



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 May 2, 2023

Speaker: Anastasia Kisil, University of Manchester;
<https://anastasiakisil.weebly.com/>

"A generalisation of the Wiener-Hopf methods for an equation in two variables with three unknown functions"

Abstract: In the talk I will present an analytic solution to a generalisation of the Wiener–Hopf equation in two variables and with three unknown functions. This equation arises in many applications, for example, when solving the discrete Helmholtz equation associated with scattering on a domain with perpendicular boundary. The traditional Wiener–Hopf method is suitable for problems involving boundary data on co-linear semi-infinite intervals, not for boundaries at an angle. This significant extension will enable the analytical solution to a new class of problems with more boundary configurations. Progress is made by defining an underlying manifold that links the two variables. This allows to meromorphically continue the unknown functions on this manifold and formulate a jump condition. As the result the problem is fully solvable in terms of Cauchy-type integrals which is surprising since this is not always possible for this type of functional equation.

Date: May 2, 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>

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3. G. Tephnadze, Institute of Mathematics, University of Georgia, Tbilisi

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