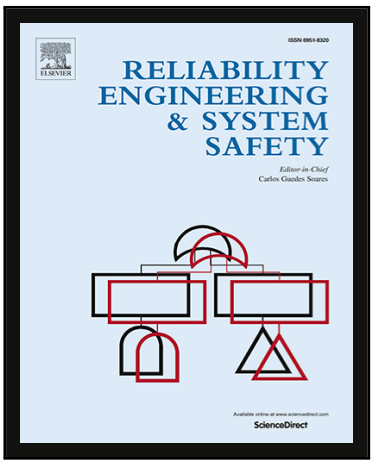

Redundancy Optimization of Cold-standby Systems under Periodic Inspection and Maintenance

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Highlights

- We investigate a redundancy allocation problem for a cold-standby system with degrading components.
- We consider performing periodic inspection and preventive maintenance for the degrading cold-standby components.
- The proposed optimization problem has three parts of decision variables: component choices, the number of redundant components, and the length of periodic inspection interval.
- We use approximation methods when evaluating the system reliability (objective function) and expected cost.
- A modified genetic algorithm involving dual mutation and random keys technique is developed to solve the proposed problem.