NHPP Error Detection Software Model with Repair

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Abstract

An optimal software release model has been analyzed with the goal that total cost of software cannot exceed a given budget and requirements, for finding the maximum reliability of the software products. In this paper, we first develop the non-homogeneous software error detection model to study the software reliability growth. The total expected cost of the software along with repair cost has been evaluated. The optimal release policies are also discussed from the manufacturer view point to know the optimal release time of the software. By taking numerical examples, assumed related data sets are illustrated in order to facilitate the sensitivity analysis.

Keywords: Software reliability growth, NHPP, Optimization, Repair cost, Optimal release policies.