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# STOCHASTIC BEHAVIOR OF A TWO DIFFERENT SYSTEMS WITH TWO-UNIT WARM STANDBY

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**Abstract**

This paper deals with the stochastic behavior of two different models of a two unit warm standby redundant system subject to random failure. The second model differs from the first model due to the additional feature of preventive maintenance. The random failure occurs at random time which follows an arbitrary distribution. Using a regenerative point technique in the Markov-renewal process. We derive the mean time to failure, the steady state availability, and the profit analysis, for the two models and perform comparisons theoretically and graphically to observe the effect of the preventive maintenance on system performance.

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Key Words : MTSF, Availability, Busy period, Profit.