

Nyquist Plot

Here is a Simulink experiment to show Nyquist diagram:

Experiment Objective:

The objective of this experiment is to demonstrate the use of Simulink to generate Nyquist diagrams. Nyquist diagrams are used to analyze the stability of feedback control systems.

Experiment Procedure:

1. Create a Simulink model of a simple feedback control system.
2. Add a Nyquist plot block to the model.
3. Connect the input and output of the system to the Nyquist plot block.
4. Set the frequency range of the Nyquist plot.
5. Run the simulation.
6. Observe the Nyquist diagram.
7. Analyze the results to gain an understanding of the stability of the system.

Experiment Safety:

There are no safety concerns associated with this experiment. However, it is important to follow the instructions carefully and to use caution when working with electrical equipment.

Experiment Creativity:

There are many ways to creatively approach this experiment. For example, you could analyze the Nyquist plot for different types of feedback control systems. You could also use Simulink to generate 3D Nyquist plots.

Experiment Conclusion:

This experiment provides a hands-on introduction to Nyquist diagrams. The experiment also demonstrates the use of Simulink for generating Nyquist diagrams.

Here are some additional details about the Nyquist plot block in Simulink:

- The Nyquist plot block can be used to generate Nyquist plots for both linear and nonlinear systems.
- The Nyquist plot block can be used to generate Nyquist plots for systems with multiple inputs and outputs.
- The Nyquist plot block can be used to generate Nyquist plots for systems with time delays.