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Hannah E Burson* (hburso2@illinois.edu) and **Dennis Eichhorn**. *A Novel Generalization of Partitions with Parts Separated by Parity*. Preliminary report.

In a study of the third order mock theta functions, George Andrews introduced the function $\mathcal{EO}^*(2n)$, which counts the number of partitions where each even part is less than each odd part and only the largest even part appears an odd number of times. In this talk, we introduce a new class of partition theoretic objects, called coaugmented partitions, that generalize the partitions counted by $\mathcal{EO}^*(2n)$. Coaugmented partitions have remarkable symmetry that is not obvious from the definition of $\mathcal{EO}^*(2n)$ and provide a natural combinatorial framework for studying $\mathcal{EO}^*(2n)$. (Received September 14, 2019)