

1102-22-190

**Brad Currey\*** (curreybn@slu.edu) and **Vignon Oussa** (vignon.oussa@bridgew.edu). *Weak admissibility for monomial representations of exponential Lie groups.*

Let  $G$  be an exponential solvable Lie group, let  $H$  be a connected Lie subgroup of  $G$ , and let  $\tau = \text{ind}_H^G(\chi_f)$  where  $\chi_f$  is a unitary character of  $H$ . We prove the following.

**Theorem.**  $\tau$  is isomorphic with a subrepresentation of the regular representation of  $G$  if and only if the restriction to  $H$  of the coadjoint action of  $G$  is free at some point of  $f + \mathfrak{h}^\perp$ .

A stronger condition is that  $\tau$  be admissible: there is  $\eta \in \mathcal{H}_\tau$  such that  $V_\eta : f \mapsto \langle f, \tau(\cdot)\eta \rangle$  is an isometry of  $\mathcal{H}_\tau$  into  $L^2(G)$ . We discuss implications of the theorem for admissibility. (Received July 28, 2014)