

عنوان مقاله:

Developing a new nonlinear model for availability optimization of series repairable system with multiple cold-standby subsystems: particle swarm optimization approach

محل انتشار:

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خلاصه مقاله:

Redundancy technique is considered as a way to increase the reliability and availability of a system. In this paper, a nonlinear model is constructed for availability of a repairable system with multiple subsystems in which the involved components follow cold-standby strategy. The goal is to find the optimal number of repairmen and redundant components in each subsystem for optimization of availability subject to weight, cost and volume constraints. This problem belongs to nonlinear programming. Due to complexity and time limitation, a particle swarm optimization algorithm is proposed to solve the problem. Finally, computational results of three cases with various subsystems are illustrated to prove the efficiency of the proposed algorithm

کلمات کلیدی:

Nonlinear model, Repairman, Redundancy allocation, Cold-standby strategy, Particle swarm optimization

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