1167-13-331 Yan Gu (guyan@suda.edu.cn), Tài Huy Hà (tha@tulane.edu) and Joseph Skelton*

(jskelton@tulane.edu). Symbolic Powers of Cover Ideals of Graphs and Koszul Property.

For cover ideals we are motivated by the results of Villarreal showing that whiskering a graph results in a Cohen-Macaulay graph which, in turn, implies the cover ideal of the whiskered graph has linear resolution. Later it was shown that whiskering $S \subset V(G)$ resulted in the cover ideal of the graph whiskered at S, $J(G \cup W(S))$, being sequentially Cohen-Macaulay and therefore Koszul. In '16, Fakhari introduced a graph construction G_k that corresponds to the symbolic power of the cover ideal, $J(G)^{(k)}$. Using this construction and the whiskering technique we establish conditions on S such that $J(G \cup W(S))^{(k)}$ is Koszul for all k. (Received March 09, 2021)