

# INTERNATIONAL BIWEEKLY ONLINE SEMINAR ON ANALYSIS, DIFFERENTIAL EQUATIONS AND MATHEMATICAL PHYSICS

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Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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16 November 2023, 6 pm (UTC+3)

## Bi-parameter Potential theory and some applications to holomorphic spaces

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The bidisc carries its own natural Potential Theories, which are not developed in depth. The main obstructions are the lack of the usual basic tools: covering theorems, maximum principles, inequalities for weighted maximal functions... In the case of the bi-disc, we prove a Capacitary Strong Inequality and deduce from it a characterization of the trace inequalities for a Bessel Potential Space. As a consequence, we characterize the multipliers for the Holomorphic Dirichlet Space on the bidisc.

Work in collaboration with Pavel Mozolyako, Karl-Mikael Perfekt, and Giulia Sarfatti.

\*Seminar website: <https://msrn.sfedu.ru/sl>. The seminar uses Microsoft Teams online platform.  
Please send questions to [ademp.seminar@gmail.com](mailto:ademp.seminar@gmail.com) (Tatiana Andreeva, scientific secretary).

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The seminar is organized by the coordinators Alexey Karapetyants and Vladislav Kravchenko within the activities of the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the OTHA research group in Operator Theory and Harmonic Analysis.



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