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**Rodrigo Ferraz de Andrade\***, Department of Mathematics, Purdue University, 150 N. University Street, Office: MATH 633, West Lafayette, IN 47907, and **Erik Lundberg** and **Brendan Nagle**. *Asymptotics of the Extremal Excedance Set Statistic*. Preliminary report.

Let  $[1, n] = \{1, 2, \dots, n\}$ . An excedance of a permutation  $p$  on  $[1, n]$  is a value  $j$  in the domain whose image  $p(j)$  is larger than  $j$ . A classical problem is to study the number of excedances of a permutation. A more modern topic is to study the set of excedances and the number of permutations with a prescribed excedance set. In particular, the question of what is the most common excedance set was answered by Ehrenborg and Steingrimsson in 2000; it turns out that the most common is to have half excedances and all at the beginning, that is,  $[1, \lfloor n/2 \rfloor]$ : a single run of excedances at the beginning with length that is (the integer part of) half the length of the permutation. A formula for the number of permutations with such excedance set was also provided by Ehrenborg and Steingrimsson, and the problem of determining the asymptotics was posed in 2010 by Clark and Ehrenborg. In this talk I will discuss an answer to this problem while also providing a more general bivariate asymptotic. I will also mention applications to generalized pattern avoidance and so-called "stretching pairs" in  $n$ -cycles. (Received July 29, 2014)