1107-05-340      **Alexander Woo\*** (`awoo@uidaho.edu`), Department of Mathematics, University of Idaho, 875 Perimeter Drive, MS 1103, Moscow, ID 83844-1103. *Depth for signed permutations.* Preliminary report.

Given an reflection $t$ in a Coxeter group $W$, Petersen and Tenner define its depth to be $d(t) = (\ell(t) + 1)/2$, where $\ell(t)$ is the Coxeter length of $t$. Given an arbitrary element $w \in W$, they define its depth $\min_{w=t_1 \cdots t_k} \sum_{i=1}^k d(t_i)$, the minimum of the sum of the depths of the $t_i$ in any factorization of $w$ into reflections $t_1 \cdots t_k$. For permutations, they showed that depth equals the sum of the sizes of the excedences. We prove a similar result for the Coxeter group of signed permutations.

Just as for permutations, certain properties, such as having equal length and depth, are characterized by pattern avoidance.

Eli Bagno, Riccardo Biagioli, and Moti Novick have independently found identical results by almost identical methods. (Received January 20, 2015)