

# Graphs without independent cycles and chorded cycles

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In 1963, Corrádi and Hajnal proved a conjecture of Erdős showing that every graph  $G$  on at least  $3k$  vertices with  $\delta(G) \geq 2k$  contains  $k$  disjoint cycles. A chorded cycle analogue was proven by Finkel in 2008, who showed that every graph  $G$  on at least  $4k$  vertices with  $\delta(G) \geq 3k$  contains  $k$  disjoint chorded cycles. Both results are best possible, leading Kierstead, Kostochka, and Yeager to characterize the sharpness examples to Corrádi-Hajnal, and Molla, Santana, and Yeager to characterize the sharpness examples to Finkel's result.

In 2010, Chiba, Fujita, Gao, and Li proved a mixed version of the aforementioned results. In particular, they show that for integers  $r$  and  $s$  with  $r + s \geq 1$ , every graph  $G$  on at least  $3r + 4s$  vertices with  $\delta(G) \geq 2r + 3s$  contains  $r$  disjoint cycles and  $s$  disjoint chorded cycles. In this talk we present a characterization of the sharpness examples to this statement, which provides a transition between the results of Kierstead et al. and Molla et al.