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

Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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27 July 2023, 6 pm (UTC+3)

Fixed-point theory and Green's functions for the solution of DEs: An iterative strategy

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A recently developed iterative method for estimating the solution of ordinary and fractional boundary-value problems is described. The strategy is based on the construction of a tailored integral operator described in terms of the Green's function, which corresponds to the highest order linear derivative term. After then, the integral operator is subjected to a fixed-point scheme like Picard's, Mann's, or Ishikawa's. The convergence of the scheme is assessed. Numerical tests are used to assess the applicability and correctness of the approach.

*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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