

STRUCTURAL PROPERTIES AND HEURISTIC OPTIMAL POLICIES FOR SERIALS LINES WITH FLEXIBLE WORKERS

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We consider a system with a stream of jobs that consist of N tasks that have to be processed in order on N different serving stations. Flexible workers can be assigned to one or several stations. The interarrival times and task distributions are assume to follow general probability distributions. Using stochastic ordering techniques, we obtain structural properties for optimal policies for various objectives, such as maximize throughput and minimize average sojourn time. These structural properties enable us to propose heuristic policies, and establish performance guarantees for these policies.