Hiraku Abe*, Megumi Harada, Tatsuya Horiguchi and Mikiya Masuda. The cohomology of regular Hessenberg varieties and representations of symmetric groups.

Hessenberg varieties are defined as subvarieties of a flag variety. This class of subvarieties contains, as some special cases, the Peterson variety and the toric variety associated with a root system. In this talk, we will concentrate on the type A case, and we will discuss a relation between cohomology rings of “regular nilpotent” Hessenberg varieties (e.g. the Peterson variety) and “regular semisimple” Hessenberg varieties (e.g. the toric variety associated with the root system of type A) in terms of representations of a symmetric group. This is a joint work with Megumi Harada, Tatsuya Horiguchi, and Mikiya Masuda. (Received September 10, 2015)