

1152-11-444

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Polyharmonic Maass forms and ray class zeta functions for real quadratic fields.

We study polyharmonic Maass forms for $\Gamma(N)$ and show that they are related to ray class extensions of real quadratic fields. In particular, we construct a basis for the vector space of polyharmonic Maass forms for $\Gamma(N)$ of moderate growth with bounded polyharmonic depth, generalizing a result of Lagarias and Rhoades for $N = 1$. We show that twisted traces of cycle integrals of certain polyharmonic Maass forms are central values of Hecke L-series for real quadratic fields. (Received September 10, 2019)