List of main research publications
Kavats Olena

1. Kavats, O., Khramov, D., & Sergieieva, K. (2022). Surface Water Mapping from SAR Images Using Optimal Threshold Selection Method and Reference Water Mask. Water, 14(24), 4030 [Ref].
2. Kavats O., Khramov D., Sergieieva K., Puputti J., Joutsenvaara J., Kotavaara O. Optimal threshold selection for water bodies mapping from Sentinel-1 images based on Sentinel-2 water masks. IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2022, pp. 5551-5554, Jul. 2022. DOI: 10.1109/IGARSS46834.2022.9883600 [Ref]
3. Kavats O.O., Khramov D.A., Sergieieva K.L., Vasyliev V.V. Open Satellite Data for Global Greenhouse Gas Monitoring. System technologies, «System technologies» 2022, 3(140), 47-59. doi:10.34185/1562-9945-3-140-2022-05.
4. O. Kavats, D. Khramov, K. Sergieieva, & V. Vasyliev. Algorithm for statistical downscaling of land surface temperature using ElasticNet. REVIEW OF THE BULGARIAN GEOLOGICAL SOCIETY 81.part 3 (2020): 195-197. [Ref]
5. Kavats, O.; Khramov, D.; Sergieieva, K.; Vasyliev, V. Monitoring of Sugarcane Harvest in Brazil Based on Optical and SAR Data. *Remote Sens.* 2020, 12, 4080. [Ref]
6. Kavats O., Khramov D., Sergieieva K., Vasyliev V. Monitoring Harvesting by Time Series of Sentinel-1 SAR Data. *Remote Sensing*. **2019**, *11*, 2496. [Ref]
7. Sergieieva, K., Kavats, O., Khramov, D., Vasyliev, V., & Kavats, I. (2018). Crop Classification and Monitoring using MODIS NDVI Time Series. AGUFM, 2018, GC51G-0861. [Ref]
8. Kavats O., Khramov D., Sergieieva K., Vasyliev V., Kavats I. Geoinformation Technology of Agricultural Monitoring Using Multi-Temporal Satellite Imagery. *International Journal of Agricultural and Biosystems Engineering*. 12(6). World Academy of Science, Engineering and Technology, Vienna, Austria. June 14-15, **2018**. [Ref] https://publications.waset.org/abstracts/89623/pdf
9. Hnatushenko V.V., Kavats O.O., Kibukevych J.O., Kavats Y.V. Flood Monitoring Using Multi-Temporal Synthetic Aperture Radar Images'. *Part of the Advances in Intelligent Systems and Computing book series (AISC, Springer). Vol. 1080.* P. *54-63*, **2019.**
10. Kavats O., Sergieieva K., Khramov D., Vasyliev V. Cropland monitoring using Sentinel-1 data. *VI International Conference* "*Aerospace observations for sustainable development and security" GeoUA-2018*. Kyiv, Ukraine. September 18-19, **2018**. [Ref]
11. Kavats O.O., Hnatushenko V.V., Hnatushenko V.V., Kibukevich Yu.O., Kavats Yu.V. Computer analysis of high-resolution radar images for monitoring forest stands. Bulletin of the Kherson National Technical University. Kherson **2018**. No. 3 (66). T.1. P.260-264.
12. Kavats O.O., Kibukevich Yu.O., Kavats Yu.V., Kalashnyk I.V., Artemenko K.A. Computer analysis of high-resolution radar images for flood monitoring.*Regional interuniversity compendium of scientific works "System technologies"*. Dnipro **2018**. No. 5 (118). P.81 - 86..
13. Hnatushenko V.V., Mozgovyi D.K., Vasyliev V.V., Kavats O.O. Satellite Monitoring of Consequences of Illegal Extraction of Amber in Ukraine. *Scientific bulletin of*

National Mining University. State Higher Educational Institution «National Mining University». Dnipro. **2017**. No.2 (158). P. 99–105.

14. Hnatushenko V.V., Kavats O.O., Kubanek M., Kibukevych Y.O. Conditions and limitations of digital satellite image pre-processing for the further 3D modeling. *Journal of Applied Mathematics and Computational Mechanics.* Vol. 15. Issue 3. Year **2016**. P. 57-65.
15. Hnatushenko V.V., Kavats O.O., Kavats Y.V. Improved algorithm for detecting and removing shadows in multichannel satellite images with high information content. *Power engineering and information technologies in technical objects control. 2016 Annual Proceedings / G. Pivnyak, O. Beshta, M. Alekseyev.* London: Taylor & Francis Group: CRC Press/Balkema. London, UK **2016**. P. 137-141.
16. Hnatushenko V.V., Kavats O.O., Galchenko E.B., Kavats Yu.V. Information technology for building recognition on multi-channel photogrammetric images of high spatial ability based on morphological indices. *Bulletin of the Kherson National Technical University.* Kherson **2016**. No. 3 (58). P.195-198.
17. Hnatushenko V.V., Hnatushenko Vik.V., Kavats O.O., Shevchenko V.Ju. Pansharpening technology of high resolution multispectral and panchromatic satellite images. *Scientific bulletin of National Mining University. State Higher Educational Institution "National Mining University".* № 4 (148). Dnipropetrovsk. **2015**. P. 91-98.
18. Hnatushenko V.V., Kavats O.O., Kavats Y.V. Shadow detection and removal from very high resolution satellite image. *Regional interuniversity compendium of scientific works "System technologies".* Dnipropetrovsk. **2015** Vol. 2 ('91). P. 51–60.
19. Hnatushenko V.V., Kavats O.O., Galchenko E. B., Kavats Y.V. Interpolation method of photogrammetric images based on wavelet transformation.Bulletin of the Kherson National Technical University. Kherson **2015**. No. 3(54). P. 224-228.
20. Hnatushenko V.V., Kavats O.O., Kibukevych Y.O. Efficiency Determination of Scanner Data Fusion Methods of Space Multispectral Images. *International Young Scientists Forum on Applied Physics «YSF-2015».* September 29 - October 2, **2015**. Dnipropetrovsk, Ukraine. IEEE Catalog Number: CFP15YSF-CDR. ISBN: 978-1-4673-6976-3
21. Projdak Y., Hnatushenko V.V., Hnatushenko Vik.V., Kavats O.O. Definition of the information characteristics of the metals' binary images. «XV INTERNATIONAL SCIENTIFIC CONFERENCE». *New technologies and achievements in metallurgy, material engineering and production engineering – (A collective monograph edited by Monika Zajemska). Series: Monographs* Vol. 40, - Częstochowa: Politechnika Częstochowska, P 76-80, **2014**.

22. Hnatushenko V.V., Kavats O.O., Shevchenko V.Yu., Chupina B.O. Increasing the clarity of multispectral image scene objects based on hyperspherical transformation. *Scientific bulletin "New technologies"* No. 3-4 (45-46). Kremenchuk. December **2014** P.58-63.

23. Hnatushenko V.V., Kavats O.O. Information technology for increasing the spatial resolution of digital satellite images based on ICA and wavelet transforms. *Bulletin of the National University "Lviv Polytechnic", series "Computer Sciences and Information Technologies"*. Lviv. **2013**. No. 771. P. 28-32.

24. Kavats O.O. Investigation of the effectiveness of photogrammetric image fusion methods. *Regional interuniversity compendium of scientific works "System technologies".* Dnipropetrovsk. **2013**. P. 116-122.

25. Hnatushenko V.V., Kavats O.O., Safarov O.O. Study of the influence of wavelet characteristics on the efficiency of combining photogrammetric images. Proceedings of the Tavri State. Agricultural Technology University. Melitopol TDATU. **2013** No. 4. T.56. P. 33-40.

26. Hnatushenko V.V., Kavats O.O. A new algorithm for increasing the informativeness of photogrammetric images. KhNTU Bulletin. No. 2 (47). Kherson. **2013**. P. 100-105.

27. Kavats, O., Sergieieva, K., Khramov, D., Vasyliev, V., & Kavats, I. (2018). Crop Classification and Monitoring using MODIS NDVI Time Series. AGUFM, 2018, GC51G-0861.
28. Kavats, O. ;Sergieieva, K. ;Khramov, D. ;Vasyliev, V. ;Kavats, I.(2018). Crop Monitoring using Sentinel-1 SLC Images. AGUFM, 2018, GC51G-0861.

Copyright registration certificate

1. Kavats O.O., Hnatushenko V.V., Kavats Y.V. The computer program "QUALITY METRICS IMAGES" – calculation of quantitative indicators of the quality of digital images. Copyright registration certificate № 61024, **06.08.2015**.
2. Kavats O.O., Hnatushenko V.V., Kavats Y.V. The computer program "IMPROVING IMAGE SPATIAL RESOLUTION". Copyright registration certificate № 64325, 01.03.2016.
3. Kavats O.O., Hnatushenko V.V., Kavats Y.V. The computer program "PROCESSING & ANALYSIS TOOLS". Copyright registration certificate № 61441 27.08.2015.
4. Kavats O.O. The computer program "Colcryst" – modeling and studying the structure of metallic alloys. Copyright registration certificate № 28693, 2009.