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

Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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19 October 2023, 6 pm (UTC+3)

On direct and inverse Kolmogorov equations for purely jump-like Markov processes and their generalizations

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In the work "On analytical methods in probability theory" (1931), A.N. Kolmogorov, starting from the relations called Kolmogorov-Chapman equations, derived for transition probabilities of inhomogeneous stochastically defined systems, or, as is now commonly said, for inhomogeneous Markov random processes (in an expanded meaning), reverse and direct equations in the following three cases:

(A) systems with a finite number of states;
(B) systems with countable number of states;
(C) diffusion-type systems with a continuous set of states.

The report, which is largely of a review nature, considers the cases (A), (B) and the purely jump case for a Markov process with a Borel state space.
The report is based on joint work with E.A. Fainberg.

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

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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