



Dr. Jean Douçot

IMAR Bukarest (z. Zt. TU Chemnitz)

Topological descriptions of complex linear differential equations

The goal of this talk is to give a friendly introduction to several ideas related to the remarkable fact that linear differential equations on the complex plane with meromorphic coefficients can be viewed as objects of topological nature. This result, which comes in several variants, is known as the Riemann-Hilbert correspondence. The concrete upshot is that any complex linear ODE can be encoded, up to equivalence, by some linear algebra data, taking for instance the form of a collection of matrices.

I will try to explain the main aspects of this story, show many examples, and, if time permits, also discuss how there is a notion of Fourier transform for complex linear ODEs, and how one can determine explicitly in some cases how it acts at the level of the linear algebra data.

Das Kolloquium wird von Dr. Andreas Hohl geleitet.

Zeit: Donnerstag, 23.04.2026, 16:00 Uhr
Ort: Reichenhainer Str. 90
Raum C10.001