

The subject of this talk is recent joint work with Megumi Harada relating two different combinatorial objects: acyclic orientations of a certain graph and subsets of roots in the type A root system. This correspondence extends the relationship between Hessenberg varieties and chromatic symmetric functions first conjectured by Shareshian and Wachs. We will discuss how one can approach the Stanley-Stembridge conjecture from a Lie theoretic perspective and outline a few new results that generalize previous work.