

QUANTIFIER ELIMINATION IN SHELAH-SPENCER GRAPHS

ANTON BOBKOV

ABSTRACT. We simplify [?] proof of quantifier elimination in Shelah-Spencer graphs.

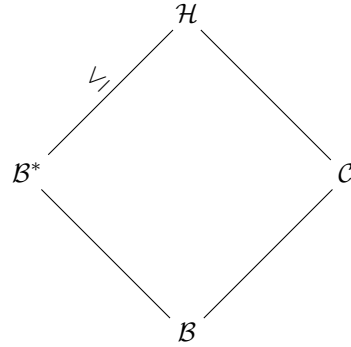
1. INTRODUCTION

Laskowski's paper [?] provides a combinatorial proof of quantifier elimination in Shelah-Spencer graphs. Here we provide a simplification of the proof using only maximal chains and avoiding technical lemmas of sections 3 and 4.

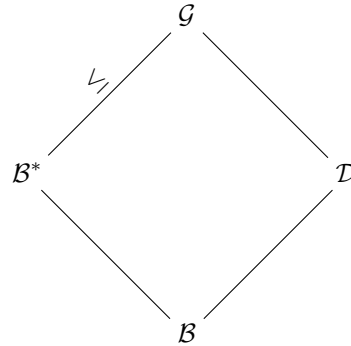
2. PROOF

Definition 2.1. Fix $\mathcal{B} \in \mathbf{K}_\alpha$, Φ, Γ finite subsets of \mathbf{K}_α , and $m \in \omega$ such that for each $\mathcal{C} \in \Phi$ or $\mathcal{C} \in \Gamma$ we have $\mathcal{B} \subseteq \mathcal{C}$ and $|\mathcal{C} \setminus \mathcal{B}| < m$. Define $Z(\mathcal{B}, \Phi, \Gamma, m)$ to be all $\mathcal{B}^* \in X_m(\mathcal{B})$ such that

- (1) For every $\mathcal{C} \in \Phi$ there are no \mathcal{H} with $|\mathcal{H} \setminus \mathcal{B}^*| < m$ satisfying



- (2) For every $\mathcal{D} \in \Gamma$ there is some \mathcal{G} with $|\mathcal{G} \setminus \mathcal{B}^*| < m$ satisfying



REFERENCES

- [1] Klaus-Peter Podewski and Martin Ziegler. Stable graphs. *Fund. Math.*, 100:101-107, 1978.
- [2] Aharoni, Ron and Berger, Eli (2009). "Menger's Theorem for infinite graphs". *Inventiones Mathematicae* 176: 162
- [3] P. Simon, *On dp-minimal ordered structures*, J. Symbolic Logic 76 (2011), no. 2, 448-460.
E-mail address: bobkov@math.ucla.edu