

SPEAKER: Martin Westerholt-Raum (Chalmers Univ. of Technology)

TITLE: Harmonic weak Siegel Maass forms

ABSTRACT: We define and prove the existence of harmonic weak Siegel Maass of genus 2: Real analytic functions on the Siegel upper half space which under the Siegel lowering operator are mapped to simpler functions. They allow for a natural decomposition into a holomorphic and a non-holomorphic part, and can be connected to harmonic weak Maass forms for  $SL(2, \mathbb{R})$  via the Kohnen-Limit process.

A natural explanation of harmonic weak Siegel Maass forms is given in terms of extensions of Harish-Chandra modules. Our results can be viewed as a geometric realization of such extension classes, that are different from Eisenstein series.