

Computing the Newton polygon of offsets to plane algebraic curves

Carlos D'Andrea

Universitat de Barcelona, Departament d'Àlgebra i Geometria. Gran Via 585, E-08007 Barcelona, Spain

Offsets to plane algebraic curves are curves of higher degree in general of positive genus. In this talk, we will show how to compute the Newton polygon of these offsets in the case the input curve is rational. Techniques from Tropical Geometry are applied and an extension of the Tropical Implicitization Theorem for rational curves is obtained for this kind of curves.

This is joint work with Fernando San Segundo, Rafael Sendra and Martin Sombra.