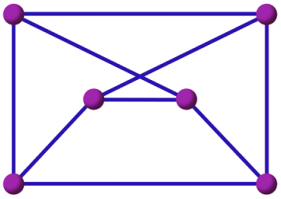

SEMINARIUM
MATEMATYKA DYSKRETNA

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DENSE ON-LINE ARBITRARILY PARTITIONABLE GRAPHS

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A graph G of order n is called *arbitrarily partitionable* (AP for short) if, for every sequence $(n_1, \ldots, n_k)$ of positive integers with $n_1 + \ldots + n_k = n$, there exists a partition $(V_1, \ldots, V_k)$ of the vertex set $V(G)$ such that V_i induces a connected subgraph of order n_i for $i = 1, \ldots, k$. In this paper we consider the on-line version of this concept. We prove that if G is a connected graph of order $n \geqslant 15$ and size $\|G\| > \binom{n-3}{2} + 6$, then G is traceable unless G is a spanning subgraph of a unique exceptional graph. Further, if G is a connected graph such that $\alpha(G) \leqslant \lceil \frac{n}{2} \rceil$ and the degrees sum of any pair of non-adjacent vertices is at least $n - 3$, then G is on-line arbitrarily partitionable except for two graphs of small orders. It follows that AP dense graphs are also on-line AP. This is in contrast to sparse graphs where only few AP graphs are on-line AP.

The talk will be given in English due to our foreign visitors.