Modeling Physical Systems with Simscape

Prerequisites

MATLAB Fundamentals and *Simulink for System and Algorithm Modeling*

Day 1 of 1	
Introduction to Simscape and the Physical Network Approach	**Objective:** Become familiar with the Simscape environment by modeling a simple electrical system. Introduction to Simscape Differences between Simulink and Simscape Building and simulating a model in Simscape Guidelines for Simscape modeling
Working with Simscape Components	**Objective:** Interpret Simscape block diagrams and identify the physical variables in Simscape by modeling a mechanical system. Describing Simscape component fundamentals Using the Simscape Foundation Library Setting initial conditions Logging physical variables
Connecting Physical Domains	**Objective:** Connect models from different physical domains to create a single, multidomain model. Creating multidomain physical components Modeling ideal and nonideal connections between physical domains Dividing components into subsystems Parameterizing models
Combining Simscape Models and Simulink Models	**Objective:** Add Simulink blocks to a Simscape model to increase modeling flexibility. Connecting physical signals and Simulink signals Performing operations on physical signals Controlling physical models Solving models with Simscape and Simulink blocks
Creating Custom Components with the Simscape Language	**Objective:** Leverage the Simscape language to create custom physical components in Simscape. Simscape language Custom component workflow Complete custom component example