Meeting: 1004, Bowling Green, Kentucky, SS 9A, Special Session on L-Functions

1004-11-231   **Paul Garrett*** (`garrett@math.umn.edu`), 127 Vincent Hall, 206 Church St. SE, School of Mathematics, Univ of Minnesota, Minneapolis, MN 55455. *Archimedean Zeta Integrals.*

In special-value results for L-functions attached to holomorphic automorphic forms via Rankin-Shimura integral representations, even when the global integral has an Euler product factorization, the archimedean local factors are often difficult to evaluate in appropriate terms. For example, one may expect the local integral to be an algebraic multiple of a suitable power of pi, where the algebraic part has an explicit Galois equivariance. The issue is heightened when the largest possible range of special values is sought (anticipating compatibility with Deligne's conjectures, for example) via application of Maass-Shimura operators. We give a general qualitative approach using the fact (for example, from Dixmier, Algebres Enveloppantes, 1977) that the universal enveloping algebra and the theory of Verma modules can be developed with attention to rationality of the underlying field. (Received January 25, 2005)