

scratch

Introduction

Preliminary Work

Algebraic Geometry

- affine varieties
- linear algebraic groups, example GL
- algebraic cohomomorphism, example multiplication and regular actions

Invariant Theory

- regular action, example, cross ratio maybe
- rational representation, example coordinate rings, conjugation
- invariants, example cross ratio

Linearly Reductive Groups, The Reynolds Operator And Hilbert's Finiteness Theorem

The Reynolds Operator And Linearly Reductive Groups

- equivalences of "linearly reductive"

Hilbert's Finiteness Theorem

- theorem
- embeddings, example cross ratio

The Reynolds Operator Of A Linear Algebraic Group

- $K[G]^*$ as an associative K -algebra
- existence Reynolds operator of group implies linearly reductive

Cayley's Omega Process

- everything
- examples conjugation and cross ratio

Further Discussion

- an algorithm for computing the generators of the invariant ring