

5 Days Workshop on Designing and Analyzing Control Systems by using MATLAB and SIMULINK

Workshop Objectives

The Workshop is consists of different sub modules with the focus on making the participant comfortable in working and handling different engineering tasks in MATLAB and SIMULINK. The Workshop may be a refresher for participants who already know about working in MATLAB & SIMULINK and starter for who don't know how to work in MATLAB. Few of the objectives are mentioned bellow:

Designing and analysis of Control System by using MATLAB & SIMULINK

This part of the Workshop is design to enhance understanding, learning and working capabilities of participants to design, tune, analyze and model the controller in MATLAB & SIMULINK in efficient manners.. Following few minor objectives are outlined which will help to achieve the forth mentioned objective.

This Workshop will help participant to understand, learn and apply:

- How to make Mathematical model
- MATLAB and SIMULINK commands required for design, analyze and model controller in MATLAB and SIMULINK
- Modeling and Simulation of dynamic systems for analysis
- How to plot the results, input and output in MATLAB and SIMULINK for detail analysis
- Concept of feed forward, feed back positive and negative feed back and its importance
- SISO tool box of MATLAB
- Steps and consideration to design controller
- Validation and analysis of controller
- Designing techniques and procedure to design Control system by using root locus
- Designing techniques and procedure to design Control system by using frequency response
- Designing of LEAD, LAG, LEAD-LAG compensator
- Tuning the PID gains
- Analysis of stable, conditionally stable and unstable system
- How to apply and analyze designed controller in SIMULINK and MATLAB

Above mentioned minors objectives are just a few count, instructor hope much more learning outcomes during the class by close and better interaction.

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