

1145-05-2869

**Charles Burnette\*** (charles.burnette@slu.edu), **Eric Schmutz**  
(eschmutz@math.drexel.edu) and **James Thomas** (jyt94@drexel.edu). *Permutations with  
equal orders.*

Let  $F_{\mathbf{T}}(n)$  be the probability that two independent, uniformly random permutations of  $[n]$  have the same order, and let  $F_{\mathbf{K}}(n)$  be the probability that two independent, uniformly random permutations of  $[n]$  are in the same conjugacy class. It is well known that  $F_{\mathbf{K}}(n) \sim \frac{\Delta}{n^2}$  for a rather explicit constant  $\Delta$ , and it is not hard to show that  $\liminf \frac{F_{\mathbf{T}}(n)}{F_{\mathbf{K}}(n)} > 1$ . We prove here that  $F_{\mathbf{T}}(n) = O\left(\frac{\log \log n}{\log n}\right)$  as  $n \rightarrow \infty$ . (Received September 25, 2018)