1069-14-230     **Erik A Insko\*** (`erik-insko@uiowa.edu`), Department of Mathematics, 14 MacLean Hall,
University of Iowa, Iowa City, IA 52242, and **Julianna Tymoczko**
(`julianna-tymoczko@uiowa.edu`), Department of Mathematics, 14 MacLean Hall, University of
Iowa, Iowa City, IA 52242. *Paving Peterson varieties by affines in all Lie types.*

Peterson varieties are closed subvarieties of the full flag variety. Peterson, and later Kostant, studied these varieties in connection with the quantum cohomology ring of the full flag variety. Rietsch used the geometry of these varieties to prove determinantal identities, similar to classical results about Vandermonde determinants. We will describe a paving by affines of the regular nilpotent Hessenbergs in arbitrary Lie types. We then use this paving to show that the homology of the Peterson variety injects into the homology of the full flag variety and to give a partial description of the cohomology class of the Peterson variety in terms of the basis of Schubert classes. (Received January 24, 2011)