

# CURRICULUM VITAE

## Kapustnyk Oleksii Kostiantynovych



### Personal Details:

*Place of Birth:* Kharkiv, Ukraine

*Date of Birth:* 15 October, 1990

*Nationality:* Ukraine

### Education:

- 2006-2011 V.N. Karazin Kharkiv National University, Kharkiv, Ukraine, School of Physics.
- 2010 Bachelor's degree, physics, V.N. Karazin Kharkiv National University.
- 2011 Master's degree, physics, V.N. Karazin Kharkiv National University.
- 2021 Ph.D. in Physics and Mathematics, Institute for Single Crystals, Kharkiv, Ukraine

### Career/Employment:

2011- 2020 - Engineer Institute for Single Crystals of NAS of Ukraine

2020- 2022 - Junior Research Scientist of Institute for Single Crystals of NAS of Ukraine

2023-present - Junior Research Scientist of Institute for Single Crystals of NAS of Ukraine

**Language knowledge:** Ukrainian, Russian, English.

### Research Activity:

Materials science; crystal growth by the Bridgman method; IR laser optics;  $A^{II}B^{VI}$  binary crystals and solid solutions doped with transition metal ions.

### Awards and Achievements:

2020-2022 Scholarship of the President of Ukraine for young scientists.

### Publications and patents

8 original articles, 3 patents;

Scopus *h*-index: 2

<https://www.scopus.com/authid/detail.uri?authorId=55654148300>.

### **Selected recent publications:**

1. High-pressure Bridgman growth and characterization of  $\text{Cd}_{1-x}\text{Mn}_x\text{Te}:\text{Fe}$  crystals / N.O. Kovalenko, I.S. Terzin, S.V. Sulima, O.O. Poluboiarov, A.K. Kapustnik, D.S. Sofronov, P.F. Mateichenko, N.G. Dubina, S.L. Abashin, A.G. Fedorov // *Crystal Research and Technology*. – 2017. – V. 52, № 8. – p. 1600378. DOI: 10.1002/crat.201600378. – (Q2).
2. Optical and lasing characteristics of single-crystal  $\text{CdSe}:\text{Cr}^{2+}$  active elements grown by the Bridgman method / N.O. Kovalenko, A.K. Kapustnik, A.S. Gerasimenko, O.N. Eremeikin, A.S. Egorov, and D.S. Sofronov. // *Journal of Optical Technology*. – 2016. – V. 83, №. 7. – p. 397-399. DOI: 10.1364/JOT.83.000397. – (Q3).
3. CdSe charge obtaining for single crystals growth in alkaline solutions / D.S. Sofronov, P.V. Mormilo, N.O. Kovalenko, E.M. Sofronova, P.V. Matejchenko, E.Yu. Bryleva, A.K. Kapustnik, I.S. Terzin // *Functional Materials*. – 2018. – V. 25, № 2 – p. 353-357. DOI: 10.15407/fm25.02.353. – (Q3).
4. Mechanical properties of  $\text{GaSe}:\text{Cr}^{2+}$  crystals / A.K. Kapustnik, N.O. Kovalenko, I.S. Terzin, D.S. Sofronov, V.S. Zadorozhnii // *Functional Materials*. – 2020. – V. 27, № 3 – p. 454-457. DOI: 10.15407/fm27.03.454. – (Q4).
5. Formation of  $\text{TiO}_2$  particles during thermal decomposition of  $\text{Ti}(\text{NO}_3)_4$ ,  $\text{TiOF}_2$  and  $\text{TiOSO}_4$  / D. Sofronov, M. Rucki, O. Demidov, A.Doroshenko, E. Sofronova, A. Shaposhnyk, A. Kapustnik, P. Mateychenko, W. Kucharczy // *Journal of Materials Research and Technology*. – 2020. – V. 9, № 3 – p. 12201–12212. DOI: 10.1016/j.jmrt.2020.08.115. – (Q4).

### **Patents:**

1. Single crystal material for active elements of IR lasers based on a solid solution of cadmium-manganese telluride doped with an isovalent impurity of iron/ Kapustnyk O.K., Kovalenko N.O., Terzin I.C // №115794, 25.04.2017. (V. 8).
2. Single crystal material based on cadmium selenide activated by chromium ions/ Kapustnyk O.K.; Kovalenko N.O.; Gerasimenko A.S.// №102557, 10.11.2015 (V. 21).
3. Single crystal material for nonlinear optics of the middle and far IR regions based on gallium selenide doped with isovalent chromium impurity,  $\text{GaSe}:\text{Cr}^{2+}$  /Terzin I.S.; Sofronov D.S.; Kapustnyk O.K.; Kovalenko N.O.; Dubina N.G.; Sulyma S.V.; Poluboiarov O.O. // №141110, 25.03.2020 (V. 6).