

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

Thursday, 10 December, 12:15-13:00
Seminarraum 00.003, Spiegelgasse 1

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Intersection product and first Chern class

ABSTRACT

It is a basic but powerful intuition that the number of intersection points between two plane curves (with signs and multiplicities suitably defined) does not change if one slightly deforms the two curves. In the context of complex algebraic geometry the situation is much more rigid, which allows to describe intersections on compact varieties with a very small amount of information. The first result is Bezout's theorem: two curves in the projective complex space $\mathbb{C}P^2$ defined as the zeros of polynomials of degree m and n intersect in exactly mn points (counted with multiplicity). The goal of my talk is to explain how the notion of degree of a curve in the plane can be generalized to a cohomology class when trying to compute intersections on arbitrary complex projective surfaces (or, more generally, on complex projective varieties of higher dimension).