

### **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>

### **Development of Bi<sub>2</sub>S<sub>3</sub> 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 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](#)

### **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](#)

### **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>

### **EMI-transparent SB<sub>2</sub>S<sub>3</sub> 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 l. [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 Sb<sub>2</sub>S<sub>3</sub> 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](#)

### **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/acsam.2c04097> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **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 sulfur source on growth of in-air sprayed ultrathin film Sb<sub>2</sub>S<sub>3</sub> for enhanced solar cell performance**

**Asare, Ernest A.; Katerski, Atanas; Kriisa, Merike; Josepson, Raavo;** Rotaru, Victoria; Guc, Maxim; Payno Zarceno, David; **Navarro-Güell, Alejandro;** Grzibovskis, Raitis; Vembris, Aivars; **Spalatu, Nicolae; Krunks, Malle; Oja Acik, Ilona** ACS applied materials & interfaces 2025 / p. 64753-64770 <https://doi.org/10.1021/acsami.5c17869>

### **Low processing temperatures explored in Sb<sub>2</sub>S<sub>3</sub> solar cells by close-spaced sublimation and analysis of bulk and interface related defects**

**Krautmann, Robert; Spalatu, Nicolae; Josepson, Raavo;** Nedzinskas, Ramunas; Kondrotas, Rokas; Grzibovskis, 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](#)

**Post deposition annealing effect on properties of CdS films and its impact on CdS/Sb<sub>2</sub>Se<sub>3</sub> 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  
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**Sb<sub>2</sub>S<sub>3</sub> 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  
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**Sb<sub>2</sub>S<sub>3</sub> 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](#)

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