

DEMAND ACCESS SATELLITE COMMUNICATION SYSTEMS



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ABSTRACT

A demand access Satellite Communication System for multiple users has been analyzed. A number of channels, m , of each satellites are necessary to coordinate the self-served users to allow access to a satellite having s channels. m depends upon traffic intensity and number of top priority users. A waiting time period for a Poisson arrival and exponential holding time M/M/s system for "preemptive resume" discipline has been derived. There is a significant reduction in waiting time in accessing the channel and in transmission time over other access schemes. There is no waiting time for a top priority user, either in accessing the channel or in transmitting its messages, when the appropriate number of order wires is used.