Austin P Allen* (apallen@andrew.cmu.edu), apallen@andrew.cmu.edu, Veronica Dobbs, veronica.dobbs@marquette.edu, Lino Yoshikawa, lino.yoshikawa@gmail.com, Christopher Soto, csotonyc@gmail.com, and Sebastian Papanikolaou-Costa, spapanikolaou1@email.uagm.edu. Enumerating "Good" Permutations.
Two permutations $\pi$ and $\sigma$ are said to be order isomorphic if they are equivalent after "pattern" reduction. We call a permutation good" if the first $\ell$ entries are order isomorphic to the last $\ell$ entries. Given a $k$, we wish to enumerate all good permutations on $[k]$ which overlap consecutively. We do this for whenever $\ell \leq k / 2$, and via experimentation we conjecture that whenever $\ell>k / 2$ the number of good permutations is polynomial in $k$. We also make a connection of enumerating good permutations to the problem of explicitly determining the expected number of distinct permutation patterns contained in a random permutation. (Received September 12, 2020)

