Bernoullis Tafelrunde

Graduate Student Seminar

Monday, 4 March 2024, 12:15-13:00
Seminarraum 05.002, Spiegelgasse 5

Tobias Bisang

Universität Basel

Roots of Unity Solving Polynomial Equations: Manin-Mumford

Abstract

In its simplest form, the Manin-Mumford conjecture states as follows: Let F be an irreducible polynomial in two variables with coefficients in the rationals or any other number field. Then the vanishing set V(F) contains only finitely many points with all coordinates being roots of unity, unless V(F) has the special shape of a torsion coset. In this form, the conjecture was proven 1965 by Ihara, Serre and Tate. This talk presents the core ideas of a proof due to Harry Schmidt and presents generalizations of the theorem, proven by Raynaud (1983) and Laurent (1984).