

# BOUNDEDNESS PROPERTIES FOR BIRATIONAL AUTOMORPHISMS

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A classical theorem by H.Minkowski says that the orders of finite subgroups of the group  $GL_N(\mathbb{Q})$  are bounded by a constant that depends only on  $N$ . Another classical theorem by C. Jordan says that for any finite subgroup  $G$  of  $GL_N(\mathbb{C})$  there is an abelian subgroup whose index in  $G$  is bounded by a constant that depends only on  $N$ . It is partially known and partially expected that birational automorphism groups of many varieties over  $\mathbb{Q}$  and  $\mathbb{C}$ , respectively, enjoy similar properties.

I will survey some relevant results (due to many people) including low-dimensional cases, higher dimensional cases modulo standard conjectures of birational geometry, estimates for the relevant constants, counter-examples, and analogous results in other settings.