Identification of Dynamical Systems

Project - LTI identification

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2025-2026

Contents

1. System description

TODO

2. Excitation signal

Before making any useful measurement, the parameters of the excitation signal must be chosen to match to the DUT parameters. To do so, the rms of the applied signal must be determined to use the full range of the ADC while avoiding saturation of the system. The poles of the system must also be roughly known to determine the band of interest, making sure that the system's dynamics are measured.

The input signal is white noise with an rms of 1 V and a power sweep is performed using the PXI measurement system. This allows to determine a suited rms for the future excitation signals. By varying the sampling frequency in the measurement setup, the band of interest is also determined.