Queen's Algebraic Geometry
— Seminar —

DEGENERACY LOCI IN POISSON GEOMETRY

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Abstract

The degeneracy loci of a vector bundle morphism on a smooth variety are the subschemes on which its rank drops. For morphisms that are suitably generic, these loci are well understood: they are Cohen-Macaulay, and there are formulae for their codimensions and fundamental classes in terms of the ranks and Chern classes of the bundles in question.

During this talk, we will examine the case of Poisson structures on Fano varieties and find an impressive departure from the generic situation: the degeneracy loci are much bigger than expected! After providing some illustrative examples, I will explain why this phenomenon is inextricably linked with the geometry of Poisson modules — the analogues in Poisson geometry of vector bundles with flat connections. This talk represents joint work with Marco Gualtieri.

Monday 6 February 2012
15:30 – 16:30
319 Jeffery Hall