1135-05-768 **Alexander Diaz-Lopez*** (diazlopezalexander@gmail.com), 135 Meadowbrook Dr, Huntingdon Valley, PA 19006, and **Pamela Harris**, **Erik Insko**, **Mohamed Omar** and **Bruce Sagan**.
Positivity Property of Descent Polynomials. Preliminary report.

We say that a permutation $\pi = \pi_1\pi_2\cdots\pi_n \in S_n$ has a descent at index i if $\pi_i > \pi_{i+1}$. Let $Des(\pi)$ denote the set of indices where π has a descent. Given a set I of positive integers, we define $D(I;n) = \{\pi \in S_n \mid Des(\pi) = I\}$ and $d(I;n) := |D(I;n)|$. We say $d(I;n)$ is the descent polynomial of I. In this talk we will show that descent polynomials, like peak polynomials, can be written in a binomial basis with (strictly) positive coefficients. We will then describe the coefficients combinatorially, and explore some of their properties. (Received September 14, 2017)