

DIAGONAL RESTRICTIONS OF HILBERT MODULAR FORMS

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In 1984, Gross and Zagier found an explicit formula for certain differences of values of Klein's j -function at CM points. One of their proofs proceeds by taking the derivative of a real-analytic family of Hilbert modular Eisenstein series. A p -adic version of this argument, using p -adic families of modular forms, has recently found several interesting applications. In particular, it is used to prove algebraicity of so-called real quadratic singular moduli, and in a new proof of the Gross-Kohnen-Zagier formula. I will give an introduction to this method, introduced by Darmon, Pozzi and Vonk, and outline some of my own recent work utilizing it.