

Hamilton cycles in directed graphs

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Joint work with

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Abstract

It is unlikely that there exists a satisfactory characterization of all those graphs which contain a Hamilton cycle, so much work has been done to find simple sufficient conditions. The most famous result in this direction is Dirac's theorem which gives a minimum degree condition for the existence of a Hamilton cycle.

Surprisingly, the corresponding problems are much more difficult for directed graphs and oriented graphs (oriented graphs are directed graphs with at most one edge between each pair of vertices). In my talk, I will discuss (i) an analogue of Dirac's theorem for oriented graphs and (ii) an approximate solution of a conjecture of Nash-Williams which would give a characterization of all degree sequences forcing a Hamilton cycle in a directed graph.