1047-17-63   **Nicolas Guay*** (`nguay@math.ualberta.ca`), University of Alberta, Department of Mathematics, 632 CAB, Edmonton, Alberta T6G 2G1, Canada. *Representations of double affine Lie algebras and finite groups.*

There is no general theory for matrix Lie algebras over non-commutative rings, but there are some interesting examples to consider. Motivated by Cherednik algebras and symplectic reflection algebras, one is led to the study of $\mathfrak{sl}_n$ over rings such as $\mathbb{C}[u,v] \rtimes \Gamma$, where Γ is a finite subgroup of $SL_2(\mathbb{C})$, $A_1 \rtimes \Gamma$ where A_1 is the first Weyl algebra, and $\Pi(Q)$, the preprojective algebra of a quiver Q. I will present some results regarding integrable modules, Weyl modules and quasifinite highest weight modules when Γ is a cyclic group. One can hope that some of these results can be generalized to affine Yangians and new families of quantum algebras called deformed double current algebras. (Received January 11, 2009)