Vladikavkaz Scientific Center of the Russian Academy of Sciences

North Caucasus Center for Mathematical Research
of the Vladikavkaz Scientific Center of the RAS

Southern Mathematical Institute
of the Vladikavkaz Scientific Center of the RAS

International Seminar
"Operator Theory, Differential Equations and their Applications"

Seminar Chairmen: Prof. Anatoly G. Kusraev, Prof. Marat A. Pliev
Seminar Secretary: PhD Batradz B. Tasoev

March 15, 4 PM (UTC+3)

On the generalized Bessel potential and the singular heat equation

A.L Dzhabrailov
Kadyrov Chechen State University

A generalization of the Gauss-Weierstrass kernel, which is a solution to the singular heat conduction equation, and the corresponding integral are considered. The connection between the classical Bessel potential and the heat equation was studied in [1,2]. We show that the generalized Bessel potential of a function integrable to the p-th power with a power weight can be represented by a simple integral using the Gauss–Weierstrass kernel. The results are presented in [3].

1. Byczkowski, T., J. Malecki, and M. Ryznar. Bessel Potentials, Hitting Distributionsand Green Functions. Transactions of the American Mathematical Society 361, no. 9 (2009): 4871–4900.

2. Flett T. M. Temperatures, Bessel potentials and Lipschitz spaces, Proc. LondonMath. Soc. (3) 22 (1971), 385–451.

3. Dzhabrailov A. L., Shishkina E. L. 2022. Relation between generalized Bessel potentials and the solution of the singular heat equation. Applied Mathematics & Physics. 54(2): 89–97.

JOIN THE SEMINAR

The seminar uses **Webinar** platform.

The seminar is organized by North Caucasus Center for Mathematical Research of the Vladikavkaz Scientific Center of the RAS jointly with Southern Mathematical Institute of the Vladikavkaz Scientific Center of the RAS.

If you have any questions please don't hesitate to contact the secretary of the seminar Batradz Tasoev at seminar_otde@mail.ru