# A selection of publications of Dr. Vitalii Makogin†

* Das, A., Makogin, V., & Spodarev, E. (2021). Extrapolation of Stationary Random Fields Via Level Sets. arXiv preprint arXiv:2108.12481.
* Makogin, V., & Spodarev, E. (2021). Limit theorems for excursion sets of subordinated Gaussian random fields with long-range dependence. Stochastics, 1-32.
* Makogin, V., Mishura, Y., & Zhelezniak, H. (2021). Approximate solution of the integral equations involving kernel with additional singularity. Stochastic Models, 1-19.
* Makogin, V., Oesting M., Rapp, A., Spodarev, (2021) E. Long Range Dependence for Stable Random Processes,  J. Time Ser. Anal. 42: 161–185 DOI: 10.1111/jtsa.12560
* Leonenko, N., Makogin, & V. Cadirci, M. S.,(2020). The entropy based goodness of fit tests for generalized von Mises-Fisher distributions and beyond. arXiv preprint arXiv:2010.10918 [math.ST]
* Cadirci, M. S., Evans, D., Leonenko, N., & Makogin, V. (2020). Entropy-based test for generalized Gaussian distributions. arXiv preprint arXiv:2010.06284 [math.ST]
* Makogin V., Mishura Yu., (2020) Fractional integrals, derivatives and integral equations with weighted Takagi–Landsberg functions. Nonlinear Analysis: Modelling and Control, 25(6), 1079-1106.
* Dresvyanskiy, D., Karaseva, T., Makogin, V., Mitrofanov, S., Redenbach, C., & Spodarev, E. (2020). Detecting anomalies in fibre systems using 3-dimensional image data. Statistics and Computing. https://doi.org/10.1007/s11222-020-09921-1.
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* Dresvyanskiy, D., Karaseva, T., Mitrofanov, S., Redenbach, C., Schwaar, S., Makogin, V., & Spodarev, E. (2019, May). Application of clustering methods to anomaly detection in fibrous media. In IOP Conference Series: Materials Science and Engineering (Vol. 537, No. 2, p. 022001). IOP Publishing.
* Makogin, V., Melnikov., A., Mishura, Yu. On Mean-variance hedging under partial obesrvations and terminal wealth constraints. International Journal of Theoretical and Applied Finance 20(5), 1750031 (2017).
* Makogin, V. Simulation paradoxes related to a fractional Brownian motion with small Hurst index. Modern Stochastics: Theory and Applications 2.3, 181-190 (2016).
* Makogin, V., and Mishura, Yu. Example of a Gaussian self-similar field with stationary rectangular increments that is not a fractional Brownian sheet. Stochastic Analysis and Applications, 33 (3), 413-428 (2015).
* Makogin, V.I., Asymptotic properties of integral functionals of fractional Brownian fields. Theor. Probability and Math. Statist. 91, 105-114 (2015)
* Kozachenko, Y., and Makogin, V. Probability distributions of extremes of self-similar Gaussian random fields. Journal of Classical Analysis, 5(1), 25-42 (2014).
* Makogin, V., and Mishura, Yu. Strong limit theorems for anisotropic self-similar fields. Modern Stochastics: Theory and Applications 1.1, 73-93 (2014).
* Makogin, V.I., Mishura, Yu.S., Shevchenko, G.M., Zolota, A.V.: Asymptotic behaviour of the trajectories of the fractional Brownian motion, anisotropic fractional Brownian field and their fractional derivatives. Appl. Stat. Actuar. Financ. Math. 1–2, 110–115 (2013). (In Ukrainian)

**Software**

* Prediction of random time series via the excursion metric:  - [R code](https://www.uni-ulm.de/fileadmin/website_uni_ulm/mawi.inst.110/forschung/Software/ExtrapolationGradient3.R), August 2022