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Julianna S Tymoczko* (jtymoczko@smith.edu), Department of Mathematics and Statistics, Clark Science Center, Smith College, Northampton, MA 01063. *A combinatorial and geometric representation of the symmetric group.*

Regular semisimple Hessenberg varieties are a family of subvarieties of the flag variety with remarkable symmetries. We will discuss a geometric representation of the symmetric group on the (equivariant) cohomology of the regular semisimple Hessenberg variety and describe different combinatorial contexts in which it arises, including work of Stembridge and exciting recent work of Shareshian and Wachs. (Received February 14, 2012)