

Lie Group and Representation Theory Seminar

Date: April 13 (Tue), 2004, 16:30–17:30

Place: RIMS 402

Speaker: Herbert Heyer (Tübingen, Germany)

Title: Hecke pairs, generalized convolutions, and hypergroups

Abstract:

The talk is concerned with the notion of generalized translations in locally compact spaces introduced via convolution of measures. This concept has its origin in the work of Frobenius on characters of groups, can be traced in the theory of Hecke algebras, enjoyed a revival through the efforts of Delsarte and Levitan in connection with Sturm • Liouville eigenvalue problems, and reached the state of a useful axiomatization of hypergroups only about 30 years ago.

The speaker's aim is to describe the algebraic starting point of the notion of a hypergroup, to present a few striking examples arising from Gelfand pairs, and to expose some analytic aspects of the theory of locally compact hypergroups. Some of these aspects, notably the properties of the generalized Fourier transform of measures, enable the speaker to give an application to probability theory.

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