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Abstract

Here, the expressions for reliability and mean time to system failure (MTSF) of a parallel-series system of order (m, n) are derived by considering Weibull distribution for failure time of the components. The results of these measures are also obtained for a particular case of Weibull distribution i.e. for Rayleigh distribution. The behaviour of reliability and MTSF has been observed for arbitrary values of the number of components, number of subsystems, operating time of the components, shape parameter (β) and failure rate of the components. The analytical study of the measures has been confined only to the system of order $(5,5)$. The results are shown numerically and graphically for arbitrary values of the different parameters.

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Index Terms

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Keywords

Parallel-Series System, MTSF, Reliability and Weibull Failure Laws

