

An alternative chlorine-assisted optimization of CdS/Sb₂Se₃ solar cells : towards understanding of chlorine incorporation mechanism

Gopi, Sajeesh Vadakkedath; Spalatu, Nicolae; Katerski, Atanas; Kulicek, Jaroslav; Razek, Bohuslav; Ukraintsev, Egor; Barinkova, Marketa Šlapal; Zoppi, Guillaume; **Krunks, Malle; Oja Acik, Ilona** Journal of alloys and compounds 2024 / art. 176175 <https://doi.org/10.1016/j.jallcom.2024.176175> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of grain orientation and defects in Sb₂Se₃ solar cells fabricated by close-spaced sublimation

Krautmann, Robert; Spalatu, Nicolae; Gunder, Rene; Abou-Ras, Daniel; Unold, Thomas; Schorr, Susan; **Oja Acik, Ilona; Krunks, Malle** GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 17 https://fntdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf

Analysis of grain orientation and defects in Sb₂Se₃ solar cells fabricated by close-spaced sublimation : [journal article]

Krautmann, Robert; Spalatu, Nicolae; Gunder, Rene; Abou-Ras, Daniel; Unold, Thomas; Schorr, Susan; **Krunks, Malle; Oja Acik, Ilona** Solar energy 2021 / p. 494-500 <https://doi.org/10.1016/j.solener.2021.07.022> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of optical properties and structure of GaTe - CdTe nanocomposite

Caraman, Iuliana; Untila, Dumitru; Evtdiev, Igor; Canter, Valeriu; **Spalatu, Nicolae;** Rusu, Dragos; Luchian, Efimia; Rotaru, Irina Chalcogenide letters 2015 / p. 683-692 : ill https://chalcogen.ro/683_Caraman.pdf [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Asymmetric NDI electron transporting SAM materials for application in photovoltaic devices

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

Benchmarking Inorganic Thin-Film Photovoltaics Technologies for Indoor Applications

Placidi, Marcel; Torrens, Arnau; Li-Kao, Zacharie Jehl; Lopez-Garcia, Alex; Segura, Oriol; Gong, Yuancai; Jimenez-Arguijo, Alex; Cano, Ivan; **Spalatu, Nicolae; Oja, Ilona** Solar RRL 2025 / art. 2500030 <https://doi.org/10.1002/solr.202500030> <https://onlinelibrary.wiley.com/doi/epdf/10.1002/solr.202500030>

Bulk and interface recombination in TiO₂/Sb₂Se₃ solar cells

Krautmann, Robert; Josepson, Raavo; Spalatu, Nicolae; Oja Acik, Ilona Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / p. 28 [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Combinative solution processing and Li doping approach to develop p-type NiO thin films with enhanced electrical properties

Oluwabi, Abayomi Titilope; Spalatu, Nicolae; Maticiuc, Natalia; **Katerski, Atanas; Mere, Arvo; Krunks, Malle; Oja Acik, Ilona** Frontiers in materials 2023 / 12 p. : ill <https://doi.org/10.3389/fmats.2023.1060420> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparative study of CdS films annealed in neutral, oxidizing and reducing atmospheres

Maticiuc, Natalia; Kukk, Mart; Spalatu, Nicolae; Potlog, Tamara; Krunks, Malle; Valdna, Vello; Hiie, Jaan Energy procedia 2014 / p. 77-84 : ill <https://doi.org/10.1016/j.egypro.2013.12.012> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Controlled annealing process for efficient CdTe thin film solar cells [Online resource]

Spalatu, Nicolae; Hiie, Jaan; Krunks, Malle [2018 E-MRS Spring Meeting and Exhibit : Materials for energy and environment : Thin film chalcogenide photovoltaic materials : program] 2018 / A.PII.29 <https://www.european-mrs.com/thin-film-chalcogenide-photovoltaic-materials-emrs> https://www.etis.ee/File/DownloadPublic/d661bb08-33fb-49cb-9ce9-8c6e1c3228ce?name=Fail_Abstracts%20EMRS%202018_SYMPOSIUM%20A_Thin%20film%20chalcogenide%20photovoltaic%20materials.pdf&type=application%2Fpdf

Corrigendum to “An alternative chlorine-assisted optimization of CdS/Sb₂Se₃ solar cells: Towards understanding of chlorine incorporation mechanism” [J. Alloy. Compd. 1005 (2024) 176175](S0925838824027622)(10.1016/j.jallcom.2024.176175)

Vadakkedath Gopi, Sajeesh; Spalatu, Nicolae; Katerski, Atanas; Kuliček, Jaroslav; Rezek, Bohuslav; Ukraintsev, Egor; Bařínková, Markéta Šlapal; Zoppi, Guillaume; **Krunks, Malle; Acik, Ilona Oja** Journal of alloys and compounds 2024 / art. 176729, 1 p <https://doi.org/10.1016/j.jallcom.2024.176729> [Journal metrics at Scopus](#) [Article at Scopus](#)

Corrigendum to “Screening and optimization of processing temperature for Sb₂Se₃ thin film growth protocol:

Interrelation between grain structure, interface intermixing and solar cell performance” [Solar Energy Mater. Solar Cell. 225 (2021) 1–13 111045](S092702482100088X)(10.1016/j.solmat.2021.111045)

Spalatu, Nicolae; Krautmann, Robert; Katerski, Atanas; Kärber, Erki; Josepson, Raavo; Hiie, Jaan; Oja Acik, Ilona; Krunks, Malle Solar Energy Materials and Solar Cells 2021 / Art. 111098 <https://doi.org/10.1016/j.solmat.2021.111098> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

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

Crystalline structure, surface morphology and optical properties of nanolamellar composites obtained by intercalation of InSe with Cd

Untila, Dumitru; Caraman, Iuliana; Evtodiev, Igor; **Spalatu, Nicolae** Energy procedia 2015 / p. 149-155 : ill <https://doi.org/10.1016/j.egypro.2015.12.308> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Development and application of energy producing solar pavement in Estonia

Jalakas, Tanel; Chub, Andrii; Vinnikov, Dmitri; Spalatu, Nicolae; Gudkova, Viktoria; Krunks, Malle; Mere, Arvo; Lahi, Allan 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / 5 p. : ill <https://doi.org/10.1109/RTUCON56726.2022.9978908>

Development of Bi₂S₃ thin film solar cells by close-spaced sublimation and analysis of absorber bulk defects via in-depth photoluminescence analysis

Koltsov, Mykhailo; Gopi, Sajeesh Vadakkedath; Raadik, Taavi; Krustok, Jüri; Josepson, Raavo; Grzibovskis, Raitis; Vembris, Aivars; **Spalatu, Nicolae** Solar energy materials and solar cells 2023 / art. 112292 <https://doi.org/10.1016/j.solmat.2023.112292> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of Bi₂S₃ thin-film solar cells by close-spaced sublimation

Koltsov, Mykhailo; Krautmann, Robert; Gopi, Sajeesh Vadakkedath; Hiie, Jaan; Krunks, Malle; Oja Acik, Ilona; Spalatu, Nicolae Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 25 I. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Development of CdTe absorber layer for thin-film solar cells = CdTe absorberkile arendamine õhukesekilelistele päikesepatareidele

Spalatu, Nicolae 2017 <https://digi.lib.ttu.ee/i/?7230> https://www.ester.ee/record=b4649791*est

Development of sb₂se₃ and sb₂s₃ solar cells by close-spaced sublimation

Krautmann, Robert; Spalatu, Nicolae; Oja Acik, Ilona GSFMT Scientific Conference 2023 : Tartu, 23-24 May, 2023 : abstracts 2023 <https://fntdk.ut.ee/programm-2023/>

Development of Sb₂Se₃ and Sb₂S₃ thin film solar cells by close-spaced sublimation = Sb₂Se₃ ja Sb₂S₃ õhukesekileliste päikesepatareide arendamine lähidistants-sublimatsiooni meetodil

Krautmann, Robert 2023 <https://doi.org/10.23658/taltech.41/2023> <https://digikogu.taltech.ee/et/Item/e7e64926-5d49-40ad-8b3a-e225ea034f7d> https://www.ester.ee/record=b5573313*est

Development of semi-transparent Sb₂Se₃ solar cells with fluorene-based compounds as hole transport materials = Poolläbipaistvate Sb₂Se₃ päikesepatareide arendus : fluoreenipõhised ühendid aukude transportkihi materjalina

Juneja, Nimish 2024 https://www.ester.ee/record=b5712253*est <https://digikogu.taltech.ee/et/Item/f10c197f-3140-40cb-97c6-64a4670d4d1b> <https://doi.org/10.23658/taltech.68/2024>

Development of spray pyrolysis-synthesised Bi₂O₃ thin films for photocatalytic applications

Sydorenko, Jekaterina; Krunks, Malle; Katerski, Atanas; Grzibovskis, Raitis; Vembris, Aivars; Mere, Arvo; **Spalatu, Nicolae; Oja Acik, Ilona** RSC advances 2024 / p. 19648-19657 <https://doi.org/10.1039/D4RA02907K> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Dopant-free fluorene based dimers linked with thiophene units as prospective hole transport materials for Sb₂S₃ solar cells

Juneja, Nimish; Jegorove, Aiste; Grzibovskis, Raitis; **Katerski, Atanas;** Malinauskas, Tadas; Vembris, Aivars; Karazhanov, Smagul; **Spalatu, Nicolae;** Getautis, Vytautas; **Krunks, Malle; Oja Acik, Ilona** Sustainable Energy & Fuels 2024 / p. 4324-4334 <https://doi.org/10.1039/D4SE00472H> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of CdCl₂ annealing treatment on structural and optoelectronic properties of close spaced sublimation CdTe/CdS thin film solar cells vs deposition conditions

Spalatu, Nicolae; Hiie, Jaan; Mikli, Valdek; Krunks, Malle; Valdna, Vello; Maticiuc, Natalia; Raadik, Taavi; Caraman, Mihail Thin solid films 2015 / p. 128-133 : ill <http://dx.doi.org/10.1016/j.tsf.2014.11.066> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of CdCl₂ vapor phase pretreatment annealing on the properties of CSS CdS and CdTe/CdS thin film solar cells

Spalatu, Nicolae; Hiie, Jaan; Valdna, Vello; Krunks, Malle; Caraman, Mihail; **Mikli, Valdek; Maticiuc, Natalia** 2014 Spring Meeting Lille, France : May 26-30. Symposium A, Thin film chalcogenide photovoltaic materials 2014 / p. 17

Electrical characterization of annealed chemical-bath-deposited CdS films and their application in superstrate configuration CdTe/CdS solar cells

Graf, Aleksandr; Maticiu, Natalia; Spalatu, Nicolae; Mikli, Valdek; Mere, Arvo; Gavrilov, Aleksei; Hiie, Jaan Thin solid films 2015 / p. 351-355 : ill <https://doi.org/10.1016/j.tsf.2014.11.003> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Electronic structure and defect states in bismuth and antimony sulphides identified by energy-resolved electrochemical impedance spectroscopy

Miliaieva, D.; Nadaždy, V.; Koltsov, M. A.; Lopez, C.; Saeeyekta, H.; Kuliček, J.; Cazorla, C.; Saucedo, E.; Grzibovskis, Raitis; Vembris, Aivars; Krunks, Malle; Spalatu, Nicolae Journal of Physics Energy 2025 / art. 035012 <https://doi.org/10.1088/2515-7655/add59f>

Employment of dopant-free fluorene-based enamines as innovative hole transport materials to boost the transparency and performance of Sb₂S₃ based solar cells

Juneja, Nimish; Daskeviciute-Geguziene, Sarune; Spalatu, Nicolae; Mandati, Sreekanth; Katerski, Atanas; Grzibovskis, Raitis; Vembris, Aivars; Karazhanov, Smagul; Getautis, Vytautas; Krunks, Malle; Oja Acik, Ilona Materials science in semiconductor processing 2024 / art. 107934 <https://doi.org/10.1016/j.mssp.2023.107934> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energiat tootev teekatend nüüd ka Eestis

Jalakas, Tanel; Chub, Andrii; Vinnikov, Dmitri; Spalatu, Nicolae; Gudkova, Viktoria; Krunks, Malle; Mere, Arvo; Lahi, Allan; Lindvest, Andre Elektriala 2023 / lk. 14-16 : portr., fot https://www.estel.ee/record=b1240496*est

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

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

Impact of CdS annealing atmosphere on the performance of CdS-CdTe solar cell

Maticiu, Natalia; Spalatu, Nicolae; Mikli, Valdek; Hiie, Jaan Applied surface science 2015 / p. 14-18 : ill <https://doi.org/10.1016/j.apsusc.2015.01.172> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of post-deposition treatments on properties of SnS films and solar cells grown by close-spaced sublimation technique [Online resource]

Spalatu, Nicolae; Hiie, Jaan; Krunks, Malle [2018 E-MRS Spring Meeting and Exhibit : Materials for energy and environment : Thin film chalcogenide photovoltaic materials : program] 2018 / A.PV.27 <https://www.european-mrs.com/thin-film-chalcogenide-photovoltaic-materials-emrs>

Incorporation of plasmonic Au nanoparticles inside the CdTe thin film absorber

Maticiu, Natalia; Spalatu, Nicolae; Katerski, Atanas; Repan, T.; Hiie, Jaan NANOSMAT Conference, 22-25 September 2013, Granada, Spain : abstracts book 2013 / p. 341-342

Inexpensive fluorene-based hole transporting material with terminated thiophene unit for efficient semi-transparent Sb₂S₃ solar cells

Jegorove, Aiste; Mandati, Sreekanth; Juneja, Nimish; Katerski, Atanas; Vembris, Aivars; Grzibovskis, Raitis; Getautis, Vytautas; Dedova, Tatjana; Magomedov, Artiom; Spalatu, Nicolae; Karazhanov, Smagul; Krunks, Malle; Oja Acik, Ilona Proceedings of International Conference on Hybrid and Organic Photovoltaics (HOPV22), València, Spain, 2022 May 19th - 25th 2022 <https://www.nanoge.org/proceedings/HOPV22/62596b7159d9502382511011>

Influence of PH on the hydroxide impurities in chemically deposited CDS thin film

Üürke, Marvin; Maticiu, Natalia; Volobujeva, Olga; Spalatu, Nicolae; Hiie, Jaan The 14th International Conference of Young Scientists on Energy Issues : Kaunas, Lithuania, May 25-26, 2017 2017 / p. X-316 - X-323 : ill http://cyseni.com/archives/proceedings/Proceedings_of_CYSENI_2017.pdf

Influence of the secondary thermal annealing on the properties of CdTe/CdS:CdCl₂:O₂ structure

Yang, Wangjun; Spalatu, Nicolae; Maticiu, Natalia; Krunks, Malle; Hiie, Jaan Proceedings of 13th International Conference of Young Scientists on Energy Issues : CYSENI 2016 : May 26-27 2016, Kaunas, Lithuania 2016 / p. VII-220 - VII-225 : ill

Influence of vapour transport deposition conditions on properties of Sb₂Se₃ thin film absorber and solar cells

Gopi, Sajeesh Vadakkedath; Spalatu, Nicolae; Katerski, Atanas; Krunks, Malle; Oja Acik, Ilona Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 18 l. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

Low processing temperatures explored in Sb₂S₃ solar cells by close-spaced sublimation and analysis of bulk and interface related defects

Krautmann, Robert; Spalatu, Nicolae; Josepson, Raavo; Nedzinskas, Ramunas; Kondrotas, Rokas; Gržibovskis, R.; Vembris, Aivars; **Krunks, Malle; Oja Acik, Ilona** Solar energy materials and solar cells 2023 / art. 112139, 9 p. : ill <https://doi.org/10.1016/j.solmat.2022.112139> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical and photoelectric properties of nanolamellar structures obtained by thermal annealing of InSe plates in Zn vapours

Untila, Dumitru; Evtodiev, Igor; Caraman, Iuliana; **Spalatu, Nicolae;** Dmitroglou, Liliana; Caraman, Mihail Physica status solidi (a) : applications and materials science 2018 / art. 1700434, p. 1-7 : ill <https://doi.org/10.1002/pssa.201700434> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical and photoelectric properties of nanolamellar structures obtained by thermal annealing of InSe plates in Zn vapours (Phys. Status Solidi A 42018) : graphical abstract

Untila, Dumitru; Evtodiev, Igor; Caraman, Iuliana; **Spalatu, Nicolae;** Dmitroglou, Liliana; Caraman, Mihail Physica status solidi (a) : applications and materials science 2018 / art. 1870007 <https://doi.org/10.1002/pssa.201870007>

Optical and photosensitive properties of lamellar nanocomposites obtained by Cd intercalation of GaTe

Leontie, Liviu; Evtodiev, Igor; **Spalatu, Nicolae** Journal of alloys and compounds 2014 / p. 542-545 : ill

Optical properties of GaTe-ZnTe nanolamellae composite

Spalatu, Nicolae; Evtodiev, Igor; Caraman, Iuliana Energy procedia 2015 / p. 176-182 : ill <https://doi.org/10.1016/j.egypro.2015.12.311> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Optimization of VTD Sb₂Se₃ absorber growth rate in CdS/Sb₂Se₃ thin film solar cells : A defect perspective on chloride vs non-chloride based devices

Gopi, Sajeesh Vadakkedath; Krautmann, Robert; Katerski, Atanas; Josepson, Raavo; Untila, Dumitru; Hiie, Jaan; Krunks, Malle; Oja Acik, Ilona; Spalatu, Nicolae Solar energy materials and solar cells 2025 / art. 113856 <https://doi.org/10.1016/j.solmat.2025.113856>

Photoelectric and photoluminescence properties of CdTe-GaTe composite

Caraman, Iuliana; **Spalatu, Nicolae;** Evtodiev, Igor; Untila, Dumitru; Leontie, Liviu; Caraman, Mihail Physica status solidi (b) 2016 / p. 2515-2522 : ill <https://doi.org/10.1002/pssb.201600485> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Plasmonic effect of Au NPs on CSS CdS/CdTe solar cell characteristics

Spalatu, Nicolae; Maticiu, Natalia; Katerski, Atanas; Krunks, Malle; Mikli, Valdek; Hiie, Jaan Science and Applications of Thin Films, SATF 2014 : Cesme, Izmir, Turkey, September 15-19 : abstract book 2014 / p. 371

Plasmonic effect of spray-deposited Au nanoparticles on the performance of CSS CdS/CdTe solar cells

Spalatu, Nicolae; Hiie, Jaan; Maticiu, Natalia; Krunks, Malle; Katerski, Atanas; Mikli, Valdek; Sildos, Ilmo Applied surface science 2015 / p. 69-73 : ill <https://doi.org/10.1016/j.apsusc.2015.04.065> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Plasmonic modification of CdTe thin films by gold nanoparticles : methods, difficulties and solutions

Maticiu, Natalia; Spalatu, Nicolae; Katerski, Atanas; Hiie, Jaan; Mikli, Valdek; Krunks, Malle; Dolgov, Leonid; Sildos, Ilmo Microelectronic engineering 2014 / p. 173-178 : ill <https://doi.org/10.1016/j.mee.2014.07.016> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Post deposition annealing effect on properties of CdS films and its impact on CdS/Sb₂Se₃ solar cells performance

Gopi, Sajeesh Vadakkedath; Spalatu, Nicolae; Basnayaka, Madhawa; Krautmann, Robert; Katerski, Atanas; Josepson, Raavo; Grzibovskis, Raitis; Vembris, Aivars; **Krunks, Malle; Oja Acik, Ilona** Frontiers in Energy Research 2023 / art. 1162576, 12 p <https://doi.org/10.3389/fenrg.2023.1162576> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A post-deposition annealing approach for organic residues control in TiO₂ and its impact on Sb₂Se₃/TiO₂ device performance

Koltsov, Mykhailo; Krautmann, Robert; Katerski, Atanas; Maticiu, Natalia; Krunks, Malle; Oja Acik, Ilona; Spalatu, Nicolae Faraday Discussions 2022 / p. 273-286 <https://doi.org/10.1039/D2FD00064D> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Post-deposition processing for tuning the properties of Sb₂Se₃ thin films absorber layer grown by close-spaced sublimation

Krautmann, Robert; Spalatu, Nicolae; Hiie, Jaan; Katerski, Atanas; Oja Acik, Ilona; Krunks, Malle GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 47 <http://fntdk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

Postdeposition processing of SnS thin films and solar cells : prospective strategy to obtain large, sintered, and doped SnS grains by recrystallization in the presence of a metal halide flux

Spalatu, Nicolae; Hiie, Jaan; Kaupmees, Reelika; Volobujeva, Olga; Krustok, Jüri; Oja Acik, Ilona; Krunks, Malle ACS

applied materials & interfaces 2019 / p. 17539–17554 : ill <https://doi.org/10.1021/acsami.9b03213> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Properties of the CdCl₂ air-annealed CSS CdTe thin films

Spalatu, Nicolae; Hiie, Jaan; Valdna, Vello; Caraman, Mihail; **Maticiu, Natalia; Mikli, Valdek; Potlog, Tamara; Krunks, Malle;** Lughi, Vanni Energy procedia 2014 / p. 85-95 : ill <https://doi.org/10.1016/j.egypro.2013.12.013> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Properties of the CdCl₂ air-annealed CSS CdTe thin films

Spalatu, Nicolae; Hiie, Jaan; Valdna, Vello; Maticiu, Natalia; Krunks, Malle; Mikli, Valdek TÜ ja TTÜ doktorikool "Funktsionaalsed materjalid ja tehnoloogiad" : 04.-05. märts 2014, Tartu 2014 / [1] p

Properties of the CdCl₂:O₂ treated CSS CdTe thin films

Spalatu, Nicolae; Caraman, Mihail; **Maticiu, Natalia; Hiie, Jaan; Valdna, Vello; Mikli, Valdek;** Lughi, Vanni E-MRS 2013 Spring Meeting. Symposium D, Advanced inorganic materials and structures for photovoltaics : poster session II 2013 / p. 19

Pulsed laser deposition of Zn(O,Se) layers for optoelectronic application

Polivtseva, Svetlana; Spalatu, Nicolae; Abdalla, Akram; Volobujeva, Olga; Hiie, Jaan; Bereznev, Sergei ACS Applied Energy Materials 2018 / p. 6505–6512 : ill <http://dx.doi.org/10.1021/acsae.8b01431>

Pulsed laser deposition of Zn(O,Se) layers in nitrogen background pressure

Abdalla, Akram; Bereznev, Sergei; Spalatu, Nicolae; Volobujeva, Olga; Sleptšuk, Natalja; Danilson, Mati Scientific reports 2019 / art. 17443, 10 p. : ill <https://doi.org/10.1038/s41598-019-54008-1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Päikeseenergeetika tulevikku kujundavad kilepinnad ja tandempaneelid

Piir, Rait novaator.err.ee 2023 [Päikeseenergeetika tulevikku kujundavad kilepinnad ja tandempaneelid](#)

Reversibility of CdS film properties depending on the nature of annealing gas

Maticiu, Natalia; Hiie, Jaan; Spalatu, Nicolae; Valdna, Vello E-MRS 2013 Spring Meeting. Symposium D, Advanced inorganic materials and structures for photovoltaics : poster session II 2013 / p. 15-16

Sb₂S₃ solar cells with a cost-effective and dopant-free fluorene-based enamine as a hole transport material

Juneja, Nimish; Mandati, Sreekanth; Katerski, Atanas; Spalatu, Nicolae; Daskeviciute-Geguziene, Sarune; Vembris, Aivars; Karazhanov, Smagul; Getautis, Vytautas; **Krunks, Malle; Oja Acik, Ilona** Sustainable Energy & Fuels 2022 / p. 3220-3229 <https://doi.org/10.1039/D2SE00356B> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sb₂S₃ solar cells with TiO₂ electron transporting layers synthesized by ALD and USP methods

Dedova, Tatjana; Krautmann, Robert; Rusu, Marin; **Katerski, Atanas; Krunks, Malle;** Unold, Thomas; **Spalatu, Nicolae; Mere, Arvo; Sydorenko, Jekaterina; Sibinski, Maciej; Oja Acik, Ilona** Solar energy materials and solar cells 2025 / art. 113279 <https://doi.org/10.1016/j.solmat.2024.113279>

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

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

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

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

Screening and optimization of processing temperature for Sb₂Se₃ thin film growth protocol : interrelation between grain structure, interface intermixing and solar cell performance

Spalatu, Nicolae; Krautmann, Robert; Katerski, Atanas; Kärber, Erki; Josepson, Raavo; Hiie, Jaan; Oja Acik, Ilona; Krunks, Malle Solar energy materials and solar cells 2021 / art. 111045, 13 p. : ill <https://doi.org/10.1016/j.solmat.2021.111045> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Structural and optoelectronic properties of CdCl₂ activated CdTe thin films modified by multiple thermal annealing

Spalatu, Nicolae; Krunks, Malle; Hiie, Jaan Thin solid films 2017 / p. 106-111 : ill <https://doi.org/10.1016/j.tsf.2016.09.042> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis and characterization of polycrystalline GeS thin films for optoelectronic applications

Drabavičius, Audrius; Pakštas, Vidas; Jasiūnas, Rokas; **Koltsov, Mykhailo;** Talaikis, Martynas; Naujokaitis, Arnas; **Spalatu,**

Nicolae; Kondrotas, Rokas; Gulbinas, Vidmantas; Franckevičius, Marius Materials Science in Semiconductor Processing 2025 / art. 109193 <https://doi.org/10.1016/j.mssp.2024.109193>

Synthesis and optical properties of Ga₂O₃ nanowires grown on GaS substrate

Leontie, Liviu; Sprincean, Veaceslav; Untila, Dumitru; **Spalatu, Nicolae** Thin solid films 2019 / art. 137502, 6 p. : ill <https://doi.org/10.1016/j.tsf.2019.137502> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis control of charge separation at anatase TiO₂ thin films studied by transient surface photovoltage spectroscopy

Dittrich, Thomas; **Sydorenko, Jekaterina; Spalatu, Nicolae;** Nickel, Norbert H.; **Mere, Arvo; Krunks, Malle; Oja Acik, Ilona** ACS applied materials & interfaces 2022 / p. 43163–43170 <https://doi.org/10.1021/acsami.2c09032> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

ZnO thin films co-doped with III-valence metals and halogens: theory and experiment

Colibaba, G. V.; Rusnac, D.; Fedorov, V.; **Koltsov, Mykhailo; Volobujeva, Olga;** Grzibovskis, Raitis; Vembris, Aivars; **Spalatu, Nicolae** Physica scripta 2024 / art. 105967 <https://doi.org/10.1088/1402-4896/ad74ab> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Zn(O,Se) as a novel buffer layer for thin film solar cells

Abdalla, Akram; Polivtseva, Svetlana; Spalatu, Nicolae; Volobujeva, Olga; Hiie, Jaan; Bereznev, Sergei Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [4.-5. veebr. 2019, Tartu : teesid] 2019 <http://fntdk.ut.ee/teesid-2019/>

ZnO/NiO heterostructures with enhanced photocatalytic activity obtained by ultrasonic spraying of a NiO shell onto ZnO nanorods

Chen, Zengjun; Dedova, Tatjana; Spalatu, Nicolae; Maticiu, Natalia; Rusu, Marin; **Katerski, Atanas; Oja Acik, Ilona;** Unold, Thomas; **Krunks, Malle** Colloids and surfaces A : physicochemical and engineering aspects 2022 / art. 129366 <https://doi.org/10.1016/j.colsurfa.2022.129366> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Temperature dependent electroreflectance study of CdTe solar cells

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

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

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

The crystal structure and optical properties of CdTe nano-composite obtained by treatment of GaTe layers in Cd vapor

Spalatu, Nicolae; Caraman, Iuliana; Untila, Dumitru; Hiie, Jaan EMRS-2014 Spring Meeting, Lille, France : May 26-30. Symposium W, Crystals for energy conversion and storage 2014 / p. 16

Towards all inorganic antimony sulphide semitransparent solar cells

Pareek, Alka; Katerski, Atanas; Kriisa, Merike; Spalatu, Nicolae; Krunks, Malle; Oja Acik, Ilona Scientific reports 2024 / art. 1468 <https://doi.org/10.1038/s41598-025-85676-x>

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Delpeche-Ellmann, Nicole Camille; Leoste, Janika; Kallakas, Heikko; Püüa, Margus; Spalatu, Nicolae; Reinsalu, Kristo Mente et Manu 2024 / lk. 60-63 : fot https://www.ester.ee/record=b1242496*est