



Seminario de Álgebra, Geometría algebraica y Singularidades
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Implicit non-degeneracy conditions for plane branches

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Let $x = t^n$, $y = \sum_{i=1}^{\infty} a_i t^i$ be a parametrisation of the germ of a complex plane analytic curve Γ at the origin. Then Γ has the implicit equation $f(x, y) = 0$ in the neighbourhood of the origin, where $f = \sum c_{ij} x^i y^j$ is a Weierstrass polynomial in $\mathbb{C}[[x]][[y]]$ of degree n .

The coefficients c_{ij} depend polynomially on the coefficients a_i . Hence every polynomial depending on coefficients c_{ij} can be expressed as a polynomial depending on the coefficients a_i . We will show a partial converse of this property:

Every polynomial $Q(a_1, a_2, \dots)$ that satisfies some natural symmetry conditions, can be expressed as a rational function $\frac{M}{N}$, where polynomials M , N depend on variables c_{ij} only.

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