

1057-03-448

Jana Marikova* (J-Marikova@wiu.edu). *Valuations on o-minimal fields.*

The prototypical example of an o-minimal structure is formed by the semialgebraic sets. In the 1980's, van den Dries observed that many properties of semialgebraic sets follow from a few axioms. Since then the investigation of o-minimal structures, i.e. structures satisfying these axioms, has been a flourishing subject, with many applications to other areas of mathematics. Here we shall focus on o-minimal expansions of fields and their valuations. In particular, we show that whenever R is an o-minimal expansion of a field and V a proper convex subring then the o-minimality of the corresponding residue field with structure induced from R via the residue map is equivalent to (R, V) satisfying a first order axiom scheme. (Received January 26, 2010)