1081-22-140 **Matthew Housley***, housley@math.byu.edu. *Springer Fibers, Joseph Polynomials and the Temperley–Lieb Algebra.* Preliminary report.

In the context of a complex semisimple Lie algebra $\mathfrak{g}$, one can define Springer fibers and associated representations of the Weyl group. For each component of a Springer fiber, Anthony Joseph has defined a polynomial which measures the Euler characteristic of Borel–Weil line bundles on the flag variety restricted to this component. The complex span of all polynomials attached to a given fiber is naturally a Weyl group representation isomorphic to the Springer representation. Letting $\mathfrak{g} = \mathfrak{sl}_n(\mathbb{C})$, we exploit facts about associated cycles of Harish-Chandra modules to compute these polynomials for Springer fibers parameterized by two part partitions and uncover a connection with skein theory and the Temperley–Lieb algebra. (Received February 07, 2012)