## QUANTIFIER ELIMINATION IN SHELAH-SPENCER GRAPHS

#### ANTON BOBKOV

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

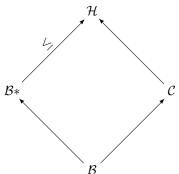
# 1. Introduction

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  $\mathcal{B} \in K_{\alpha}$ ,  $\Phi, \Gamma$  finite subsets of  $K_{\alpha}$ , 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  $|C \setminus B| < m$ . Define  $Z(\mathcal{B}, \Phi, \Gamma, m)$  to be all  $\mathcal{B}* \in X_m(\mathcal{B})$  such that

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



(2) For every  $\mathcal{D} \in \Gamma$  there is some  $\mathcal{G}$  with  $|G \setminus C^*| < m$  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, 448460.E-mail address: bobkov@math.ucla.edu