



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 April 30, 2024

Speaker: Prof. Uwe Kähler, University of Aveiro.
<https://sweet.ua.pt/ukaehler/Webpage/Main.html>

"Global pseudo-differential operator calculus over spin groups"

Abstract: In this talk we present a construction of a global symbol calculus of pseudo-differential operators on spin groups in the sense of Ruzhansky-Turunen-Wirth, with special attention given to the case of $\text{Spin}(4)$. Using representations of $\text{Spin}(4)$ we construct a group Fourier transform and establish the calculus of left-invariant differential operators and of difference operators on the group $\text{Spin}(4)$. Afterwards we apply this calculus to give criteria for subellipticity and global hypoellipticity of pseudo-differential operators in terms of their matrix-valued full symbols. Several examples of first and second order globally hypoelliptic differential operators are given, including some where the criteria of hypoellipticity will be reduced to the problem of approximation distance between irrational and rational numbers.

Date: April 30, 2024

Time: 20 : 00 local time in Tbilisi;

(Compare to your local time: <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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