1161-05-125 **Andrzej Dudek*** (andrzej.dudek@wmich.edu), Department of Mathematics, Western Michigan University, Kalamazoo, MI 49008. *Variations on twins in permutations.*

Let π be a permutation of the set $[n] = \{1, 2, \ldots, n\}$. Two disjoint order-isomorphic subsequences of π are called *twins*. How long twins are contained in every permutation? The well known Erdős-Szekeres theorem implies that there is always a pair of twins of length $\Omega(\sqrt{n})$. On the other hand, by a simple probabilistic argument Gawron proved that for every $n \geqslant 1$ there exist permutations with no twins of length greater than $O(n^{2/3})$. His conjecture states that the latter bound is the correct size of the longest twins guaranteed in every permutation. In this talk we show that asymptotically almost surely a random permutation contains twins of length at least $\Omega(n^{2/3})$, which supports this conjecture. (This was also proved recently by Bukh and Rudenko.) We also discuss several variants of the problem with diverse restrictions imposed on the twins.

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