Jordan properties of automorphism groups of varieties

Abstract:

A classical theorem of Jordan asserts that each finite subgroup of the complex general linear group $\text{GL}(n)$ is "almost commutative": it contains a commutative normal subgroup with index bounded by an universal constant that depends only on $n$.

We discuss an analogue and variants of this property for the groups of birational (and biregular) automorphisms of complex algebraic varieties, the diffeomorphisms groups of real manifolds and the groups of bimeromorphic (and biholomorphic) automorphisms of compact complex manifolds.