

Seminari de Geometria Algebraica 2014/2015 (UB-UPC)

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<http://www.ub.edu/sga/>

Affine plane curves with minimal discriminant

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Let k be a field of characteristic zero. We prove that the degree of the discriminant of a polynomial $F \in k[x][y]$ is lower bounded by $d - 1$ where d is the degree of F in the variable y . Thanks to the embedding line theorem of Abhyankar-Moh, we show that the set of *monic* polynomials with minimal discriminants coincide with the G -orbit of y where G is the group of polynomial automorphisms of the affine plane. Then, we will discuss the generalization of such a description to the case of non monic polynomials. This is a joint work with Denis Simon.
