

Matchings and a possible Følner condition in the o-minimal setting

Let G be a pseudogroup of transformations on a space X . By a result of Ceccherini-Silberstein, Grigorchuk, de la Harpe [1], there is a G -invariant probability measure on the power set of X iff (G, X) satisfies a certain Følner condition – roughly, for every finite $R \subseteq G$ there is a finite $F \subseteq X$ such that F is almost fixed by each transformation from R .

This is a progress report on establishing an o-minimal analogue of the above equivalence. In particular, we propose a FC for the o-minimal setting and discuss the relationship between the more involved direction of the equivalence, definable Marriage Theorems, and certain expansion conditions in definable bipartite graphs.

References

- [1] T. Ceccherini-Silberstein, R. I. Grigorchuk, P. de la Harpe, *Amenability and paradoxical decompositions for pseudogroups and discrete metric spaces*, Trudy Mat. Inst. Steklova 224: 68-111 (1999).