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Charles L Suffel* (csuffel@stevens.edu), Stevens Institute of Technology, Castle Point on the Hudson (EAS Bldg), Hoboken, NJ 07030, and **Monika Heinig, Daniel Gross, John Saccoman** and **Michael Yaturo**. *On a reliability model associated with the edge domination number for trees.*

Consider a graph whose nodes do not fail but edges do, independently and all with the same probability. However, when an edge fails its endnodes are subverted, i.e. they are removed from the graph. Given a positive threshold value k , the surviving subgraph obtained upon removal of the endnodes of the failing edges is a failure state if each of its components has order at most $k-1$. When $k=2$ the minimum size of a failed set of edges required to obtain a failure state is the edge domination number of the graph. When $k=2$, we determine those trees that are most reliable for all values of the edge failure probability and those that are least reliable for all values of the edge failure probability. (Received February 01, 2016)