

Séminaire d'algèbre, topologie et géométrie

Jeudi 27 septembre à 14h

Salle I

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Equations for the flex locus of a hypersurface

The flex locus of a projective hypersurface is the subset of points through which there is a line with higher contact order than expected. For a plane projective curve, the flex locus is well known : it is the set of inflexion points and it is given by the intersection of the curve with the zero locus of the Hessian. For a degree d surface in the 3-dimensional projective space with no ruled components, a theorem of Salmon asserts that the flex locus is a curve on this surface of degree at most $11d^2 - 24d$. In this talk, I will discuss the basic geometry of the flex locus. In particular, I will address the problem of computing the degree and equations of the flex locus of a hypersurface in a projective space of arbitrary dimension by means of the multidimensional resultant theory.