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*Variations on twins in permutations*

Let  $\pi$  be a permutation of the set  $[n] = \{1, 2, \dots, n\}$ . 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 all twins having length  $O(n^{2/3})$ . He conjectured that the latter bound is the correct size of the longest twins guaranteed in every permutation. We present what is known and what is not known on this problem.