1012-17-212 **Dimitar Grantcharov*** (grantcharov@math.sjsu.edu), Department of Mathematics, San Jose State University, San Jose, CA 95192-0103, and **Vera Serganova**. *On the category of weight modules with bounded weight multiplicities.*

Let $\mathfrak{g}$ be a finite dimensional simple Lie algebra and $\mathfrak{h}$ be a Cartan Lie subalgebra of $\mathfrak{g}$. Denote by $\mathcal{B}$ the category of all bounded weight $\mathfrak{g}$-modules, i.e. those which are direct sum of their weight spaces and have uniformly bounded weight multiplicities. A result of Fernando shows that bounded weight modules exist only for $\mathfrak{g} = \mathfrak{sl}(n)$ and $\mathfrak{g} = \mathfrak{sp}(2n)$. If $\mathfrak{g}$ is of type C we show that $\mathcal{B}$ has enough projectives if and only if $n > 1$. In addition, the category is wild for $n > 2$ and for $n = 2$ all indecomposable projective modules can be parameterized and described explicitly. The latter parametrization is established by relating the blocks of $\mathcal{B}$ to the representations of the affine quiver $A_3^{(1)}$. The case $\mathfrak{g} = \mathfrak{sl}(n)$ is more complicated as the description of each block $\mathcal{B}^\chi$ in $\mathcal{B}$ depends on the type of the central character χ. (Received September 20, 2005)