

1147-05-373

**Runrun Liu**, Central China Normal University, and **Martin Rolek** and **Gexin Yu\***  
(gyu@wm.edu), Department of Mathematics, College of William and Mary, Williamsburg, VA  
23185. *Connectivity of contraction-critical graphs*. Preliminary report.

A graph is  $k$ -contraction-critical if it is  $k$ -chromatic, but any proper minor is  $(k - 1)$ -colorable. A classical result of Mader (1968) states that  $k$ -contraction-critical graphs are 7-connected for  $k \geq 7$ . It has been shown by Kawarabayashi and Yu (2013) that  $k$ -contraction-critical graphs are  $\lfloor k/9 \rfloor$ -connected, which provides an improvement of Mader's result for large values of  $k$ . In this talk, we provided the first improvement of Mader's result for small values of  $k$ , specifically that  $k$ -contraction-critical graphs are 8-connected for  $k \geq 15$ , 9-connected for  $k \geq 27$ , and 10-connected for  $k \geq 43$ . As a corollary of one of our intermediate results, we also prove that each 28-connected graph is 4-linked. (Received January 21, 2019)