

Number Theory Seminar

Special cohomology classes arising from the Weil representation

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ABSTRACT: Using the dual pair $Sp(n) \times O(p,q)$, we construct certain, special, cohomology classes for $O(p,q)$ with values in the Weil representation. These classes are generalizations of previous work of Kudla and Millson. We discuss its geometric properties as Poincare dual forms for certain, special, cycles with coefficients in a finite dimensional representation of the orthogonal group. Moreover, globally, theta series associated to these classes give rise to vector-valued holomorphic Siegel modular forms. Furthermore, we also discuss the behavior of the classes at the boundary of the Borel-Serre compactification of arithmetic quotients of the associated symmetric space for $O(p,q)$. This is joint work with J. Millson.

Date: Friday, 15.06.2007 at 14.15pm

Place: HWZ (HG G43)

G. Wüstholz