

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

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Thursday, January 23, 2:50-3:50 pm, Lake Hall 509

Bijjective Cremona transformations of the plane

Abstract

The study of the birational automorphisms of the plane has a history of more than a hundred years. These automorphisms are invertible maps defined by polynomials, and several significant results have been established over the field of complex numbers, or more generally over perfect fields. Over a finite field, we call such a map bijective if it induces a bijection on the points defined over the ground field. Given an abstract permutation, can we always realize it via a bijective map? In this talk, I will give an almost full answer to this question. This is joint work with Shamil Asgarli, Masahiro Nakahara, and Susanna Zimmermann.