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An analytical approach of Markov modulated Poisson input with feedback queue and repeated service under N-policy with setup time

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ABSTRACT

In this paper, we analyze an $MMPP / \frac{G_1}{G_2} / 1$ queue with general server setup time under N-policy based on the case that the arrival rates vary according to the server's status and a customer can repeat the same type of service. After the completion of service, the customer can also repeat the service as a feedback if he/she is not satisfied with his/her service. The steady-state analysis of the system has been carried out using the

derived. Finally, numerical and graphical results are included to illustrate the impact of parameters on the behavior of the model.

KEYWORDS: Feedback queue   N-policy   repeated service   setup time

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No potential conflict of interest was reported by the authors.

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