

1048-17-321

Dimitar V Grantcharov* (grandim@uta.edu), Department of Mathematics, UT Arlington, Arlington, TX 76019, and **Ivan Dimitrov**. *Weight Modules of Affine Lie Algebras*. Preliminary report.

The problem of classifying irreducible weight modules with finite dimensional weight spaces over affine Lie algebras has been studied actively for the last 20 years. Remarkable results include the classification of integrable modules by V. Chari, the study of parabolically induced modules by V. Futorny, and the study of weight modules with bounded weight multiplicities by D. Britten and F. Lemire. There are two important classes of irreducible weight modules with finite dimensional weight spaces: the parabolically induced modules and the loop modules. Several authors made conjectures that would imply that these exhaust all irreducible weight modules with finite dimensional weight spaces. In a joint work with I. Dimitrov we confirm that these conjectures are correct and as a result obtain the classification. In this talk we will present the main ideas and results from our joint work. (Received February 10, 2009)