

Seminari de Geometria Algebraica 2006/2007 (UB-UPC)

Divendres 4 de Maig a les 15hs a l'aula B4

<http://atlas.mat.ub.es/sga>

Lower bounds for the slope
of fibred surfaces, old and new

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I will talk about a classical problem in algebraic geometry: to find bounds for the invariants of classes of varieties. The varieties I'll be concerned with are complex projective smooth surfaces with a fibration over a smooth curve; the invariant I'll consider, called the slope, is the ratio between the self-intersection of the relative canonical class and the relative characteristic (when this last is not 0). In short, the main question is: how does properties of the general fibers (such as the existence of special linear series) and/or global properties of the surface (such as its irregularity) influence the slope? More precisely, do they impose lower bounds on the slope? After making a review of the known results and of the techniques which are mainly used to attack this problem, I will describe some recent bounds obtained in a joint work with Miguel Angel Barja.
