WEIGHTED HARDY TYPE INEQUALITIES
ON THE HEISENBERG GROUP $\mathbb{H}^n$

ABDULLAH YENER

Abstract. In the present article, we provide a sufficient condition on a pair of nonnegative weight functions $V$ and $W$ on the Heisenberg group $\mathbb{H}^n$, so that we establish a general $L^p$ Hardy type inequality involving these weights with a remainder term. The method we use here is practical enough to get more weighted Hardy type inequalities. We also obtain new results on two-weight Hardy and Hardy-Poincaré type inequalities with remainder terms on $\mathbb{H}^n$. Our findings improve and include many previously known results in special cases.

Keywords and phrases: Heisenberg group, Hardy inequality, Hardy-Poincaré inequality.

REFERENCES


