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Martha E. Precup* (mprecup@nd.edu). *An Affine Paving of Hessenberg Varieties.*

Hessenberg varieties are closed subvarieties of the full flag variety. Examples of Hessenberg varieties include both the Springer and flag varieties. We prove that Hessenberg varieties corresponding to nilpotent elements which are regular in a Levi factor are paved by affines. As a consequence, we generalize results of Tymoczko asserting that Hessenberg varieties corresponding to regular nilpotent elements are paved by affines. We then provide a partial reduction from paving Hessenberg varieties for arbitrary elements to paving those corresponding to nilpotent elements, recovering Tymoczko's result that all Hessenberg varieties corresponding to elements of $\mathfrak{gl}_n(\mathbb{C})$ are paved by affines. (Received July 11, 2012)