1134-05-43   **Joshua P Swanson*** (`jps314@uw.edu`). *Major Index Asymptotics.*
We discuss the representation theory and asymptotic behavior of major index statistics for words and tableaux.

Classic work of MacMahon gave a succinct expression for the major index generating function on words of fixed content. Canfield-Janson-Zeilberger (2011) gave precise asymptotic estimates for the number of such words with a given major index. In another direction, Lusztig and Stanley related the major index statistic on standard tableaux to the graded irreducible decomposition of the type A coinvariant algebra. Kraskiewicz-Weyman connected the major index modulo n to the Lusztig-Stanley decomposition and certain induced representations. We will describe recent work giving precise estimates for the number of standard tableaux with a given major index, modulo n. A key step involves certain normalized symmetric group character estimates. Time permitting, we will also describe ongoing joint work with Sara Billey and Matjaž Konvalinka generalizing Canfield-Janson-Zeilberger's investigations to skew shape tableaux. (Received July 12, 2017)