



Introduction to Simulink for System Modeling

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Objective

This training targets engineers who are new to system modeling and model-based design in the Simulink environment. It applies basic modeling techniques and tools to developing Simulink block diagrams of (dynamic) engineering systems.

Outline

Introduction to System Modeling

Objective: Describe the model-based design process and system modeling in Simulink.

- System modeling with Simulink
- Model-Based Design with Simulink
- Overview of general dynamic systems

The Basics of Simulink Block Diagrams

Objective: Describe the basics of using Simulink to create block diagrams.

- Introducing the Simulink Library Browser
- Creating and editing block diagrams
- Setting block parameters and properties
- Saving and opening block diagrams
- Creating subsystems
- Setting basic simulation options

Modeling Algebraic Systems

Objective: Use Simulink to model and simulate algebraic systems.

- Define the potentiometer system
- Introduce the Simulink interface
- Create a Simulink model of the potentiometer system
- Simulate the model and analyze results

Modeling Continuous Systems

Objective: Use Simulink to model and simulate continuous systems.

- Define the mass-spring-damper system
- Modeling continuous systems with Simulink (Integrator and Derivative blocks)
- Create a Simulink model of the mass-spring-damper system from its differential equation
- Defining block parameters and choosing a continuous solver
- Simulate the model and analyze results