

1132-05-275

Ruth Luo*, 273 Altgeld Hall, 1409 W Green St, Urbana, IL 61801, and **Zoltan Furedi**,
Alexandr Kostochka and **Jacques Verstraete**. *Some results for graphs without long cycles.*

The Erdős–Gallai states that every n -vertex graph with more than $\frac{1}{2}(k-1)(n-1)$ edges has a cycle of length k or longer. Kopylov proved a refinement of the theorem: if G is a 2-connected graph with more than $\max\{\binom{k-2}{2} + 2(n-k+2), \binom{k-\lfloor (k-1)/2 \rfloor}{2} + \lfloor (k-1)/2 \rfloor (n-k + \lfloor (k-1)/2 \rfloor)\}$ edges, then G contains a cycle of length k or longer. Two sharpness examples $H_{n,k,2}$ and $H_{n,k,\lfloor (k-1)/2 \rfloor}$ are provided. In this talk, we present a stability version of Kopylov’s theorem for dense 2-connected graphs with circumference less than k . We also present a generalization of the theorem, that is, we show a sharp upper bound for the number of cliques in such graphs. (Received July 24, 2017)