1113-05-98 **Z. Füredi**, **A. Kostochka*** (`kostochk@math.uiuc.edu`) and **J. Verstraëte**. *Stability results on cycles and paths.* Preliminary report.

The classical Erdős-Gallai theorems from 1959 on the most edges in n-vertex graphs not containing paths or cycles with k edges were sharpened later by Faudree and Schelp, Woodall, and Kopylov. For $n \geq 5k/4$ the strongest result was: if $t \geq 2$, $k = 2t+1$, $n \geq \frac{5t-3}{2}$, and G is an n-vertex 2-connected graph with at least $h(n,k,t) = \binom{k-t}{2} + t(n-k+t)$ edges, then G contains a cycle of length at least k unless $G = H_{n,k,t} := K_n - E(K_{n-t})$. We prove stability versions of these results. In particular, if $n \geq 3t > 3$, $k = 2t+1$ and the number of edges in an n-vertex 2-connected graph G with no cycle of length at least k is greater than $h(n,k,t-1) = \binom{k-t+1}{2} + (t-1)(n-k+t-1)$, then G is a subgraph of $H_{n,k,t}$. The lower bound on $e(G)$ is tight. (Received August 13, 2015)