

**An alternative chlorine-assisted optimization of CdS/Sb<sub>2</sub>Se<sub>3</sub> solar cells : towards understanding of chlorine incorporation mechanism**

**Gopi, Sajeesh Vadakkedath; Spalatu, Nicolae; Katerski, Atanas;** Kulicek, Jaroslav; Razek, Bohuslav; Ukrantsev, 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>

**Analysis of grain orientation and defects in Sb<sub>2</sub>Se<sub>3</sub> 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](https://fntdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf)

**Analysis of grain orientation and defects in Sb<sub>2</sub>Se<sub>3</sub> 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](#)

**Application of ultrasonic sprayed zirconium oxide dielectric in zinc tin oxide-based thin film transistor**

**Oluwabi, Abayomi Titilope; Katerski, Atanas;** Carlos, Emanuel; Branquinho, Rita; **Mere, Arvo; Krunks, Malle;** Fortunato, Elvira; Pereira, Luis; **Oja Acik, Ilona** Journal of materials chemistry C 2020 / p. 3730-3739 : ill <https://doi.org/10.1039/C9TC05127A> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Au ja Ag nanoosakeste saamiseks kasutatavate lähteainete HAuCl<sub>4</sub>·3H<sub>2</sub>O ja AgNO<sub>3</sub> termilise lagunemise uurimine**

**Otto, Kairi; Oja Acik, Ilona; Krunks, Malle; Tõnsuaadu, Kaia** XXXIII Eesti Keemiapäevad : teaduskonverentsi teesid 2013 / lk. 55

**Bulk and interface recombination in TiO<sub>2</sub>/Sb<sub>2</sub>Se<sub>3</sub> solar cells**

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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

**Characterisation of zirconium doped titanium dioxide thin films deposited by chemical spray pyrolysis**

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**Characterization of samarium and nitrogen doped TiO<sub>2</sub> films prepared by spray pyrolysis**

**Oja Acik, Ilona;** Junolainen, Agne; Kiisk, Valter; Sildos, Ilmo; **Danilson, Mati; Krunks, Malle** EMRS-2010 Spring Meeting : Strasbourg, France, June 7-11 : program and book of abstracts. Symposion K 2010 / p. 4

**Charge selective contact on ultra-thin In(OH)<sub>x</sub>Sy/Pb(OH)<sub>x</sub>Sy heterostructure prepared by SILAR**

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

**Oluwabi, Abayomi Titilope; Spalatu, Nicolae;** Maticiu, 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](#)

**Copper–zinc oxide heterojunction catalysts exhibiting enhanced photocatalytic activity prepared by a hybrid deposition method**

Montero, Jose; Welearegay, Tesfalem; Thyr, Jakob; Stopfel, Henry; **Dedova, Tatjana; Oja Acik, Ilona;** Österlund, Lars RSC advances 2021 / p. 10224–10234 <https://doi.org/10.1039/d1ra00691f> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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**Cost-effective fluorene and thiophene containing hole conductors towards semi-transparent Sb<sub>2</sub>S<sub>3</sub> 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>

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#### **Determination of charge carrier density in zinc oxide nanorods prepared by chemical spray pyrolysis**

**Kärber, Erki; Dedova, Tatjana; Oja Acik, Ilona; Krunks, Malle; Mere, Arvo; Mikli, Valdek** Proceedings of CYSENI 2010 : the 7th Annual Conference of Young Scientists on Energy Issues : May 27-28, 2010, Kaunas, Lithuania 2010 / p. 340-344

#### **Development of antimony sulfide thin-film solar cells for semitransparent applications**

**Beglyaryan, Robert; Katerski, Atanas; Oja Acik, Ilona; Krunks, Malle** Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 9 I. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

#### **Development of Bi<sub>2</sub>Se<sub>3</sub> 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 sb<sub>2</sub>se<sub>3</sub> and sb<sub>2</sub>s<sub>3</sub> solar cells by close-spaced sublimation**

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#### **Development of Sb<sub>2</sub>Se<sub>3</sub> and Sb<sub>2</sub>S<sub>3</sub> thin film solar cells by close-spaced sublimation = Sb<sub>2</sub>Se<sub>3</sub> ja Sb<sub>2</sub>S<sub>3</sub> õhukesekileliste päikesepatareide arendamine lähidistants-sublimatsiooni meetodil**

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#### **Development of spray pyrolysis-synthesised Bi<sub>2</sub>O<sub>3</sub> 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](#)

#### **Development of spray-pyrolysis-synthesised TiO<sub>2</sub> thin films for photocatalytic degradation of volatile organic compounds in air = Pihustuspürolüüsiga sünteesitud TiO<sub>2</sub> õhukeste kilede väljatöötamine lenduvate orgaaniliste ühendite fotokatalüütiliseks lagundamiseks õhus**

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#### **Dopant-free fluorene based dimers linked with thiophene units as prospective hole transport materials for Sb<sub>2</sub>S<sub>3</sub> 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](#)

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**Kärber, Erki; Katerski, Atanas; Oja Acik, Ilona; Mikli, Valdek; Mere, Arvo; Krunks, Malle** Thin solid films 2011 / p. 7180-7183 : ill

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**Effect of the titanium isopropoxide : acetylacetone molar ratio on the photocatalytic activity of TiO<sub>2</sub> thin films**

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**EMI-transparent SB2S3 solar cells with fluorene-based enamine as hole transport material**

Juneja, Nimish; Mandati, Sreekanth; Daskeviciute-Geguziene, Sarune; Vembris, Aivars; Getautis, Vytautas; Krunks, Malle; Oja Acik, Ilona Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 21 I. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

**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>

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

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**Enhanced photocatalytic activity of ZnO nanorods by surface treatment with H<sub>2</sub>AuCl<sub>4</sub> : synergic effects through an electron scavenging, plasmon resonance and surface hydroxylation**

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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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**Erratum: Copper-zinc oxide heterojunction catalysts exhibiting enhanced photocatalytic activity prepared by a hybrid deposition method (RSC Advances (2021) 11 (10224–10234) DOI: 10.1039/D1RA00691F)**

Montero, José; Welearegay, Tesfalem; Thyr, Jakob; Stopfel, Henry; Dedova, Tatjana; Oja Acik, Ilona; Österlund, Lars RSC Advances 2021 / p. 13635 <https://doi.org/10.1039/d1ra90096j> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Extremely thin absorber layer nanostructured solar cell by chemical spray pyrolysis**

**Mere, Arvo; Katerski, Atanas; Dedova, Tatjana; Oja Acik, Ilona; Krunks, Malle** Proceedings 23rd European Photovoltaic Solar Energy Conference : 1-5 September, 2008, Valencia, Spain 2008 / p. 2147-2150

### **Extremely thin absorber layer solar cells on zinc oxide nanorods by chemical spray**

**Krunks, Malle; Kärber, Erki; Katerski, Atanas; Otto, Kairi; Oja Acik, Ilona; Dedova, Tatjana; Mere, Arvo** Solar energy materials & solar cells 2010 / p. 1191-1195

### **4.9 % efficient Sb<sub>2</sub>S<sub>3</sub> 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/acsaem.2c04097> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **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://fntdk.ut.ee/wp-content/uploads/2021/06/GSFMT\\_abstractbook\\_2021.pdf](https://fntdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf)

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

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

### **Growth of ultra-thin TiO<sub>2</sub> films by spray pyrolysis on different substrates**

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

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**Dedova, Tatjana; Krunks, Malle; Oja Acik, Ilona; Klauson, Deniss; Volobujeva, Olga; Mere, Arvo** Materials chemistry and physics 2013 / p. 69-75 : ill <https://doi.org/10.1016/j.matchemphys.2013.04.026> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **High-K ZrO<sub>2</sub> thin films by chemical spray pyrolysis method [Online resource]**

**Oluwabi, Abayomi Titilope; Oja Acik, Ilona; Katerski, Atanas; Krunks, Malle** 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/>

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**Oluwabi, Abayomi Titilope** 2020 <https://digikogu.taltech.ee/et/item/4b6d9afd-74d2-40ac-9c12-335d2f608474>  
[https://www.ester.ee/record=b5362429\\*est](https://www.ester.ee/record=b5362429*est)

### **Impacts of different solvents and substrates on properties of zinc oxide nanorod layers prepared by chemical spray pyrolysis**

**Annert, Katre; Vent, Merike; Dedova, Tatjana; Kärber, Erki; Oja Acik, Ilona; Volobujeva, Olga; Mere, Arvo; Krunks, Malle; Mikli, Valdek** Proceedings of CYSENI 2010 : the 7th Annual Conference of Young Scientists on Energy Issues : May 27-28, 2010, Kaunas, Lithuania 2010 / p.301-309

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**Mora-Sero, Ivan; Bisquert, Juan; Oja Acik, Ilona** Nano letters 2006 / 4, p. 640-650 <https://pubs.acs.org/doi/10.1021/nl052295q>

### **In<sub>2</sub>S<sub>3</sub> kiled moodustumine pihustuspürolüüsi protsessis : termoanalüütiline uuring**

**Otto, Kairi; Oja Acik, Ilona; Tõnsuaadu, Kaia; Krunks, Malle** XXXII Eesti Keemiapäevad : teaduskonverentsi teesid 2011 / lk. 70

### **Inexpensive fluorene-based hole transporting material with terminated thiophene unit for efficient semi-transparent Sb<sub>2</sub>S<sub>3</sub> 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 post-UV/ozone treatment of ultrasonic-sprayed zirconium oxide dielectric films for a low-temperature oxide thin film transistor**

**Oluwabi, Abayomi Titilope;** Gaspar, Diana; **Katerski, Atanas; Mere, Arvo; Krunks, Malle;** Pereira, Luis; **Oja Acik, Ilona** Materials 2020 / art. 6, 14 p. : ill <https://doi.org/10.3390/ma13010006> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at](#)

**Influence of solution composition on sprayed ZnO nanorods properties and formation process: Thermoanalytical study of the precursors**

**Dedova, Tatjana; Oja Acik, Ilona; Polivtseva, Svetlana; Krunks, Malle; Gromöko, Inga; Tõnsuaadu, Kaia; Mere, Arvo**

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**Influence of vapour transport deposition conditions on properties of SB2SE3 thin film absorber and solar cells**

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**In-situ deposition of gold nanoparticles onto different substrates by chemical spray pyrolysis**

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