

Chorded Pancyclicity

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Historically there have been many results concerning the existence of certain types of cycles in graphs. A graph cycle property of particular interest is pancyclicity, that is, the property of a graph containing a cycle of every possible length, from three to the order of the graph. In this talk we define a new graph property called chorded pancyclicity and we investigate a density condition and forbidden subgraphs in claw-free graphs that imply this new property. Specifically, we consider a degree-sum condition and we forbid certain paths and triangles with pendant paths as subgraphs. Further, we extend J. A. Bondy's meta-conjecture on pancyclic graphs to a meta-conjecture on chorded pancyclic graphs. This is joint work with Ronald J. Gould and Kazuhide Hirohata.

Keywords: chorded cycle, forbidden subgraph, claw-free, pancyclicity