

Algebraic characterizations of homeomorphisms between algebraic varieties
by Jean-Philippe Monnier

Abstract:

We address the question of finding algebraic properties that are respectively equivalent, for a morphism between algebraic varieties over an algebraically closed field of characteristic zero, to be an homeomorphism for the Zariski topology and for a strong topology that we define here. Our answers involve a study of seminormalization and saturation for morphisms between algebraic varieties, together with an interpretation in terms of continuous rational functions on the closed points of an algebraic variety. The continuity refers to the strong topology which is usual Euclidean one in the complex case, and it comes from the theory of real closed fields otherwise.

This is a joint work with François Bernard, Goulwen Fichou and Ronan Quarez.