

Shmel'kin, D. A.

On non-connected simple linear groups with a free algebra of invariants. (English. Russian original) [Zbl 0893.14017](#)

Izv. Math. 60, No. 4, 811-856 (1996); translation from *Izv. Ross. Akad. Nauk, Ser. Mat.* 60, No. 4, 159-204 (1996).

Let V be a finite dimensional vector space over \mathbb{C} and G a semisimple algebraic subgroup of $GL(V)$. The author gives a criterion for coregularity of G (i.e., for freeness of the algebra of G -invariant polynomials on V) in terms of the action of G/G^0 on V/G^0 . All connected noncoregular simple linear algebraic groups having a finite coregular extension are classified and all such extensions in each case are described.

Reviewer: [V.L.Popov \(Moskva\)](#)

MSC:

- [14L40](#) Other algebraic groups (geometric aspects)
- [13A50](#) Actions of groups on commutative rings; invariant theory
- [20G05](#) Representation theory for linear algebraic groups
- [14L24](#) Geometric invariant theory

Cited in 1 Review

Keywords:

[reductive group](#); [freeness of invariant polynomials](#); [slice](#)

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