1044-05-154 **Guantao Chen*** (gchen@gsu.edu), Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303, **Zhiquan Hu**, Faculty of Mathematics and Statisitcs, Central China Normal University, Wuhan, Peoples Rep of China, and **Yaping Wu**, Faculty of Mathematics and Statistics, Central China Normal University, Wuhan, Peoples Rep of China.
Long Cycles in 4-connected Graphs.

Let G be a k-connected graph of order n, let $\alpha = \alpha(G)$ be the independence number of G and $c(G)$ be the circumference of G. Chvátal and Erdős proved that G is hamiltonian if $\alpha \leq k$. For $\alpha \geq k \geq 2$, Fouquet and Jolivet in 1978 conjectured that $c(G) \geq \frac{k(n+\alpha-k)}{\alpha}$. Fournier proved the conjecture for $\alpha \leq k+2$ or $k = 2$ in two different papers. Manoussakis established the conjecture for $k = 3$. We show that the conjecture is true for $k = 4$. Moreover, we will discuss some related problems and results. (Received August 30, 2008)