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Power series for stationary distributions of coupled processor models. (English)

Zbl 0652.60097

SIAM J. Appl. Math. 48, No. 5, 1159-1166 (1988).

For the coupled processor model with exponential service times, an approach is presented to calculate the stationary distribution of the queue length. In this approach the stationary probabilities are expressed as power series in the parameter ρ , the traffic intensity of the system. The method is not restricted to state spaces (of the underlying continuous time Markov chain) of dimension two, but applies equally well to higher-dimensional state spaces.

MSC:

60K25 Queueing theory (aspects of probability theory)

60J25 Continuous-time Markov processes on general state spaces

68M20 Performance evaluation, queueing, and scheduling in the context of computer systems

Cited in **25** Documents

Keywords:

processor-sharing; coupled processor model; stationary distribution of the queue length

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