Queen's Algebraic Geometry
— Seminar —

On Białynicki-Birula Decompositions of Hilbert Schemes of Points in $\mathbb{A}^3$

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Abstract

The Hilbert scheme of n points in affine d-space, H_d^n, is a smooth variety if $d = 2$. Therefore, each torus action on H_d^n with isolated fixed points gives rise to a decomposition of H_d^n into Białynicki-Birula cells. Ellingsrud and Strømme used this for computing the homology of H_d^n. In our talk we will investigate the case $d = 3$, in which H_d^n is not smooth, and therefore, the Białynicki-Birula decomposition is not a cellular decomposition. However, we are still able to obtain information about the geometry of H_d^n from the study of a number of different torus actions. This talk is based on joint work with Laurent Evain.

Monday 30 January 2012
15:30 – 16:30
319 Jeffery Hall