

RELIABILITY OF SERIAL-PARALLEL NETWORKS VS RELIABILITY OF PARALLEL-SERIAL NETWORKS

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In our paper we introduce some dynamic mathematical models to perform a comparative analysis of the reliability of two types of networks: serial-parallel and parallel-serial. Cases are analyzed when the number of sub-networks and the number of units in each sub-network are Power Series Distributed (PSD) random variables (r.v.), but also when lifetimes are independent, identically distributed r.v. The formulas for calculating the reliability of the related networks it was deduced. Some examples are analyzed grafically.

Key words: *lifetime distributions, survival functions, PSD distributions, serial-parallel and parallel-serial networks.*

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