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

April 6, 5 PM (UTC+3)

Hypersingular integral operators on weighted generalized Hölder spaces.

Drobotov Yuri Evgenievich

Institute of Mathematics, Mechanics, and Computer Sciences named after
I. I. Vorovich, junior researcher, PhD student, Rostov-on-Don, Russia;
North-Caucasus Center for Mathematical Research of the Vladikavkaz Scientific Centre of the
Russian Academy of Sciences, junior researcher, Vladikavkaz, Russia.

In this report, the smoothness properties of differential operators of the hypersingular integral type are discussed. The ones are formalized by generalizing the Hölder condition in the case of an arbitrary majorant of the continuity modulus. The operators under study are determined by integration over an open bounded set in an arbitrary metric space, the measure of which satisfies a special growth condition. The central question of the report is the following: what are the conditions on the majorant of the local continuity modulus of a function, the so-called characteristic of the generalized Hölder space, providing the existence of its image in a space with the "worst" characteristic in the case of a power weight?

The place of the theoretical results in the real order integrodifferentiation and its applications to the problems of mathematical physics is outlined. It is shown that in the case of integration on Euclidean spaces, the classes of functions satisfying the Hölder condition with special power weights are the classes of correctness of the inverse problem for the Poisson-type equation with fractional order of the Laplacian.

JOIN THE SEMINAR

The seminar uses **Zoom** 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