

# Queen's Algebraic Geometry — Seminar —

## INTEGRAL WEIGHT MODULES OF $\mathfrak{gl}(\infty)$

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### Abstract

I will present a theorem classifying the irreducible integrable weight modules with finite dimensional weight spaces over the Lie algebra  $\mathfrak{gl}(\infty)$  consisting of finitary infinite matrices. Every such module belongs to one of the following three classes: highest weight modules, infinite symmetric powers of the natural representations, and modules which are not highest weight but whose weights are dominated by a single weight. For the modules in the new third class, I will present different realizations and will provide explicit parametrization. I will define all necessary terms and will state the problem and the main result.

Monday 11 November 2013  
16:30 – 17:30  
319 Jeffery Hall