



SEMINARIUM MATEMATYKA DYSKRETNA

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When is a Cartesian product a Cayley graph?

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It is well known that finite connected graphs G are vertex-transitive if and only if all factors with respect to the Cartesian product are vertex-transitive, but that there exist infinite vertex-transitive graphs that are powers of asymmetric graphs.

Here we study the problem when G is a graph with a sharply transitive subgroup A of its automorphism group, that is, where the automorphism group of G has a subgroup A with the property that to any two vertices u, v in G there exists exactly one automorphism $a \in A$, such that $a(u) = v$. Such graphs are known as Cayley graphs.

The talk presents partial solutions and open problems.