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NPP Post-Accident Monitoring System Based on Unmanned Aircraft Vehicle: Reliability Models

The paper presents various options for the design of NPP post-accident monitoring systems based on drone fleets. Reliability block diagrams of such options are built and formulas for estimating their probability of failure-free operation are obtained. The possibilities of using the developed models for studying the considered system options are shown. An approach to determine the optimal composition of drone fleets for NPP monitoring under restrictions on their flight trajectories is proposed.

Keywords: NPP, drone fleet, monitoring, reliability models, reliability block diagram, redundancy