1046-22-1130 **Lisa Carbone** and **Leigh Cobbs*** (cobbs@math.rutgers.edu). *Infinite Towers of Cocompact Lattices in Kac-Moody Groups.* Preliminary report.

Let G be a locally compact Kac-Moody group of affine or hyperbolic type over a finite field $\mathbb{F}_2$. We suppose that G has type ∞, that is, the Weyl group W of G is a free product of $\mathbb{Z}/2\mathbb{Z}$'s. This includes all rank 2 and two possible rank 3 Kac-Moody groups. We show that if $rank(G) = 2$ then G contains an infinite tower of non-conjugate cocompact lattices $\ldots \Gamma_3 \leq \Gamma_2 \leq \Gamma_1 \leq \Gamma$, and we characterize the quotient graphs of groups $\Gamma_i \backslash\backslash X$. We also give sufficient conditions for extending coverings of edge-indexed graphs to covering morphisms of graphs of groups and we show how this gives rise to other infinite families of cocompact lattices in G. When $rank(G) = 3$ we exhibit a subgroup $\mathcal{Q}$ which contains a cocompact lattice Λ acting discretely and cocompactly on a simplicial tree $\mathcal{X}$. We exhibit an infinite tower of cocompact lattices $\ldots \Lambda_3 \leq \Lambda_2 \leq \Lambda_1 \leq \Lambda$ in $\mathcal{Q}$ whose images in G are also discrete. This induces a tower of non-discrete subgroups $\ldots \Lambda_3' \leq \Lambda_2' \leq \Lambda_1' \leq \Lambda$ in G for which we can characterize the quotient complexes of groups. (Received September 14, 2008)