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Reliability Modeling of a Complex System Considering Human Factor

Angelica BACIVAROV, Gabriel PETRICĂ
Laboratorul EUROQUALROM, Universitatea Politehnica din București
angelica@euroqual.pub.ro, gabi@euroqual.pub.ro

Abstract
This paper analyse a problem to complex socio-technical systems reliability evaluation taking into consideration the hardware, software and human components of those systems. Two mathematical models for the reliability analysis of redundant systems in the presence of hardware failures and human errors are developed. Reliability, steady state availability, mean time to failure (MTTF) and variance of time to failure formulas are developed for both models. Markov techniques were used to obtain the resulting expressions.

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