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Equilibrium balking strategies of two-stages vacations M/M/1 queue. (Chinese. English summary) Zbl 07404459

Summary: Two-stages vacations queueing system is a kind of complex queueing system with single working vacation and multiple vacations. In this system, the server intermittently performs work vacations and vacations. Based on the game theory, we analyze that there exist equilibrium strategies of threshold type in the fully observable and almost observable cases in the two-stages vacations M/M/1 queue. We find the customer equilibrium strategy under two different information levels of observable case. Finally, an example is given to analyze the bank queuing system, and the parameter sensitivity under two different information levels is analyzed.

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working vacations; game theory; M/M/1 queuing system; equilibrium strategies