Abstract form

(Nordic Military Operational Research Symposium)

Subject: A SIMULATION MODEL FOR AIRCRAFT MAINTENANCE IN AN UNCERTAIN OPERATIONAL ENVIRONMENT

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Abstract: (Max 100 words)

We present a discrete-event simulation model for maintenance of a fleet of fighter aircraft in conflict situations, where added operational uncertainty is induced by the presence of an enemy. The model describes the essential features of the flight and maintenance processes including periodic maintenance, and failure and battle damage repairs. Aircraft availability is used as the primary performance indicator. The model is constructed and validated on the basis of expert knowledge and statistical data on actual flight and maintenance operations in peacetime conditions. Built with a graphical simulation software, the model provides an easily manageable tool for maintenance designers to evaluate different operating strategies. In addition, it offers an educational aid for training of maintenance personnel.