Klyachko, Anton A.; Ryabtseva, Maria A.
The dimension of solution sets to systems of equations in algebraic groups. (English)
Zbl 1457.20023

Solomon’s theorem states that, in any group, the number of solutions to a system of coefficient-free equations with less equations than unknowns is divisible by the order of the group.

This classical result has been extended and/or generalized in many different directions, one of them is the Gordon-Rodríguez-Villegas theorem that states that, in any finite group, the number of solutions to a system of coefficient-free equations is divisible by the order of the group, provided the rank of certain matrix is smaller than the number of unknowns.

This paper provides analogues of this and other result in the context of algebraic groups, considering dimensions instead of orders.

It must be noted that the introduction section of the paper is very well-written and it is very (in)formative.

Reviewer: Antonio M. Oller Marcén (Zaragoza)

MSC:
20D60 Arithmetic and combinatorial problems involving abstract finite groups
20F70 Algebraic geometry over groups; equations over groups
20C15 Ordinary representations and characters
20E10 Quasivarieties and varieties of groups

Keywords:
solution set; dimension; algebraic group

Full Text: DOI

References:


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.