

1064-05-56

**Suil O, Douglas West and Hehui Wu\*** (hehuiwu2@illinois.edu). *Longest cycles in  $k$ -connected graphs with given independence number.*

The Chvátal–Erdős Theorem states that every graph whose connectivity is at least its independence number has a spanning cycle. In 1976, Fouquet and Jolivet conjectured an extension: If  $G$  is an  $n$ -vertex  $k$ -connected graph with independence number  $a$ , and  $a \geq k$ , then  $G$  has a cycle of length at least  $\frac{k(n+a-k)}{a}$ . We prove this conjecture. (Received August 23, 2010)