1138-05-372 **Songling Shan*** (songling.shan@vanderbilt.edu), Nashville, TN 37203. *Toughness and Spanning k-walks in K_4-minor-free and planar graphs.*

A k-walk is a closed walk with each vertex repeated at most k times. Jackson and Wormald conjectured in 1990 that for $k \geq 2$, every $\frac{1}{k-1}$-tough graph contains a spanning k-walk. We confirm this conjecture for K_4-minor-free graphs and planar graphs. Our main proof uses a technique where we incorporate toughness-related information into weights associated with vertices and cutsets. (Received February 13, 2018)