1125-22-278 **Vignon S Oussa*** (voussa@bridgew.edu), 131 Summer street, Bridgewater, MA 02325. *Discrete frames arising from irreducible solvable actions.* Preliminary report.

In this presentation, we will provide a unified method which is exploited to construct reproducing systems arising from unitary irreducible representations of solvable Lie groups. More precisely, we will show how a careful study of differential geometric properties of coadjoint orbits leads to a systematic and explicit construction to discrete frames and smooth frames of compact supports. In contrast to well-known techniques such as the coorbit theory and other discretization schemes, we make no assumption on the integrability of the representations of interest. Additionally, we will present various examples which illustrate that our method handles a variety of groups relevant to wavelet and time-frequency analysis experts. For example, the ax+b group, the Heisenberg groups, the generalized Heisenberg groups, the shearlet groups, solvable extensions of vector groups and various solvable extensions of non-commutative nilpotent Lie groups are just a few examples of groups that can be handled (in a unified fashion) by our method. (Received August 22, 2016)