Queen's Algebraic Geometry
— Seminar —

Cones of Invariants
&
Parameter Spaces of Modules

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Abstract

When studying Betti tables of modules, it turned out to be fruitful to study them not only as arrays of integers, but to look at the rational cone that is spanned by these arrays. This can also be done for Hilbert functions, and it might come as a surprise that there is anything new to say about them since the possible Hilbert functions of standard graded algebras were characterized by Macaulay in 1927. Part of this is joint work with Gregory G. Smith.

The results known for the Betti tables so far have only been for modules over standard graded polynomial rings, but there are new results in case of hypersurface rings by C. Berkesch, J. Burke, D. Erman and C. Gibbons.

I will also explain how the knowledge that came from the characterization of Betti tables up to scaling can be used in the study of parameter spaces of graded modules with a fixed Hilbert function.

Monday 24 October 2011
16:30 – 17:30
319 Jeffery Hall