

NUMBER THEORY SEMINAR  
Monday, Nov. 24, 4.30 - 5.30 pm, MS 6221

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TITLE: Integrality of a period ratio and level-lowering congruences

ABSTRACT: We study the relation between the Petersson norm of a holomorphic  $GL(2)$  form  $f$  and that of its (suitably normalized) Jacquet-Langlands lift  $g$  to a Shimura curve. The ratio of these two norms was previously shown to be algebraic by Shimura and rational by Harris-Kudla. We prove an integrality result for this ratio and explain the arithmetic significance of this ratio in terms of certain congruences satisfied by  $f$ .