

1035-11-1286

**William Duke** and **Paul Jenkins\*** ([jenkins@math.ucla.edu](mailto:jenkins@math.ucla.edu)), UCLA Department of Mathematics, Box 951555, Los Angeles, CA. *Traces of singular values of Maass forms.*

In an influential paper, Zagier proved that the generating functions for traces of singular moduli associated to polynomials in  $j(\tau)$  are weight  $3/2$  modular forms on  $\Gamma_0(4)$ . At the end of his paper, he suggested a method for generalizing these results to higher weights. One such generalization was recently given by Bringmann and Ono, who give an identity for the traces associated with certain Maass forms in terms of the Fourier coefficients of certain half integral weight Poincaré series. However, it does not seem to be known when these traces are integral or even rational. Here we give an identity for the traces associated to a weakly holomorphic form  $f$  of negative integral weight on  $SL_2(\mathbb{Z})$  in terms of the coefficients of certain weakly holomorphic forms of half integral weight. If the coefficients of  $f$  are integral, then these traces are integral as well. (Received September 20, 2007)