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Modeling and Simulation Methods Using MATLAB/Simulink

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Abstract : This paper investigates the challenges involved in mathematical modeling of plant simulation models ensuring the performance of the plant models much closer to the real time physical model. The paper includes the analysis performed and investigation on different methods of modeling, design and development for plant model. Issues which impact the design time, model accuracy as real time model, tool dependence are analyzed. The real time hardware plant would be a combination of multiple physical models. It is more challenging to test the complete system with all possible test scenarios. There are possibilities of failure or damage of the system due to any unwanted test execution on real time.

Keywords : model based design (MBD), MATLAB, Simulink, stateflow, plant model, real time model, real-time workshop (RTW), target language compiler (TLC)
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