

Dear Colleagues!

V. Kupradze Institute of Mathematics of the University of Georgia is pleased to invite you to the Online Tbilisi Analysis & PDE Seminar. The seminar is held bi-weekly on Tuesdays at 20 : 00 local time in Tbilisi.



Talk on March 18, 2025

Speaker: Dr. **Andrey Shanin**, Lomonosov Moscow State University, Russia.
https://acoustics.phys.msu.ru/teachers/shanin_files/~shanin/index.html

"Asymptotic estimation of multidimensional Fourier integrals with singularities"

Abstract: A multidimensional Fourier integral is studied, whose transformant is an analytic function possibly having poles and branch sets. The frequency variables contain a large factor, and an asymptotic estimation with respect to this factor is built. An approach similar to the stationary phase method in the Poincaré's formulation is developed. Namely, an integration manifold, which is initially a real plane / volume, is deformed into the complex domain such that the integrand becomes exponentially small. Non-zero asymptotic terms

are provided then by neighborhoods of the special points where such a deformation is not possible. A classification of special points is given, and some typical integrals are computed for such points. The work is done in collaboration with Raphael Assier and Andrey Korolkov, University of Manchester, and Anton Laptev from Moscow State University.

The study was conducted by AS and AL under the state assignment of Lomonosov Moscow State University.

Date: March 18, 2025

Time: 20 : 00 local time in Tbilisi;

(Compare to your local time:

How to join:

The seminar is organized on the **Zoom Platform**. If you are already registered, you do not need to register again. Otherwise, to join the seminar please send an e-mail to seminarim@ug.edu.ge or register here:

<https://forms.gle/xfQJ9fg1uqe7CrZw6>

You will then receive further information.

WEB of Seminar: <https://www.ug.edu.ge/en/tbilisi-analysis-and-pde-seminars>

Organizers:

1. R. Duduchava, Institute of Mathematics, University of Georgia, Tbilisi
2. E. Shargorodsky, Department of Mathematics, King's College London
3. G. Tephnadze, Institute of Mathematics, University of Georgia, Tbilisi

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