1035-43-1396 **Brad Currey** and **Tom McNamara*** (mcnamara@slu.edu), Saint Louis University, Department of Mathemetics and Comp. Sci., 221 North Grand Blvd., St. Louis, MO 63103. *Admissibility for Generalized* $2d$ *Oscillator Groups.*

We analyze the co-normally induced quasiregular representation for two families of Lie groups: the $2d$-oscillator groups $N \rtimes SO(2d)$ where N is the free two-step nilpotent group on $2d$ generators, and the dilated $2d$-oscillator groups $N \rtimes (SO(2d) \times \mathbb{R}_+^*)$. We construct irreducible decompositions in both cases with explicit spectrum and intertwining operators, and in both cases we prove a Caldéron-type admissibility condition for multiplicity-free, quasi-equivalent subrepresentations. We prove that in the case of the $2d$-oscillator groups, the quasiregular representation has no admissible vectors, and for the dilated $2d$-oscillator groups, we give an explicit construction for admissible vectors. (Received September 19, 2007)