

1077-14-1368

Kirill Zainoulline* (kirill@uottawa.ca), Department of Mathematics and Statistics,
University of Ottawa, 585 King Edward, Ottawa, Ontario K1N6N5, Canada. *The gamma filtration
on projective homogeneous varieties.*

We study the Grothendieck gamma-filtration on the variety X of Borel subgroups of a linear algebraic group G . It is well-known that its first subsequent quotient gives the Picard group of X which can be identified with the weight lattice of the respective Lie algebra L . One of our results says that the second subsequent quotient is uniquely determined by the Dynkin index of L . Based on the computation of the Grothendieck group K_0 of X we provide a uniform low bound for the torsion of the graded ring associated to the filtration. We discuss various applications to the theory of cohomological invariants and G -torsors. (Received September 19, 2011)