1060-57-203   **Heather M. Russell*** (`hrussell@math.lsu.edu`). *The topology of two-row Springer varieties.* Preliminary report.

Springer varieties appear in the study of both knot homologies and geometric representation theory. Classically, Springer varieties are defined as subvarieties of the variety of full flags in $\mathbb{C}^N$. For each partition λ of N there is an associated Springer variety X_λ. For N even Khovanov gives a combinatorial and geometric construction of $X_{(N/2,N/2)}$ which is motivated by knot theory. We extend Khovanov's construction to all two-row Springer varieties and give a new geometric and diagrammatic description of the Springer representation on the homology of this class of Springer varieties. Some of this work is joint with Julianna S. Tymoczko at The University of Iowa. (Received March 30, 2010)