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**John T. Saccoman\*** ([john.saccoman2@shu.edu](mailto:john.saccoman2@shu.edu)), Seton Hall University, Dept. of Mathematics and Computer Science, South Orange, NJ 07079. *A Spanning Tree-Reducing Surgery and Partial Factor Majorization.*

A graph  $G$  is a threshold graph if, for all pairs of nodes  $u$  and  $v$  in  $G$ , the neighborhood of  $u$  excluding  $v$  is completely contained in the neighborhood of  $v$  excluding  $u$  whenever  $\deg(u) \leq \deg(v)$ . It is known that threshold graphs provide the best lower bound on the number of spanning trees and all-terminal reliability for graphs in a particular class. There exist surgeries that lower these invariants for certain threshold graphs, but they do not work in all cases. We present a new surgery that will transform a threshold graph with minimum degree of 2 or greater, meeting other conditions, to a threshold graph with a lower number of spanning trees. In doing so we apply a majorization technique to the graphs' respective Temperley's B-matrix eigenvalues.

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