

Abstract

The primary goal of this work is to construct p -adic families of modular forms of half-integral weight, by using Waldspurger's automorphic framework to make the results as comprehensive and precise as possible. A secondary goal is to clarify the role of test vectors as defined by Gross-Prasad in the elucidation of general formulae for the Fourier coefficients of modular forms of half-integral weight in terms of toric periods of the corresponding modular forms of integral weight. As a consequence of our work, we develop a generalization of a classical formula due to Shintani, and make precise the conditions under which Shintani's lift vanishes. We also give a number of results on test vectors for ramified representations which are of independent interest.