Samuel Zbarsky* (sa_zbarsky@yahoo.com). Unimodality of Partitions in Near-Rectangular Ferrers Diagrams.

We look at the rank generating function $G_\lambda$ of partitions inside the Ferrers diagram of some partition $\lambda$, investigated by Stanton in 1990, as well as a closely related problem investigated by Stanley and Zanello in 2013. We show that $G_\lambda$ is not unimodal for a larger class of 4-part partitions than previously known, and also that if the ratios of parts of $\lambda$ are close enough to 1 (depending on how many parts $\lambda$ has), or if the first part is at least half the size of $\lambda$, then $G_\lambda$ is unimodal. (Received September 09, 2014)