Trends in Network Robustness Research

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Abstract

Network robustness is a measure of the integrity of a network in the event that certain nodes are removed from the same network. It is a fundamental topic in percolation theory, which is used to describe the behavior of connected clusters in a random graph. Following the growing usage and importance of civilian and military networks, it is important that these networks are robust so as to still yield high performance in the event that a single node drops out of the network. This paper presents some background information on network robustness and its importance in modern communication systems, presents some recent advances made in the field, and concludes with avenues of future work that can be explored by researchers in the field.