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Kristi Luttrell*, Seton Hall University, and **Shawn Weigel**. *Weighted Component Order Edge Connectivity for the Complete Bipartite Graph*.

The vulnerability parameter component order edge connectivity of a graph is the minimum number of edges that need to be deleted in order to create a new graph containing no component with order greater than or equal to a predetermined threshold value k . Consider a network modeled by a graph G on n nodes and e edges. We use a traditional edge failure model, where the nodes are perfectly reliable but edges may fail. Now, suppose that all nodes of a graph are weighted arbitrarily with a positive integer. Weighted component order edge connectivity of a graph is the minimum number of edges that need to be deleted so the resulting graph has no components with weight greater than or equal to the predetermined threshold value k . In this talk, we will build upon previous research regarding component order edge connectivity in order to create an algorithm to find the weighted component order edge connectivity for a given complete bipartite graph.

Keywords: weighted component order edge connectivity, component order connectivity, vulnerability parameter (Received August 20, 2019)