

# Forbidden Subgraphs and $(k, m)$ -pancyclicity

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October 27, 2006

## Abstract

A graph  $G$  on  $n$  vertices is said to be  $(k, m)$ -pancyclic if each  $k$ -set  $S \subseteq V(G)$  is contained in cycles of each of the following lengths:  $m, m + 1, \dots, n$ . This property generalizes vertex pancyclicity. There are ten pairs of forbidden subgraphs which guarantee that a 2-connected graph is  $(k, m)$ -pancyclic for some integer  $m \leq n$ . We give the best (smallest) possible value for  $m$  in each of these ten cases. Examples are provided which show that the ten values given are best possible.