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Stochastic simulation of queue system with multiple parallel service desks. (Chinese. English summary) Zbl 07366888

Summary: In this paper, a computer stochastic simulation method is proposed for the queuing system with multiple service desks in parallel. For the basic and non-basic queuing systems, the simulation methods are developed to calculate the evaluation indexes of the queuing systems, such as the length of queue, waiting time in queue or whole system, stationary distribution, the length of duration and the served customer number in a duration, and so on. The simulation examples and actual data analysis show the effectiveness, flexibility and practicability of the proposed methods.

MSC:
90B22 Queues and service in operations research
60K25 Queueing theory (aspects of probability theory)

Keywords:
computer simulation; event-scheduling approach; parallel queuing system; stationary distribution; evaluation indexes