

Discrete-Time Bulk Queue with Service Capacity Depending on Previous Service Time

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Abstract : This paper considers a discrete-time bulk-arrival bulk-service queueing system, where service capacity varies depending on the previous service time. By using the generating function technique and the supplementary variable method, we compute the distributions of the queue length at an arbitrary slot boundary and a departure time.

Keywords : discrete-time queue, bulk queue, variable service capacity, queue length distribution

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