

SEMINARIUM
MATEMATYKA DYSKRETNA

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Turán numbers for matchings in ordered graphs and hypergraphs

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A hypergraph with a linearly orderer vertex set is called *ordered*. Given integers r, n and an ordered r-uniform hypergraph H, the (ordered) Turán number $ex_<(n, H)$ is defined in the same way as the ordinary Turán number $ex(n, H)$. For graphs, with chromatic number replaced by *interval* chromatic number $\chi_<(H)$ (to be defined during the lecture), an analog of the celebrated Erdős-Stone-Simonovits result holds true. Therefore, the harder case, incluing several ordered matchings, is when $\chi_<(H) = 2$. For $r \geqslant 3$, on the other hand, there are no easy cases, except for the linear matching.

I will present a modest selection of old and new results on Turán numbers for ordered matchings in graphs and 3-uniform hypergraphs. This is work in progress, jointly with A. Dudek, J. Grytczuk, and J. Przybyło.