

**Advances in the one-step synthesis of 2D and 3D sulfide materials grown by pulsed laser deposition assisted by a sulfur thermal cracker**

Esterlich, Joan Ramish; Affannoukoue, Kevin; **Kaupmees, Reelika**; Miakota, Denys; Engberg, Sara; **Grossberg-Kuusik, Maarja**; Schou, Jorgen; Canulescu, Stela Applied physics. A, Materials science & processing 2023 / art. 59, 8 p. : ill <https://doi.org/10.1007/s00339-022-06319-w> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Bandgap fluctuations, hot carriers, and band-to-acceptor recombination in Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> microcrystals**

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

**Broad-band photoluminescence of donor-acceptor pairs in tetrahedrite Cu<sub>10</sub>Cd<sub>2</sub>Sb<sub>4</sub>S<sub>13</sub> microcrystals**

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

**Characterization of tetrahedrite Cu<sub>10</sub>Cd<sub>2</sub>Sb<sub>4</sub>S<sub>13</sub> monograin materials grown in molten CdI<sub>2</sub> 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 vapour deposition of WS<sub>2</sub> 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://fntdk.ut.ee/teesid-2019/>

**Cu(In,Ga)Se<sub>2</sub> 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](#)

**Detailed photoluminescence study of Cu<sub>2</sub>Ge(SSe)<sub>3</sub> 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](#)

**Development of band gap tuned CU<sub>2</sub>ZN(SN<sub>1</sub>-XGEX)S<sub>4</sub> monograin powders**

**Mengü, Idil**; **Grossberg-Kuusik, Maarja**; **Muska, Katri**; **Pilvet, Maris**; **Mikli, Valdek**; **Kaupmees, Reelika**; **Krustok, Jüri**; **Kauk-Kuusik, Marit** Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 39 I. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

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

**Polivtseva, Svetlana**; **Volobujeva, Olga**; **Kuznietsov, Ivan**; **Kaupmees, Reelika**; **Danilson, Mati**; **Krustok, Jüri**; **Molaiyan, Palanivel**; **Hu, Tao**; **Lassi, Ulla**; **Klopov, Mihhail**; **van Gog, Heleen**; **van Huis, Marijn A.**; **Kaur, Harleen**; **Ivask, Angela**; **Rosenberg, Merilin**; **Gathergood, Nicholas**; **Ni, Chaoying**; **Grossberg-Kuusik, Maarja** ACS applied materials & interfaces 2024 / p. 62871-62882 <https://doi.org/10.1021/acsami.4c11425>

**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://www.ester.ee/record=b5429502*est) <https://doi.org/10.23658/taltech.25/2021>

**Identification of excitons and biexcitons in Sb<sub>2</sub>Se<sub>3</sub> 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 Li and K co-doping on the optoelectronic properties of CZTS monograin powder**

**Muska, Katri**; **Timmo, Kristi**; **Pilvet, Maris**; **Kaupmees, Reelika**; **Raadik, Taavi**; **Mikli, Valdek**; **Grossberg-Kuusik, Maarja**; **Krustok, Jüri**; **Josepson, Raavo**; **Lange, Sven**; **Kauk-Kuusik, Marit** Solar energy materials and solar cells 2023 / art. 112182 : ill <https://doi.org/10.1016/j.solmat.2023.112182> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Influence of alkali iodide fluxes on Cu<sub>2</sub>ZnSnS<sub>4</sub> monograin powder properties and performance of solar cells**

**Timmo, Kristi**; **Pilvet, Maris**; **Muska, Katri**; **Altosaar, Mare**; **Mikli, Valdek**; **Kaupmees, Reelika**; **Josepson, Raavo**; **Krustok, Jüri**; **Grossberg-Kuusik, Maarja**; **Kauk-Kuusik, Marit** Materials advances 2023 / p. 4509-4519 : ill <https://doi.org/10.1039/D3MA00444A> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Local strain-induced band gap fluctuations and exciton localization in aged WS<sub>2</sub> monolayers**

**Krustok, Jüri; Kaupmees, Reelika;** Jaaniso, Raivo; Kiisk, Valter; Sildos, Ilmo; Li, B.; Gong, Y. AIP advances 2017 / art. 065005, 12 p. <https://doi.org/10.1063/1.4985299> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **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](#)

#### **Observation of band gap fluctuations and carrier localization in Cu<sub>2</sub>CdGeSe<sub>4</sub>**

**Krustok, Jüri; Raadik, Taavi; Kaupmees, Reelika; Grossberg, Maarja; Kauk-Kuusik, Marit; Timmo, Kristi; Mere, Arvo** Journal of physics D : applied physics 2019 / art. 285102 , 7 p. : ill <https://doi.org/10.1088/1361-6463/ab1afd> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Optical and structural properties of orthorhombic and tetragonal polymorphs of Cu<sub>2</sub>CdGeSe<sub>4</sub>**

**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 study of valence band splitting and resonant acceptor states in Cu<sub>2</sub>GeS<sub>3</sub> microcrystals**

**Krustok, Jüri; Kaupmees, Reelika; Kokla, Joel; Kauk-Kuusik, Marit** Applied physics letters 2024 / art. 242111 <https://doi.org/10.1063/5.0245139>

#### **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 WS<sub>2</sub> 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 study of B-trion in CVD grown MoS<sub>2</sub> monolayers [Online resource]**

**Kaupmees, Reelika; Krustok, Jüri** 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. : ill <http://fmdk.ut.ee/teesid-2018/>

#### **Photoluminescence study of B-trions in MoS<sub>2</sub> monolayers with high density of defects**

**Kaupmees, Reelika;** Komsa, Hannu-Pekka; **Krustok, Jüri** Physica status solidi (b) 2019 / art. 1800384, 5 p. : ill <https://doi.org/10.1002/pssb.201800384> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **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](#)

#### **Radiative recombination pathways in ordered and disordered CZTSe microcrystals**

**Mengü, Idil; Krustok, Jüri; Kaupmees, Reelika; Mikli, Valdek; Kauk-Kuusik, Marit; Grossberg-Kuusik, Maarja** Materials chemistry and physics 2023 / art. 127685 <https://doi.org/10.1016/j.matchemphys.2023.127685> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Solution-mediated inversion of SnSe to Sb<sub>2</sub>Se<sub>3</sub> thin-films**

**Polivtseva, Svetlana;** Kois, Julia; **Kruzhilina, Tatiana; Kaupmees, Reelika; Klopov, Mihhail;** Molaiyan, Palanivel; van Gog, Heleen; van Huis, Marijn A.; **Volobujeva, Olga** Nanomaterials 2022 / art. 2898 <https://doi.org/10.3390/nano12172898> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Study of the structure and optoelectronic properties of Cu<sub>2</sub>Ge(SexS<sub>1-x</sub>)<sub>3</sub> 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](#)

#### **Tailoring of bound exciton photoluminescence emission in WS<sub>2</sub> 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](#)

**The effect of elevated temperatures on excitonic emission and degradation processes of WS<sub>2</sub> 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](#)

**Unusual defect-related room-temperature emission from WS<sub>2</sub> monolayers synthesized through a potassium-based precursor**

**Walke, Peter R.; Kaupmees, Reelika; Grossberg-Kuusik, Maarja; Krustok, Jüri** ACS omega 2023 / p. 37958-37970 <https://doi.org/10.1021/acsomega.3c03476> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)