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James A. Sellers* (sellersj@math.psu.edu), Department of Mathematics, Penn State University, University Park, PA 16802. *Infinite Families of Divisibility Properties Modulo 4 for Non-Squashing Partitions into Distinct Parts.*

In 2005, Sloane and Sellers defined a function $b(n)$ which denotes the number of non-squashing partitions of n into distinct parts. In their 2005 paper, Sloane and Sellers also proved various congruence properties modulo 2 satisfied by $b(n)$. In this note, we extend their results by proving two infinite families of congruence properties modulo 4 for $b(n)$. In particular, we prove that for all $k \geq 3$ and all $n \geq 0$,

$$\begin{aligned} b(2^{2k+1}n + 2^{2k-2}) &\equiv 0 \pmod{4} \quad \text{and} \\ b(2^{2k+1}n + 3 \cdot 2^{2k-2} + 1) &\equiv 0 \pmod{4}. \end{aligned}$$

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