Meeting: 998, Houston, Texas, SS 3A, Special Session on Harmonic and Functional Analysis

998-43-315   **Ricardo A Saenz*** (`rasaenz@ucol.mx`), Facultad de Ciencias, Ave. Bernal Diaz del Castillo 340, Col. Villas San Sebastian, 28040 Colima, Colima, Mexico. *Marcinkiewicz multipliers in quotients of products of Heisenberg groups.*

Let $\mathbb{H}_1$ be the 3-dimensional Heisenberg group, and consider the group $G_K = (\mathbb{H}_1)^n/K$, where K is a subgroup of the center of $(\mathbb{H}_1)^n$. Let $X_1, Y_1, \ldots, X_n, Y_n, T_1, \ldots, T_d$ be a basis for the Lie algebra of G_K, where d is the dimension of its center. Given a bounded function m on $\mathbb{R}_+^n \times \mathbb{R}^d$, we can define the Marcinkiewicz operator $\mathcal{M} = m(\mathcal{L}_1, \ldots, \mathcal{L}_n, -iT_1, \ldots, -iT_d)$ through the spectral theorem, and such operator is bounded on $L^2(G_K)$. Here $\mathcal{L}_j$ is the partial sub-Laplacian $\mathcal{L}_j = -(X_j^2 + Y_j^2)$. We prove the boundedness of $\mathcal{M}$ on $L^p(G_K)$, given a regularity condition of order $n + d/2$ on the function m. (Received March 01, 2004)

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