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Jana Marikova* (j-marikova@wiu.edu) and **Masahiro Shiota**. *Geometric measures on definable sets in o-minimal structures.*

Let R be an o-minimal expansion of a real closed field, and let V be the convex hull of \mathbb{Q} in R . We define a measure on the R -definable subsets of V^n . This measure takes values in an ordered semiring, and has various desirable properties. For example, the measure of an interval is its length, and it satisfies a change of variables formula. If the value group of the standard valuation on R is of rank one, then this measure can be extended to a measure on all the bounded definable sets, while maintaining the above properties. (Received September 15, 2014)