th International Photovoltaic Science and Engineering Conference : Fukuoka, Japan, 3-7.12.2007 2007

Deep and edge photoluminescence emission of CuInTe₂

Jagomägi, Andri; Krustok, Jüri; Raudoja, Jaan; Grossberg, Maarja; Danilson, Mati Physica status solidi (b) 2003 / 2, p. R3-R5

Deep defect related photoluminescence in heavily doped GaGaTe₂

Jagomägi, Andri; Krustok, Jüri; Grossberg, Maarja; Danilson, Mati; Raudoja, Jaan Physica status solidi (a) 2006 / 5, p. 949-955 : ill <http://deepzone3.ttu.ee/~juri.krustok/PDF-s/Deep%20defect%20related%20photoluminescence%20in%20heavily%20doped.pdf>

Deep defects in Cu₂ZnSnS₄ monograin solar cells

Kask, Erkki; Raadik, Taavi; Grossberg, Maarja; Josepson, Raavo; Krustok, Jüri Energy procedia 2011 / p. 261-265

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](#)

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](#)

Device characteristics of CuInSe₂ based solar cells

Krustok, Jüri; Danilson, Mati; Jagomägi, Andri; Grossberg, Maarja; Raudoja, Jaan The Fourth International Conference on Advanced Optical Materials and Devices : (AOMD-4) : Tartu, Estonia, July 6-9, 2004 : abstracts 2004 / p. 45

Device characteristics of CuInSe₂ based solar cells

Krustok, Jüri; Danilson, Mati; Jagomägi, Andri; Grossberg, Maarja; Raudoja, Jaan Proceedings of SPIE 2005 / Optical materials and applications, p. 236-242

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 alkali ions (Na⁺, K⁺, Cs⁺) on reaction mechanism of CZTS nano-particles synthesis

Kumar, Suresh; Altosaar, Mare; Grossberg, Maarja; Mikli, Valdek Superlattices and microstructures 2018 / p. 54-63 : ill <https://doi.org/10.1016/j.spmi.2018.02.019>

Effect of alkali ions (Na⁺, K⁺, Cs⁺) on reaction mechanism of CZTS nano-particles synthesis [Online resource]

Kumar, Suresh; Altosaar, Mare; Grossberg, Maarja; Mikli, Valdek Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [7-8 märtsil 2018, Tallinn : teesid] GSFMT Scientific Conference 2018 : Tallinn, March 7-8, 2018 : abstracts 2018 / 1 p <http://fntdk.ut.ee/teesid-2018/>

Effect of germanium incorporation on the properties of kesterite $\text{Cu}_2\text{ZnSn}(\text{S,Se})_4$ 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](#)

Effect of the substrate surface on properties of RF sputtered magnetronantimony selenide (Sb_2Se_3) for thin-films

Uslu, Mehmet Ender; Grossberg, Maarja; **Volobujeva, Olga** GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 86 <http://fmdtk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

Formation of copper zinc tin sulfide in cadmium iodide for monograin membrane solar cells

Nkwusi, Godswill; **Leinemann, Inga**; Grossberg, Maarja; **Kaljuvee, Tiit**; **Traksmäa, Rainer**; **Altosaar, Mare**; **Meissner, Dieter** Conference proceedings of the Conference of Young Scientists on Energy Issues : CYSENI 2012 : May 24–25, Kaunas, Lithuania 2012 / p. II 38-II 46 : ill https://www.researchgate.net/publication/274889568_FORMATION_OF_COPPER_ZINC_TIN_SULFIDE_IN_CADMIUM_IODIDE_FOR_MONOGRAIN_MEMBRANE_SOLAR_CELLS

Füüsika piire ületamas

Grossberg, Maarja; **Suurvarik, Pavel** Tallinna Tehnikaülikooli aastaraamat 2007 2008 / lk. 360-361. (Konverentsimuljeid)

Füüsikakroonika 2006

Kaasik, Helle; **Grossberg, Maarja** Eesti Füüsika Seltsi aastaraamat 2006 2007 / lk. 83-126 https://artiklid.elnet.ee/record=b2401825*est

Füüsikakroonika 2007

Kaasik, Helle; **Grossberg, Maarja** Eesti Füüsika Seltsi aastaraamat 2007 2008 / lk. 106-148

Füüsikakroonika 2008

Grossberg, Maarja Eesti Füüsika Seltsi aastaraamat 2008 2009 / lk. 143-183

Growth and characterization of $\text{Cu}_2\text{Zn}_{1-x}\text{Fe}_x\text{SnS}_4$ thin films for photovoltaic applications

Trifiletti, Vanira; Tseberlidis, Giorgio; Colombo, Mario; Spinardi, Alberto; Luong, Sally; **Danilson, Mati**; **Grossberg, Maarja**; Fenwick, Oliver; Binetti, Simona Materials 2020 / art. 1471, 13 p. : ill <https://doi.org/10.3390/ma13061471> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Growth and electrical properties of ZnO nanorod arrays prepared by chemical spray pyrolysis

Krunk, Malle; **Dedova, Tatjana**; Kärber, Erki; **Mikli, Valdek**; **Oja Acik, Ilona**; **Grossberg, Maarja**; **Mere, Arvo** Physica B 2009 / p. 4422-4425 : ill

Growth and optical properties of two-dimensional transition metal dichalcogenides = Kahedimensionaalsete siirdemetallide dikalkogeniidide kasvatus ning optiliste omaduste uurimine

Kaupmees, Reelika 2021 <https://digikogu.taltech.ee/et/Item/72b400aa-c5da-4db6-8cb0-acce54153e2a>
https://www.ester.ee/record=b5429502*est <https://doi.org/10.23658/taltech.25/2021>

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

Melikov, 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 Cu-rich/poor CuInS_2 thin films by the sequential modulated flux deposition technique

Bollero, Alberto; **Grossberg, Maarja**; **Raadik, Taavi**; Trigo, Juan Francisco; Herrero, Jose; Gutierrez, Ma Teresa Thin-film compound semiconductor photovoltaics - 2009 2009 / p. M02-06

High temperature properties of CdTe crystals, doped by Sb

Fochuk, P.; Grill, R.; Nykonyuk, Y.; **Krustok, Jüri**; Armani, N.; Zakharuk, Z.; **Grossberg, Maarja**; Panchuk, O. IEEE transactions on nuclear science 2007 / 4, p. 763-768

Identification of excitons and biexcitons in Sb_2Se_3 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 $\text{Cu}_2\text{ZnSn}(\text{SexS}_{1-x})_4$ ($x=0.3$) 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](#)

Influence of annealing conditions on the structural quality of CuInSe_2 thin films

Volobujeva, Olga; Kois, Julia; Traksmäa, Rainer; Muska, Katri; Bereznev, Sergei; Grossberg, Maarja; Mellikov, Enn Thin solid films 2008 / 20, p. 7105-7109 : ill <https://www.sciencedirect.com/science/article/abs/pii/S0040609007020202>

Influence of compositional deviations on the properties of Cu₂ZnSnSe₄ monograin powders

Muska, Katri; Kauk, Marit; Grossberg, Maarja; Altosaar, Mare; Raudoja, Jaan; Volobujeva, Olga Energy procedia 2011 / p. 323-327

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 potential and compositional fluctuations in CuGa₃Se₅ crystals using photoluminescence spectroscopy

Grossberg, Maarja; Krustok, Jüri; Jagomägi, Andri; Leon, M.; Arushanov, E.; Nateprov, A.; Bodnar, I. Thin solid films 2007 / 15, p. 6204-6207 : ill <https://www.sciencedirect.com/science/article/pii/S0040609006016221>

Isothermal and two-temperature zone selenization of Mo layers

Kaupmees, Liina; Altosaar, Mare; Volobujeva, Olga; Raadik, Taavi; Grossberg, Maarja; Danilson, Mati; Mellikov, Enn; Barvinski, Paul Advances in materials science and engineering 2012 / Article ID 345762. [11] p. : ill https://www.researchgate.net/publication/258383467_Isothermal_and_Two-Temperature_Zone_Selenization_of_Mo_Layers

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

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](#)

Maarja Grossberg : Eestis tehtav teadus muudab päikesepaneelid tarbijale kättesaadavamaks

Grossberg, Maarja heureka.postimees.ee 2019 / fot [Maarja Grossberg: Eestis tehtav teadus muudab päikesepaneelid tarbijale kättesaadavamaks](#)

Maarja Grossberg ja Jüri Krustok: teadus areneb alati säästlikuma ja tõhusama poole

Grossberg, Maarja; Krustok, Jüri Mente et Manu 2021 / lk. 12-17 : fot [Mente et Manu 2/2021](#)

Manganese-substituted kesterite thin-films for earth-abundant photovoltaic applications

Trifiletti, Vanira; Frioni, Luigi; Tseberlidis, Giorgio; Vitiello, Elisa; **Danilson, Mati; Grossberg, Maarja; Acciarri, Maurizio; Binetti, Simona; Marchionna, Stefano** Solar energy materials and solar cells 2023 / art. 112247, 13 p. : ill <https://doi.org/10.1016/j.solmat.2023.112247> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Materjaliteadlane : tulevikus on päikesepaneelid juba ehitusmaterjalide sees [Võrguväljaanne]

Grossberg, Maarja novaator.err.ee 2020 / audio [Materjaliteadlane: tulevikus on päikesepaneelid juba ehitusmaterjalide sees](#)

Microphotoluminescence study of Cu₂ZnSnS₄ polycrystals

Grossberg, Maarja; Salu, Pille; Raudoja, Jaan; Krustok, Jüri Journal of photonics for energy 2013 / p. 030599-1 - 030599-6 : ill

Milleks meile uued päikesepaneelitehnoloogiad?

Grossberg, Maarja Sirp 2020 / lk. 33-34 : fot <https://sirp.ee/s1-artiklid/c21-teadus/milleks-meile-uued-paikesepaneelitehnoloogiad/>

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](#)

Monograin layer solar cell for future lunar outpost

Kristmann, Katriin; Altosaar, Mare; Raudoja, Jaan; Grossberg, Maarja; Krustok, Jüri; Raadik, Taavi IAC 2020 congress proceedings Proceedings of the International Astronautical Congress, IAC 2020 / 7 p. : ill [Monograin layer solar cell for future lunar outpost](#) <https://dl.iafastro.directory/event/IAC-2020/paper/56905/> [Conference proceeding at Scopus](#) [Article at Scopus](#)

Naatriumiga leegerimise 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](#)

Noorteadlaste ühendatud jõud - Eesti Noorte Teaduste Akadeemia

Grossberg, Maarja Mente et Manu 2018 / lk. 42-43 : fot <http://dea.digar.ee/publication/AKmenteetmanu>
http://www.ester.ee/record=b1242496*est https://artiklid.elnet.ee/record=b2862660*est

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

A novel deposition method to grow ZnO nanorods : spray pyrolysis

Dedova, Tatjana; Krunks, Malle; Grossberg, Maarja; Volobujeva, Olga; Oja Acik, Ilona Superlattices and microstructures 2007 / p. 444-450 : 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

Penežko, Aleksei; Kauk-Kuusik, Marit; Volobujeva, Olga; Traksmaa, 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 properties of high quality Cu₂ZnSnSe₄ thin films

Luckert, F.; Hamilton, D. I.; Yakushev, M. V.; Beattie, N. S.; Zoppi, G.; Moynihan, M.; Forbes, I.; Karotki, A. V.; Mudryi, A. V.; **Grossberg, Maarja; Krustok, Jüri; Martin, R. W.** Applied physics letters 2011 / p. 062104 [3 p.] : ill

Optical properties of multinary semiconductor compounds for photovoltaic applications = Päikesepatareides kasutatavate mitmikpooljuhtühendite optilised omadused

Grossberg, Maarja 2010 <https://digi.lib.ttu.ee/i/?512> https://www.ester.ee/record=b2637396*est

Optical spectroscopy studies of Cu₂ZnSnSe₄ thin films

Yakushev, M. V.; Forbes, I.; Mudryi, A. V.; **Grossberg, Maarja; Krustok, Jüri; Beattie, N. S.**; Moynihan, M.; Rockett, A.; Martin, R. W. Thin solid films 2015 / p. 154-157 : ill <https://doi.org/10.1016/j.tsf.2014.09.010> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimizing Pt catalyst performance for oxygen reduction reaction via surface functionalization of Vulcan XC-72R carbon black support

Najafli, Erkin; Grossberg, Maarja; Mikli, Valdek; Walke, Peter R.; Ratso, Sander; Kruusenberg, Ivar Journal of Applied Electrochemistry 2025 / p. 1187-1200 <https://doi.org/10.1007/s10800-024-02238-1>

The optoelectronic properties of Sb₂(Se_{1-x},Sx)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

Origin of photoluminescence from antimony selenide

Grossberg, Maarja; Volobujeva, Olga; Penežko, Aleksei; Kaupmees, Reelika; Raadik, Taavi; Krustok, Jüri Journal of alloys and compounds 2020 / art. 152716, 5 p. : ill <https://doi.org/10.1016/j.jallcom.2019.152716> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photoluminescence and AFM study of WS₂ monolayers

Kaupmees, Reelika; Madauß, Lukas; Pollmann, Erik; Grossberg, Maarja; Krustok, Jüri GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 41 <http://fmdk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

Photoluminescence and Raman spectra of the ordered vacancy compound CuGa₅Se₈

Grossberg, Maarja; Krustok, Jüri; Bodnar, Ivan; Siebentritt, Susanne; Albert, Jürgen Physica B 2008 / 1, p. 184-189 : ill

Photoluminescence and Raman spectroscopy of polycrystalline AgInTe₂

Jagamägi, Andri; Krustok, Jüri; Raudoja, Jaan; Grossberg, Maarja; Oja, Ilona; Krunks, Malle; Danilson, Mati Thin solid films 2005 / p. 246-249 : ill

Photoluminescence and Raman spectroscopy of polycrystalline AgInTe₂

Jagamägi, Andri; Krustok, Jüri; Raudoja, Jaan; Grossberg, Maarja; Oja, Ilona; Krunks, Malle; Danilson, Mati Thin solid films 2005 / p. 246-249 : ill

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

Photoluminescence properties of polycrystalline AgGaTe₂

Krustok, Jüri; Jagomägi, Andri; Grossberg, Maarja; Raudoja, Jaan; Danilson, Mati Solar energy materials and solar cells 2006 / 13, p. 1973-1982 : ill https://www.researchgate.net/publication/240431559_Photoluminescence_properties_of_polycrystalline_AgGaTe_2

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 defect clusters in Cu₂ZnSnS₄ polycrystals

Grossberg, Maarja; Raadik, Taavi; Raudoja, Jaan; Krustok, Jüri Current applied physics 2014 / p. 447-450 : ill <https://doi.org/10.1016/j.cap.2013.12.029> [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 properties of CdTe films on Mo/glass substrates

Valdna, Vello; Grossberg, Maarja; Hiie, Jaan; Kallavus, Urve; Mikli, Valdek; Traksmaa, Rainer; Viljus, Mart Thin-film compound semiconductor photovoltaics - 2009 2009 / p. M08-24 https://www.researchgate.net/publication/231763435_Preparation_and_Properties_of_CdTe_Films_on_MoGlass_Substrates

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 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://fntdk.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](#)

Päikeseenergeetika 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 prospective absorber material for monograin layer solar cell

Kristmann, Katriin; Altosaar, Mare; Raudoja, Jaan; Krustok, Jüri; Pilvet, Maris; Mikli, Valdek; Grossberg, Maarja; Danilson, Mati; Raadik, Taavi Thin Solid Films 2022 / art. 139068 : ill <https://doi.org/10.1016/j.tsf.2021.139068> 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

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>

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

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

Melikov, 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 films 2008 / 20, p. 7125-7134 : ill

Roheleppes seotud väljakutsed - kas võtame need vastu?

Grossberg, Maarja Mente et Manu 2020 / lk. 4-7 : fot <https://dea.digar.ee/cgi-bin/dea?a=is&oid=AKmenteetmanu202011&type=staticpdf>

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

Selenization of co-sputtered Cu-In alloy films

Volobujeva, Olga; Abou-Ras, Daniel; Grossberg, Maarja; Raudoja, Jaan; Melikov, Enn; Traksmäa, Rainer Conference records of the 33rd IEEE Photovoltaic Specialists Conference : San Diego, U.S.A., May 12-16, 2008 2008 / ? p <https://doi.org/10.1109/PVSC.2008.4922549>

SEM analysis and selenization of Cu-In alloy films produced by co-sputtering of metals

Volobujeva, Olga; Altosaar, Mare; Raudoja, Jaan; Melikov, Enn; Grossberg, Maarja; Kaupmees, Liina; Barvinski, Paul Solar energy materials and solar cells 2009 / 1, p. 11-14 : ill <https://www.sciencedirect.com/science/article/pii/S0927024808000238>

SEM analysis and selenization of Cu-Zn-Sn sequential films produced by evaporation of metals

Volobujeva, Olga; Melikov, Enn; Raudoja, Jaan; Grossberg, Maarja; Bereznev, Sergei; Altosaar, Mare; Traksmäa, Rainer Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2008) : Sydney, 18.07-1.08.2008 : proceedings 2009 / p. 257-260 <https://ieeexplore.ieee.org/document/4802140/similar#similar>

Spray pyrolysis deposition and characterization of highly c-axis oriented hexagonal ZnS nanorod crystals

Dedova, Tatjana; Gromõko, Inga; Krunks, Malle; Mikli, Valdek; Grossberg, Maarja; Sildos, Ilmo; Utt, Kathriin; Vessart, Risto; Unt, Tarmo Crystal research and technology 2015 / p. 85-92 : ill <https://doi.org/10.1002/crat.201400172> Conference proceedings at Scopus Article at Scopus Conference proceedings at WOS Article at WOS

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

Lehner, Julia; Loooris, Mihkel; Revathi, Naidu; Raadik, Taavi; Raudoja, Jaan; Grossberg, Maarja; Melikov, 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

Studies of novel lowcost absorbers CUSBS2 and CUSBSE2 for solar cells [Online resource]

Penezko, 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 (Ag_xCu_{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 CZTS nano-powder synthesis by hot injection method by variation of Cu and Zn concentrations

Kumar, Suresh; Kumar, Vikash; Mikli, Valdek; Varema, Tiit; Altosaar, Mare; Grossberg, Maarja Energy procedia 2016 / p. 136-143 : ill <https://doi.org/10.1016/j.egypro.2016.11.328> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [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 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(SexS_{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](#)

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 of Cu₂ZnSnS₄ monograin powders with different compositions

Muska, Katri; Kauk, Marit; Altosaar, Mare; Pilvet, Maris; Grossberg, Maarja; Volobujeva, Olga Energy procedia 2011 / p. 203-207

Synthesis of Cu₂ZnSnS₄ nano-powders and nano-structured thin films = Cu₂ZnSnS₄ nano-pulbrite ja nano-struktuursete kilede süntees

Kumar, Suresh 2018 <https://digi.lib.ttu.ee/i/?10626> https://www.ester.ee/record=b5151482*est

Synthesis of Cu₂ZnSnS₄ solar cell absorber material by sol-gel method

Kumar, Suresh; Kasubosula, Bharath; Loorits, Mihkel; Raudoja, Jaan; Mikli, Valdek; Altosaar, Mare; Grossberg, Maarja Energy procedia 2016 / p. 102-109 : ill <https://doi.org/10.1016/j.egypro.2016.11.324> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Zinc oxide nanorods grown by spray pyrolysis

Krunks, Malle; Dedova, Tatjana; Mere, Arvo; Aparina, Jelena; Grossberg, Maarja The 4th International Workshop on ZnO and Related Materials : University of Gissen, Germany, Oct.3-6, 2006 2006 / p. 170

Zinc oxide nanostructured layers by chemical spray pyrolysis

Dedova, Tatjana; Aparina, Jelena; Mere, Arvo; Volobujeva, Olga; Grossberg, Maarja; Krunks, Malle International Conference : Advances in Nanostructured Materials, Processing - Microstructure - Properties : NANOVED 2006 - NENAMAT : May 14-17, 2006, Stara Lesna, Slovak Republic : book of abstracts 2006 / p. 105

ZnCdSeTe semiconductor compounds : preparation and properties

Valdna, Vello; Grossberg, Maarja; Hiie, Jaan; Kallavus, Urve; Mikli, Valdek; Raadik, Taavi; Traksmaa, Rainer; Viljus, Mart MRS proceedings 2011 / p. u07-15 <https://www.cambridge.org/core/journals/mrs-online-proceedings-library-archive/article/abs/zncdsete-semiconductor-compounds-preparation-and-properties/49279438DA7FE99A846F54C38F77A46D>

ZnO nanostruktuursed kihid keemilise pihustuspürolüüsi meetodil

Dedova, Tatjana; Annert, Katre; Volobujeva, Olga; Grossberg, Maarja; Oja Acik, Ilona; Krunks, Malle XXXI Eesti keemiapäevad : [28. aprill 2010, Tallinn] : teaduskonverentsi teesid = 31st Estonian Chemistry Days : abstracts of scientific conference 2010 / lk. 25

Taastuenergiatehnoloogiate arendamisest Eestis Euroopa rohepöörde võtmes [Võrguväljaanne]

Grossberg, Maarja novaator.err.ee 2020 / fot [Riigikogus toimus konverents "Teadus kui Eesti arengumootor"](#) [Taastuenergiatehnoloogiate arendamisest Eestis Euroopa rohepöörde võtmes \(pdf\)](#)

Tailoring of bound exciton photoluminescence emission in WS₂ monolayers

Kaupmees, Reelika; Grossberg, Maarja; Ney, Marcel; Krustok, Jüri Physica status solidi - rapid research letters 2020 / art. 1900355, 6 p. : ill <https://doi.org/10.1002/pssr.201900355> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Teadus teab 2021-06-08 [Võrguväljaanne]

Grossberg, Maarja Kuku Taskuhääling 2021 / audio [Teadus teab 2021-06-08: Maarja Grossberg](#)

Tehnikateaduste valdkonna aastapreemia tööde tsükli "Uute 2D- ja 3D-mitmikpooljuhtide optiline spektroskoopia" eest. Uute 2D- ja 3D-mitmikpooljuhtide optiline spektroskoopia

Grossberg, Maarja; Krustok, Jüri Eesti Vabariigi preemiad 2021 : teadus. F. J. Wiedemanni keeleauhind. Sport. Kultuur. Haridus 2021 / lk. 94-110 : fot., ill https://www.ester.ee/record=b1226072*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 electroreflectance study of Cu₂ZnSnSe₄ solar cells

Krustok, Jüri; Raadik, Taavi; Grossberg, Maarja; Giraldo, Sergio; Neuschitzer, Markus; Lopez-Marino, Simon; Saucedo, Edgardo Materials science in semiconductor processing 2015 / p. 251-254 : ill <https://doi.org/10.1016/j.mssp.2015.04.055> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article 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 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](#)

Temperature-dependent photoreflectance of SnS crystals

Raadik, Taavi; Grossberg, Maarja; Raudoja, Jaan; Traksmaa, 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 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 elevated temperatures on excitonic emission and degradation processes of WS₂ monolayers

Kaupmees, Reelika; Walke, Peter; Madauß, Lukas; Maas, Andre; Pollmann, Erik; Schleberger, Marika; Grossberg, Maarja; Krustok, Jüri Physical chemistry chemical physics 2020 / p. 22609-22616 <https://doi.org/10.1039/D0CP03248D> [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,

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 electrical and optical properties of kesterites

Grossberg, Maarja; Krustok, Jüri; Hages, Charles J.; Bishop, Douglas M. Journal of Physics Energy 2019 / art. 044002, 16 p. : ill <https://doi.org/10.1088/2515-7655/ab29a0>

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>

The role of structural properties on deep defect states in Cu₂ZnSnS₄ studied by photoluminescence spectroscopy

Grossberg, Maarja; Krustok, Jüri; Raudoja, Jaan; Raadik, Taavi Applied physics letters 2012 / p. 102102-1 - 102102-4 : ill <https://pubs.aip.org/aip/apl/article/101/10/102102/126713/The-role-of-structural-properties-on-deep-defect>

TTÜ aasta noorteadlane 2015 on Marja Grossberg

Grossberg, Maarja Mente et Manu 2016 / lk. 22-23 : fot http://www.ttu.ee/public/u/ulikool/Tutvustus/ajaleht-mente-et-manu/MM_2016_04/index.html https://artiklid.elnet.ee/record=b2797104*est