



istanbul matematiksel bilimler merkezi
istanbul center for mathematical sciences

IMBM MODEL THEORY MEETINGS

11.30-12.30: Özlem Beyarslan (Boğaziçi University) *Geometric Representation in the Theory of Pseudo-Finite Fields*

We will discuss the concept of “geometric representation”. We will show that any finite group which is geometrically represented in a pseudo-finite field must be abelian. This result also generalises to bounded PAC fields. This is joint work with Zoe Chatzidakis.

14.00-15.00: Piotr Kowalski (Uniwersytet Wrocławski) *Existentially closed fields with finite group actions*

This is joint work with (my PhD student) Daniel Hoffmann. We study Galois field extensions with a fixed finite Galois group G . We call such an extension a G -transformational field. We give geometric axioms of the theory of existentially closed G -transformational fields and call the resulting theory G -TCF. Using these axioms, we show that the underlying field of any model of G -TCF is a pseudo-algebraically closed field (abbreviated PAC). We describe purely algebraically constant fields of models of G -TCF: they are perfect PAC fields satisfying an extra “ G -closedness” condition. This condition implies that the underlying PAC field is bounded, hence applying the known results about such PAC fields we conclude that the theory G -TCF is supersimple.

15.30-16.30: Ayhan Günaydın (Mimar Sinan Fine Arts University) *Topological Study of Pairs of Algebraically Closed Fields*

Model theoretic study of pairs of algebraically closed fields goes back to Keisler, who proved a completeness result and a quantifier elimination result. Since then there has been quite a bit of work on the subject of expansions of fields by certain subsets. In this talk, I will propose a topological study of pairs of algebraically closed fields. The topology I will introduce is strictly between the Zariski and Kolchin topologies. I will illustrate some results on the interaction of this topology and model theoretic concepts.

Date : March 4, 2016

Place : IMBM Seminar Room, Boğaziçi University South Campus