TIME TO FAILURE AND RELIABILITY ANALYSIS OF SERIES PARALLEL COMPLEX SYSTEMMODELS WITH REPAIR

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ABSTRACT

In this paper, the authors deal with the reliability and time to failure of a complex system model. This complex system contains two subsystem A and B, Where system Acontains N units in series and system B contains M units in parallel. Failure of any one unit of A gives failure of subsystem A, hence the whole system fails but failure of one unit of B does not fail the whole system. We have assumed 2-out-of-n-general policy for B. It is assumed that all the failures follow exponential time distribution whereas the repairs follow general time distribution.

KEYWORDS: Markovianprocess, Supplementary Variable Technique, Laplace Transforms, Steady State Behavior, Exponential Time Distribution