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**Estimate for the norm of the L^p -Fourier transform
on nilpotent Lie group**

Abstract. Let G be a connected nilpotent Lie group, \tilde{G} be its universal covering group, $G = \tilde{G}/\Gamma$, where Γ is a discrete subgroup, and let $1 < p \leq 2$, q be such that $\frac{1}{q} + \frac{1}{p} = 1$. We discuss the L^p -Fourier transform $\mathcal{F}^p(G)$ on G and obtain an estimate for the norm as follows: Let $\Lambda = \log \Gamma$, $\mathfrak{h} = \mathbb{R}\text{-span}(\Lambda)$, $\tilde{H} = \exp \mathfrak{h}$, $H = \tilde{H}/\Gamma$. Then we have $\|\mathcal{F}^p(G)\|_q \leq A_p^\nu$, where $\nu = \frac{1}{2}(2 \dim(G/H) - m)$, m is the dimension of the generic coadjoint orbits, and $A_p = (p^{\frac{1}{p}}/q^{\frac{1}{q}})^{\frac{1}{2}}$. (This is a joint work with Ali Baklouti.)