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96b:35030 35H05

Capogna, L. (1-PURD); **Danielli, D.** (1-PURD);
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Subelliptic mollifiers and a characterization of Rellich and Poincaré domains. (English. English summary)

Partial differential equations, I (Turin, 1993).
Rend. Sem. Mat. Univ. Politec. Torino **51** (1993), *no.* 4, 361–386 (1994).

Summary: "In this paper we introduce a family of mollifiers that are tailor-made for the subelliptic geometry associated with a system of smooth vector fields $X_1, \cdots, X_m$ in $\mathbf{R}^n$ satisfying Hörmander's condition for hypoellipticity. We also give two applications. The former concerns a Rellich-type theorem for functions supported in a ball of the control metric associated to $X_1, \cdots, X_m$. The latter generalizes to the subelliptic context a theorem of C. J. Amick which characterizes those domains supporting the compact embedding theorem or the Poincaré inequality. In both applications we allow the presence of A_p-weights."

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