

Partition of graphs and tournaments into cycles

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Some results on 2-factors or partition of graphs and tournaments into cycles will be presented.

Bollobás asked the following question: if k is a positive integer, what is the least integer $g(k)$ so that all but a finite number of $g(k)$ -connected tournaments contains k vertex-disjoint cycles that span $V(T)$? Chen, Gould and Li proved that if $n \geq 8k$, every k -connected tournament T of order n contains k vertex disjoint cycles that span $V(T)$.

Bialostochi, Finkel and Gyrfás conjectured that if r and s are nonnegative integers and G is a graph with $|V(G)| \geq 3r+4s$ and minimum degree at least $2r+3s$, then G contains a collection of r cycles and s chorded cycles, all vertex disjoint. Balister, Li and Schelp showed that if G is a graph on at least $3r+4s$ vertices with minimum degree at least $2r+3s$, then G contains $r+s$ vertex disjoint cycles, where each of s of these cycles either contain two chords, or are of order 4 and contain one chord.