



GeSAMT V



Münster-Düsseldorf
Gemeinsames Seminar Algebra und Modelltheorie

Samstag 30.11.2019 in Düsseldorf

10:30–10:55 | Ankunft / Kaffee / Tee in 25.22.03.69

Vorträge in 25.22.02.81

11:00–12:15 | Amador Martin-Pizarro (Freiburg)

Open core in dense pairs of geometric topological structures

Both p -adically and real closed fields are naturally endowed with a definable topology such that the field operations are continuous. The close interaction between the topological and algebraic properties of such structures is crucial to determine their model-theoretic behaviour.

Robinson showed that the theory of a real closed field equipped with a dense proper real closed subfield is complete and decidable. Subsequently Macintyre proved the same result for dense pairs of p -adically closed fields. The model-theoretical properties of dense pairs of \mathcal{o} -minimal expansions of ordered abelian groups were thoroughly studied by van den Dries, who gave an explicit description of definable unary sets and functions, up to so-called small sets. In particular, he showed that definable unary open sets are definable in the reduct to the field language.

In joint work with Elías Baro (U. Complutense Madrid), we will provide a unifying approach to both p -adically and real closed, as topological structures, in the sense Mathews, in order to give a proof of the above result for all open sets in n -dimensional space for the theory of dense pairs of geometric topological structures, which was studied by Berenstein, Dolich and Onshuus.

Mittagessen

14:15 – 15:30 | Franziska Jahnke (Münster)

Characterising NIP henselian fields

In this talk, we characterize NIP henselian valued fields modulo the theory of their residue field. Assuming the conjecture that every infinite NIP field is either separably closed, real closed or admits a non-trivial henselian valuation, this allows us to obtain a characterization of all theories of NIP fields. Joint work with Sylvie Anscombe.

Pause

16:00 – 17:15 | Tim Clausen (Münster)

Geometries in sharply 2-transitive groups of finite Morley rank