

Claw-free Graphs, Traceability, and Hamiltonicity

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Abstract

Given a graph G and a collection of graphs \mathcal{F} , if G contains no member of \mathcal{F} as an induced subgraph, then we say that G is \mathcal{F} -free. If \mathcal{F} consists of a single graph, say H , we would simply say that G is H -free. In this setting, the graphs in \mathcal{F} are called forbidden subgraphs.

The relationship of forbidden subgraphs to traceability and hamiltonicity (the existence of spanning paths and cycles) has been — and continues to be — well studied. The graph $K_{1,3}$, affectionately known as *the claw*, is a regularly occurring character in these investigations. In this talk, we will see some fundamental results relating claw-free graphs to traceability and hamiltonicity, and we will also take a look at some recent collaborative work with S. Van Aardt, J. Dunbar and M. Frick.