

Highly linked tournaments

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In this talk I shall talk about some properties of tournaments. A tournament is k -linked if for every two disjoint subsets A, B of order k and any assignment of the vertices of A to vertices of B there exist k vertex disjoint paths routing the prescribed pairs. We will discuss a recent result which asserts that there exists a function f such that for any positive integer k , if a tournament is $4k$ -strongly-connected and has minimum out-degree at least $f(k)$, then it is k -linked. This comes close to resolving a conjecture of Pokrovskiy. Along the way, we show that a tournament with sufficiently large minimum out-degree contains a subdivision of a complete directed graph.