

CHEVALLEY GROUPS OF TYPES B_n, C_n, D_n OVER CERTAIN FIELDS DO NOT POSSESS THE R_∞ -PROPERTY

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ABSTRACT. Let F be an algebraically closed field of zero characteristic. If the transcendence degree of F over $\mathbb{Q}$ is finite, then all Chevalley groups over F are known to possess the R_∞ -property. If the transcendence degree of F over $\mathbb{Q}$ is infinite, then Chevalley groups of type A_n over F do not possess the R_∞ -property. In the present paper we consider Chevalley groups of classical series B_n, C_n, D_n over F in the case when the transcendence degree of F over $\mathbb{Q}$ is infinite, and prove that such groups do not possess the R_∞ -property.

1. Introduction

Let G be a group and φ be an automorphism of G . Elements x, y from G are said to be φ -conjugated if there exists an element $z \in G$ such that $x = zy\varphi(z)^{-1}$. The relation of φ -conjugation is an equivalence relation and it divides G into φ -conjugacy classes. The number $R(\varphi)$ of these classes is called the Reidemeister number of φ .

Twisted conjugacy classes appear naturally in Nielsen–Reidemeister fixed point theory. Let X be a finite polyhedron and $f: X \rightarrow X$ be a homeomorphism of X . Two fixed points x, y of f are said to belong to the same fixed point

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