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Seminar Algebra und Topologie

Freitag, den 6. November 2009

10.30 Uhr, im kleinen Hörsaal

Gorestein Liaison and determinantal schemes

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The theory of liaison or linkage formally started in the seventies, although it had been used before in an ad hoc manner. Roughly speaking, liaison aims at understanding the class of projective schemes, by partitioning it into families of schemes (the liaison classes) that can all be ultimately "linked" to the same scheme. A linkage step consists of taking the union of the scheme that we study with another one, so that the union belongs to a well-studied family of schemes (complete intersections or arithmetically Gorenstein schemes). In an ideal situation, the scheme that we study is linked to one that we understand better, and their union is simpler than each of the two parts.

In this talk, we will introduce the concept of liaison and discuss its relevence. Many varieties which are classically studied in algebraic geometry are defined by determinantal or pfaffian equations. We will give an overview of some of the known results about the linkage class of schemes cut out by minors or pfaffians. This will include some of my recent work on linkage of schemes cut out by minors of matrices with polynomial entries, and on linkage of varieties cut out by pfaffians (the latter is joint work with E. De Negri).