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Guido Pezzini* (pezzini@math.fau.de), Department Mathematik, Universität Erlangen-Nürnberg, Cauerstraße 11, 91058 Erlangen, Germany. *On reductive automorphism groups of regular embeddings.*

In the 70's Demazure determined the connected automorphism groups of two distinguished classes of complex algebraic varieties equipped with the action of a connected reductive algebraic group G . They were the complete homogeneous spaces, i.e. the quotients G/P with P a parabolic subgroup of G , and the toric varieties (assuming G is abelian).

These results admit a common generalization to a certain class of smooth complete G -varieties, called regular embeddings. They have been studied by several mathematicians such as Bifet, De Concini, Procesi, Bien, Brion, and play a significative role in the theory of spherical varieties.

In the talk we will discuss this generalization, and as a byproduct how it is possible to describe combinatorially all orbits of a toric variety under the action of a Levi subgroup of its connected automorphism group. (Received September 20, 2012)