

MATHEMATICS COLLOQUIUM

Gross and Zagier's work revisited

In 80s, Gross and Zagier discovered and proved a deep and well-known formula between derivative of an L -function and the height of some 'CM' point on an elliptic curve---Gross-Zagier formula, which gives partial answer the Birch and Swinnerton-Dyer conjecture. In the process, they also proved a beautiful factorization formula for the difference of CM values of the j -function. In addition, they also gave a conjecture about the algebraicity of the CM values of higher Green functions. In this talk, we will look at the these work from different point of view (regularized theta lifting), and give a proof of their algebraicity conjecture if time permits.

This talk is based on joint work with a few collaborators, including J. Bruinier, S. Kudla, Yingkun Li, Hongbo Yin, and Peng Yu among others.

THURSDAY

APRIL

11

4:30 - 5:30PM
LECONTE COLLEGE
ROOM 444



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