



Dear Colleagues!

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 February 7, 2023

Speaker: Alexander Meskhi, TSU A. Razmadze Mathematical Institute and Kutaisi International University;
<https://www.kiu.edu.ge/?m=316>

The title of the lecture: “Boundedness criteria for multilinear fractional integral operators”

Abstract: Boundedness criteria for multilinear fractional integral operators from the product of Lebesgue spaces $\prod_{j=1}^m L^{p_j}$ to the weighted Lebesgue space L_v^q will be presented. We deal with multilinear potentials of Riesz- type as well as one-sided multilinear fractional integrals of Riemann-Liouville type. A complete characterization of a class of measures μ governing the boundedness of the multilinear fractional integral operator $K_{\gamma,\mu}$ defined with respect to μ from $\prod_{j=1}^m L_{\mu}^{p_j}$ to L_{μ}^q will also be discussed. Similar results in Morrey spaces are derived.

The talk is based on the papers:

- L. Grafakos and A. Meskhi, On sharp Olsen’s and trace inequalities for multilinear fractional integrals. *Potential Analysis* (2022).
<https://doi.org/10.1007/s11118-022-09991-y>
- V. Kokilashvili, M. Mastlyo and A. Meskhi, On the boundedness of multilinear fractional integral operators. *Journal of Geometric Analysis*, **30**(2020), 667-679, <https://doi.org/10.1007/s12220-019-00159-6>
- V. Kokilashvili, M. Mastlyo and A. Meskhi, On the boundedness of the multilinear fractional integral operators. *Nonlinear Analysis, Theory, Methods and Applications*, **94**(2014), 142–147.
- A. Meskhi, On the boundedness criteria for multilinear kernel integral operators, *Trans. A. Razmadze Math. Inst., Short communication, to appear.*

Date: February 7, 2023

Time: 20 : 00 local time in Tbilisi;

(Compare to your local time: [https://www.timeanddate.com/worldclock/georgia/tbilisi\);](https://www.timeanddate.com/worldclock/georgia/tbilisi)

How to join:

The seminar is organized on the **Cisco Webex Meetings**. 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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