

Optimal Maintenance Policy for Fixed Operating Time Horizon

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ABSTRACT.

We consider an optimal stopping problem for the operation of system that deteriorates with age and fails stochastically until the fixed time limit in advance. When the system fails unexpectedly, we choose one of two actions, repair or stop. The optimal stopping time which minimizes the total expected cost is derived by means of a simple mathematical model and dynamic programming technique. Some numerical examples are presented to illustrate our results in detail when the failure and the repair distributions are given specifically.