

The 7th East Asia Number Theory Conference

Matching identities for theta series of different Eichler orders via embedding orbits

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In this paper, we study the theta series coming from different Eichler orders.

Using the formulas on numbers of embedding orbits of quadratic orders into Eichler orders, we get the matching identity which was first proved by Du and Yang for Eichler orders of division quaternion algebras by virtue of Kudla's matching principle.

We give not only the matching identity, but also give the explicit theta series, i.e., we give the explicit expression of the coefficients of the theta series.

Our methods don't exclude the split quaternion algebra, while in Du and Yang's paper the quadratic space need to be anisotropic in order to use the Siegel-Weil formula.

