
LUCAS MOL, University of Winnipeg

Roots of all-terminal reliability and node reliability polynomials

Given a graph G in which nodes are perfectly reliable but each edge fails independently with probability $q \in [0, 1]$, the *all-terminal reliability* of G is the probability that all nodes can communicate with one another. If instead the edges are perfectly reliable but each node fails independently with probability q , then the *node reliability* of G is the probability that the operational nodes can all communicate with one another in the graph that they induce. In this talk, we present some new results on the roots of each of these polynomials which indicate major differences between these models of reliability.