

عنوان مقاله:

RELIABILITY MEASURES AND SENSITIVITY ANALYSIS OF A COMPLEX MATRIX SYSTEM INCLUDING POWER FAILURE

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خلاصه مقاله:

This paper investigates the reliability characteristics of a complex system having nine subsystems arranged in the form of 3x3 matrix in which each row contains three subsystems. The configuration of the row is of the type 2-out-of-3: F. Each subsystem has n units connected in series. The system fails if any one row containing three subsystems fails. The considered system analyzed incorporating different types of power failure which also leads to failure of the system. With the help of Supplementary variable technique, Laplace transformations and copula methodology, the transition state probabilities, asymptotic behavior, availability, reliability, M.T.T.F., busy period, sensitivity analysis and cost effectiveness of the system have been evaluated. Finally, some particular cases and numerical examples have been taken to describe the model

کلمات کلیدی:

Availability; Reliability; M.T.T.F.; Busy period; Sensitivity analysis; Cost effectiveness/Gumbel-Hougaard copula

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