1080-05-214 **Xiangqian Joe Zhou*** (xiangqian.zhou@wright.edu), Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435. *On minimally k-connected matroids.*

A matroid M is *minimally k-connected* if M is k-connected and, for every $e \in E(M)$, $M\backslash e$ is not k-connected. It is conjectured that every minimally k-connected matroid with at least $2(k-1)$ elements has a cocircuit of size k. We resolve the conjecture almost affirmatively for the case $k = 4$ by finding the unique counterexample; and for each $k \geq 5$, we prove that there exists a counterexample to the conjecture with $2k+1$ elements. This is joint work with James Reid and Haidong Wu. (Received January 27, 2012)