Let \( \pi \) be a permutation of the set \([n] = \{1, 2, \ldots, n\}\). Two disjoint order-isomorphic subsequences of \( \pi \) 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 \( n \geq 1 \) 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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