
JOSHUA RUITER, Grinnell College

Coding for algebraic groups

Root systems and pinnings are vital to the structure theory of algebraic groups. Motivated by a conjecture of Borel and Tits regarding rigidity of abstract homomorphisms, it can be useful to explicitly know various structure coefficients associated to a pinning. These structure coefficients arise in commutators of root subgroups, and conjugations by Weyl group elements. I'll describe recent work with undergraduate students on building code in Matlab to calculate these kinds of structure coefficients.