AN INTEGRATED TOOLCHAIN FOR MODEL BASED FUNCTIONAL SAFETY ANALYSIS

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ABSTRACT

The significant increase in the complexity and autonomy of the hardware systems renders the verification of the functional safety of each individual component as well as of the entire system a complex task and underlines the need for integrated, model based tools that would assist this process. In this paper the authors present such a tool, coupled with an approach to functional safety analysis, based on the integration of functional tests into the model itself. The analysis of the resulting model is done through a stochastic Bayesian model. This approach strives to both bypass the necessity for costly hardware testing and integrate the functional safety analysis into an intuitive component development process.

Keywords: Bayesian Networks, Safety Analysis, Model-based Design, Functional testing
REFERENCES


