Queen's Algebraic Geometry
— Seminar —

FINITE-DIMENSIONAL HIGHEST WEIGHT THEORY OF TWISTED LOOP ALGEBRAS

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Abstract

Let $\mathfrak{g}$ be a simple complex finite–dimensional Lie algebra, σ a diagram automorphism of $\mathfrak{g}$ and $L(\mathfrak{g})^\sigma$ the corresponding twisted loop algebra. Some aspects of the finite–dimensional representation theory of these twisted loop algebras are well understood. In particular, the universal 'loop–highest weight' Weyl modules have recently been described, as have the blocks of the corresponding (non–semisimple) category.

We will discuss these recent classifications, and provide a more geometric reformulation of the results. We will then discuss possible extensions of this theory to the multiloop generalizations of $L(\mathfrak{g})^\sigma$.

Monday, November 10, 2008
4:30pm – 5:30pm
319 Jeffery Hall