Bounds for double zeta-functions

ISAO KIUCHI AND YOSHIO TANIGAWA

Abstract. In this paper we shall derive the order of magnitude for the double zeta-function of Euler-Zagier type in the region $0 \leq \Re s_j < 1$ ($j = 1, 2$). First we prepare the Euler-Maclaurin summation formula in a suitable form for our purpose, and then we apply the theory of double exponential sums of van der Corput's type.