Department of Mathematics
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FELIX KLEIN SEMINAR

Speaker: Eugene Rogozinnikov
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Date: Thursday, February 1, 2024
Time: 2:00 PM
Location: 125 Hayes-Healy Bldg
Zoom URL: NA

Lecture Title:

Parametrizing spaces of positive representations

Abstract

The theory of generalized Lusztig's positivity (or Θ-positivity) developed by O. Guichard and A. Wienhard generalizes the total positivity for split real Lie groups and the maximality for Hermitian Lie groups to a larger class of simple Lie groups (e.g. (p, q), $p \neq q$, some exceptional Lie groups). Lie groups G with a positive structure are of particular interest in the higher Techmüller theory because the representation space $(\pi_1(S), G)/G$, where S is an orientable surface of finite type, admits connected components that consist entirely of discrete and faithful representations (so-called higher rank Teichmüller spaces). In my talk, I explain how the spaces of positive framed representations of the fundamental group of a punctured surface into a Lie group with a positive structure can be parametrized, and how we can describe the topology of this spaces using this parametrization. This is a joint work with O. Guichard and A. Wienhard.