Intersection of Arithmetic Cycles and Automorphic Forms December 12–16, 2005

The modular generating function for 0-cycles on an arithmetic surface

S. Kudla

ssk@math.umd.edu Dept. of Mathematics University of Maryland College Park, Maryland 20742-0001 USA

Abstract

One of the main results of [KRY] is the identification of a certain generating series for 0-cycles on the arithmetic surface \mathcal{M} associated to a Shimura curve with the central derivative of a Siegel–Eisenstein series of genus 2. I will try to explain what goes into the proof of this result:

- (i) non-singular coefficients,
- (ii) rank 1 coefficients,
- (iii) the constant term.

If there is time, I will discuss the 'arithmetic inner product formula' which relates the height pairing of two generating functions for divisors to the restriction of the generating function for 0-cycles.