Abstract

Bézout's theorem is a generalization of the fundamental theorem in Algebra, see [ZS]. The fundamental theorem says that a polynomial of degree n over an algebraically closed field has exactly n roots counted with their multiplicity. Bézout's theorem for two projective curves in the plane of degree n and m respectively commits intersection points with the right multiplicity such that their sum is $m \cdot n$.

For the study of Bézout's theorem, there is some elementary introduction in the book by [BK] based on resultants. A more advanced point of view is considered in [F] and [P].

In the M.Phil thesis, there should be presented an elementary proof of Bézout's theorem based on [BK]. A view towards more advanced arguments should be summarized following the investigations of [F] and [P].