1040-16-69 **Dijana Jakelic** and **Adriano Moura*** (aamoura@ime.unicamp.br), IMECC - UNICAMP, Campinas, Sao Paulo 13083859, Brazil. *Clebsch-Gordan problem for finite-dimensional representations of hyper loop algebras.*

It was proved by V. Chari that irreducible finite-dimensional representations of affine Kac-Moody algebras can be realized as tensor products of evaluation representations. The authors then proved that the same holds for irreducible finite-dimensional representations of hyper loop algebras over algebraically closed fields (hyperalgebras are certain Hopf algebras related to algebraic groups). Moreover, the corresponding Clebsch-Gordan problem is easily reduced to the one for the underlying finite-dimensional Chevalley group. In this talk we will present the classification of the irreducible finite-dimensional representations of hyper loop algebras over arbitrary fields in connection with the classification of irreducible representations of polynomial algebras. Then we will present results showing the role of Galois theory in the solution of the associated Clebsch-Gordan problem when the field is not algebraically closed. (Received January 22, 2008)