

Unreliable Queueing System with Working Vacation Interruption and Imperfect Coverage Under Preemptive Priority Service

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Abstract

An unreliable single server queueing system accepting two types of customers, with imperfect coverage and working vacation interruption is investigated in this work. We assume that class-1 customer is governed by the preemptive priority principle. A distinguishing feature of the system is that the failed server may not be detecting and locating. For this system, the stability condition and the stationary distribution are derived. Finally, the effect of parameters in system performance measures and cost optimization are examined numerically.

Keywords

imperfect coverage, working vacation interruption, and unreliable server.

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