

UIC Model Theory Seminar, March 1, 2005

Definable Subsets of Non-Archimedean Fields over Analytic Languages

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This will be a talk about some basic geometric properties of several types of definable sets over (not necessarily algebraically closed) non-Archimedean fields in Lipshitz's Language. In particular, I will be talking about several natural notions of dimension for such fields, their equivalence in characteristic 0 and several other properties that we came to expect from a dimension theory. I will also show how a well behaved dimension theory can be useful for in obtaining other results in geometry of such sets. If time permits I will go on to talk about how to extend these results to definable sets in analytic Denef-Pas languages which are essential tools in analytic motivic integration.