论文

有限容量两级串联排队系统的平稳性态

徐光辉(1), 袁学明(2)

(1)中国科学院应用数学研究所,北京100080;(2)中国科学院应用数学研究所,北京100080

摘要　　串联排队系统在港口(海港、航空港)运输、计算机通讯、生产流程等领域中的应用十分广泛,特别是有限容量的串联排队系统更是如此.有限容量的串联排队系统,人们研究得较多的是用逼近的方法,求系统指标的近似数值解,如:Altiok[1](1989)、Brandwajn& Jow[3](1988)、Gershwin[6](1987)、Hillier & Boling[7](1967)等,这些方法在计算上具有不同程度的精确性和复杂性.关于有限容量的串联排队系统指标的精确求解,这方面的工作不多,而且大多是考虑比较简单的系统,如:Konheim & Reiser[10](1976)

关键词
分类号

STATIONARY BEHAVIOR OF THE TWO-STAGE TANDEM QUEUEING SYSTEM WITH FINITE CAPACITY

HSU GUANG-HUI(1),YUAN XUE-MING(2)

(1)Institute of Applied Mathematics,Academia Sinica,Beijing 100080;(2)Institute of Applied Mathematics,Academia Sinica,Beijing 100080

Abstract　The two-stage tandem queueing system $M\sim(x)/M/c\rightarrow/PH\sim(r)/1/K$ is studied in this paper,which consists of the stage-Ⅰ and stage-Ⅱ service systems.Customers arrive at the stage-Ⅰ systemin batches according to a Poisson process,and the size of the batch x,is an r.v.with a range ofa finite number of positive integers.The stage-Ⅱ system has finite capacity,where customers areserved in batches with a PH-distribution and the size of the batch is a positive integer r.Only after served in the stage-Ⅰ system,and then served in the stage-Ⅱ system,can the custom-ers depart from the system.The Q-matrix of the system state process,the sufficient-necessaryconditions for the system stability,and the distribution of stationary queue length and its al-gorithm are obtained.

Key words

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