

USAGE OF GRAPH THEORY IN THE FIELD OF AIRBORNE SYSTEMS SAFETY AND RELIABILITY ASSESSMENT

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Abstract: This paper presents usage of graph theory in the process of airborne system safety and reliability assessment in order to overcome its common problem (especially in the field of general aviation)- extensive dependence on human judgement and lack of computerization.

Recently used system modeling techniques like block models, fault or event trees are basically sort of pseudo-graphs. Otherwise usage of graph theory in safety and reliability process is much larger.

System model in the form of graph, handled as universal data structure and processed through the programming language opens a wide range of possibilities.

The paper presents potential process of graph theory usage and resulting benefits during airborne system safety assessment