

# Queen's Algebraic Geometry — Seminar —

## WEIGHT MODULES OVER AFFINE LIE ALGEBRAS

IVAN DIMITROV  
Queen's University

### Abstract

Weight modules over affine Lie algebras have been extensively studied in the last 25 years or so. Among the most important results on the subject are the classification of simple integrable weight modules with finite dimensional weight spaces by V. Chari, the construction and study of loop modules by V. Chari and A Pressley, and the construction and study of various parabolically induced modules by V. Futorny and collaborators. Recently D. Grantcharov and I completed the classification of all simple weight modules with finite dimensional weight spaces. Roughly speaking, our result states that the several previously known classes of such modules provide a complete classification. In my talk I will introduce the problem and the necessary background results and will state and explain the two main theorems which combined give the classification result.

This is a joint work with Dimitar Grantcharov.

Monday 29 November 2010  
16:30 – 17:30  
319 Jeffery Hall