

András Némethi: Projective algebraic plane curves

After we recall basic properties of projective algebraic plane curves (e.g. smoothness, irreducibility), we state Bézout Theorem. Using it we will prove several ‘splitting theorems’, which imply e.g. the classical Pappus’s Theorem or Pascal’s Theorem. Then we consider the group structure on smooth cubic curves, and we prove several rigidity results for them. Finally we consider divisors and principal divisors (cut out by rational functions), and we compute the divisor class group for curves of degree one, two and three.