

#### **Adhesion of single-walled carbon nanotube thin films with different materials**

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#### **Aerosol-assisted fine-tuning of optoelectrical properties of SWCNT films**

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#### **Ageing of kesterite solar cells 1 : Degradation processes and their influence on solar cell parameters**

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#### **Amorphous Zn(O,Se) buffer layer for Cu(In,Ga)Se<sub>2</sub> thin film solar cells**

**Abdalla, Akram; Danilson, Mati; Oueslati, Souhaib; Pilvet, Maris; Bereznev, Sergei** Materials science in semiconductor processing 2021 / art. 105862 <https://doi.org/10.1016/j.mssp.2021.105862> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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#### **Characterisation of samarium and nitrogen co-doped TiO<sub>2</sub> films prepared by chemical spray pyrolysis**

**Oja Acik, Ilona; Kiisk, Valter; Krunks, Malle; Sildos, Ilmo; Junolainen, Agne; Danilson, Mati; Mere, Arvo; Mikli, Valdek** Applied surface science 2012 / p. 735–741 : ill

#### **Characterization of Cu<sub>2</sub>ZnSnSe<sub>4</sub> monograin layer solar cells**

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#### **Chemical etching of Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> monograin powder**

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### Cost-effective screen printing approach for Ce/Nd-doped $\text{ZnAl}_2\text{O}_4$ films: tuning crystallinity induced by the substrate

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**Effects of cationic substitution on the properties of Sb<sub>1-x</sub>BixSe (x = 0–1) compounds**

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**Efficient defect-driven cation exchange beyond the nanoscale semiconductors toward antibacterial functionalization**

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**Enhanced photocatalytic activity of chemically deposited ZnO nanowires using doping and annealing strategies for water remediation**

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**Enhanced visible and ultraviolet light-induced gas-phase photocatalytic activity of TiO<sub>2</sub> thin films modified by increased amount of acetylacetone in precursor solution for spray pyrolysis**

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**Enhancing NIR emission in ZnAl<sub>2</sub>O<sub>4</sub>:Nd,Ce nanofibers by co-doping with Ce and Nd: a promising biomarker material**

**with low cytotoxicity**

**Rojas Hernandez, Rocio Estefania;** Rubio-Marcos, Fernando; Gorni, Giulio; Marini, Carlo; **Danilson, Mati;** Pascual, Laura; Ichikawa, Rodrigo Uchida; **Hussainova, Irina;** Fernandez, Jose Francisco Journal of materials chemistry C 2021 / p. 657-670 : ill <https://doi.org/10.1039/D0TC04752J> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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**Ferrocene introduced into 5-methylresorcinol-based organic aerogels**

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**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

**Gas-phase photocatalytic oxidation of VOCs on the TiO<sub>2</sub> thin films**

**Sydorenko, Jekaterina;** **Danilson, Mati;** **Mere, Arvo;** **Krunks, Malle;** **Kritševskaja, Marina;** **Oja Acik, Ilona** GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / O 10 [https://fmtdk.ut.ee/wp-content/uploads/2021/06/GSFMT\\_abstractbook\\_2021.pdf](https://fmtdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf)

**Growth and characterization of Cu<sub>2</sub>Zn<sub>1-x</sub>Fe<sub>x</sub>SnS<sub>4</sub> 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](#)

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**Oja Acik, Ilona;** Junolainen, Agne; **Mikli, Valdek;** **Danilson, Mati;** **Krunks, Malle** Applied surface science 2009 / 5, p. 1391-1394 : ill

**High temperature tribological properties of Al<sub>2</sub>O<sub>3</sub>/NCD films investigated under ambient air conditions**

**Podgurski, Vitali;** **Yashin, Maxim;** Jõgiaas, Taivo; **Viljus, Mart;** **Alamgir, Asad;** **Danilson, Mati;** **Bogatov, Andrei** Coatings 2020 / art. 175, 13 p. : ill <https://doi.org/10.3390/coatings10020175> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Highly active wood-derived nitrogen-doped carbon catalyst for the oxygen reduction reaction**

**Kaare, Kätlin;** Yu, Eric; Volperts, Aleksandrs; Dobeles, Galina; Zhurinsk, Aivars; Dyck, Alexaner; Niaura, Gediminas; Tamasauskaitė-Tamasiunaite, Loreta; Norkus, Eugenijus; Andrulevičius, Mindaugas; **Danilson, Mati;** Kruusenberg, Ivar ACS omega 2020 / p. 23578-23587 : ill <https://doi.org/10.1021/acsomega.0c01974> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**High-temperature tribological performance of Al<sub>2</sub>O<sub>3</sub>/a-C:H:Si coating in ambient air**

**Podgurski, Vitali;** **Alamgir, Asad;** **Yashin, Maxim;** Jõgiaas, Taivo; **Viljus, Mart;** **Raadik, Taavi;** **Danilson, Mati;** **Sergejev, Fjodor;** Lümekmann, Andreas; Kluson, Jan; Sondor, Jozef; **Bogatov, Andrei** Coatings 2021 / art. 495, 15 p. : ill <https://doi.org/10.3390/coatings11050495> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**In Ambient Air Processed Cu<sub>2</sub>ZnSnS<sub>4</sub> Absorber Layers from DMSO-Based Precursors: Enhanced Efficiency via Device Post-annealing**

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

**Influence of order-disorder in Cu<sub>2</sub>ZnSnS<sub>4</sub> powders on the performance of monograin layer solar cells**

**Timmo, Kristi;** **Kauk-Kuusik, Marit;** **Pilvet, Maris;** **Raadik, Taavi;** **Altosaar, Mare;** **Danilson, Mati;** **Grossberg, Maarja;** **Raudoja, Jaan;** Ernits, Kaia Thin solid films 2017 / p. 122-126 : ill <https://doi.org/10.1016/j.tsf.2016.10.017> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Iron triad-based bimetallic M-N-C nanomaterials as highly active bifunctional oxygen electrocatalysts**

**Alam, Mahboob;** **Ping, Kefeng;** **Danilson, Mati;** **Mikli, Valdek;** Käär, Maike; Leis, Jaan; Aruväli, Jaan; Paiste, Päärn; Rahn, Mihkel; Sammelselg, Väino; Tammeveski, Kaido; Haller, Steffen; Kramm, Ulrike Ingrid; **Starkov, Pavel;** Kongi, Nadezda ACS Applied Energy Materials 2024 / p. 4076 - 4087 <https://doi.org/10.1021/acsaem.4c00366> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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

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**A method for producing conductive graphene biopolymer nanofibrous fabrics by exploitation of an ionic liquid dispersant in electrospinning**

Javed, Kashif; Krumme, Andres; Viirsalu, Mihkel; Krasnou, Illia; Plamus, Tiia; Vassiljeva, Viktoria; Tarasova, Elvira; Savest, Natalja; Mere, Arvo; Mikli, Valdek; **Danilson, Mati; Kaljuvee, Tiit**; Lange, Sven Carbon 2018 / p. 148-156 : ill  
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**Naatriumiga legeerimise mõju monoterapulbrilise CuInSe<sub>2</sub> 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 Cu<sub>2</sub>ZnSnSe<sub>4</sub> 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](#)

**Nickel and nitrogen-doped bifunctional ORR and HER electrocatalysts derived from CO<sub>2</sub>**

Rommel, Anna-Liis; Ratso, Sander; Divitini, Giorgio; **Danilson, Mati; Mikli, Valdek; Uibu, Mai**; Aruväli, Jaan; Kruusenberg, Ivar ACS Sustainable Chemistry and Engineering 2022 / p. 134-145 <https://doi.org/10.1021/acssuschemeng.1c05250> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Nickel oxide films by chemical spray : effect of deposition temperature and solvent type on structural, optical, and surface properties**

**Chen, Zengjun; Dedova, Tatjana; Oja Acik, Ilona; Danilson, Mati; Krunks, Malle** Applied surface science 2021 / art. 149118  
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**Photoluminescence and Raman spectroscopy of polycrystalline AgInTe<sub>2</sub>**

**Jagomägi, 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 AgInTe<sub>2</sub>**

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

**Photoluminescence properties of polycrystalline AgGaTe<sub>2</sub>**

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**p-n junction improvements of Cu<sub>2</sub>ZnSnS<sub>4</sub>/CdS monograin layer solar cells**

**Kauk-Kuusik, Marit; Timmo, Kristi; Danilson, Mati; Altosaar, Mare; Grossberg, Maarja**; Ernits, Kaia Applied surface science 2015 / p. 795-798 : ill <https://doi.org/10.1016/j.apsusc.2015.09.094> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Potential fluctuations in Cu<sub>2</sub>ZnSnSe<sub>4</sub> solar cells studied by temperature dependence of quantum efficiency curves**

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

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**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](#)

**Rational design of highly efficient flexible and transparent p-type composite electrode based on single-walled carbon nanotubes**

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**Reaction pathway to Cu<sub>2</sub>ZnSnSe<sub>4</sub> formation in CdI<sub>2</sub> : part 1. Chemical reactions and enthalpies in mixtures of CdI<sub>2</sub>–ZnSe, CdI<sub>2</sub>–SnSe, and CdI<sub>2</sub>–CuSe**

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**Reduced recombination through the CZTS/CdS interface engineering in monograin layer solar cells**

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**Research in solar cell technologies at Tallinn University of Technology**

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**Shungite-derived graphene as a carbon support for bifunctional oxygen electrocatalysts**

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**Study of Cu<sub>2</sub>CdGeSe<sub>4</sub> monograin powders synthesized by molten salt method for photovoltaic applications**

Kauk-Kuusik, Marit; Li, Xiaofeng; Pilvet, Maris; Timmo, Kristi; Grossberg, Maarja; Raadik, Taavi; Danilson, Mati; Mikli, Valdek; Altosaar, Mare; Krustok, Jüri; Raudoja, Jaan *Thin solid films* 2018 / p. 15-19 <https://doi.org/10.1016/j.tsf.2018.09.025> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Sulfur-containing Cu<sub>2</sub>ZnSnSe<sub>4</sub> monograin powders for solar cells**

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**Synthesis and characterization of pyrite FeS<sub>2</sub> solar cell absorber crystals and modifying their surface**

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**Zirconium doped TiO<sub>2</sub> thin films deposited by chemical spray pyrolysis**

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**The effect of Ag alloying of Cu<sub>2</sub>(Zn,Cd)SnS<sub>4</sub> on the monograin powder properties and solar cell performance**

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**The effect of S/Se ratio on the properties of Cu<sub>2</sub>CdGe(SxSe<sub>1-x</sub>)<sub>4</sub> monograin powders for photovoltaic applications**  
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**Õhukeste TiO<sub>2</sub> kilede kasv erinevatel alustel pihustuspürolüüsi meetodil**

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