

Twin-width and permutations

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Time: September 18th, 14:00 - 15:00

Zoom meeting ID: 875 5150 3487 Password: 121323

Link: [https://zoom.com.cn/j/875 5150 3487](https://zoom.com.cn/j/875%205150%203487)

Venue: Room 106, Shanghai Center for Mathematical Sciences

Abstract:

Inspired by a width invariant on permutations defined by Guillemot and Marx, Bonnet, Kim, Thomassé, and Watrigant introduced the twin-width of graphs, which is a parameter describing its structural complexity. This invariant has been further extended to binary structures, in several (basically equivalent) ways. We prove that a class of binary relational structures (that is: edge-colored partially directed graphs) has bounded twin-width if and only if it is a first-order transduction of a proper permutation class. As a by-product, we show that every class with bounded twin-width contains at most $2^{O(n)}$ pairwise non-isomorphic n -vertex graphs.