LAB 3 - OVERALL OBJECTIVES

Last week we saw that signals can be represented by sum of sinusoidal waves. In this lab, we will learn how to characterize the infrared (IR) channel that we used in Part 1 in terms of the frequency response. To measure the frequency response at one frequency, we will transmit a single sinusoid at that frequency through the channel, and measure the amplitude of the sinusoid at the output. By changing the frequency, we can measure the entire frequency response. We will also study the frequency responses of the channel with and without equalization. In particular, we will complete 3 tasks.

In task 1, we will transmit a simple sinusoidal wave and see how the channel affects its amplitude.

In task 2, we will perform a systematic study of the IR channel to measure frequency response.

In task 3, we will study the frequency responses of the channel, the equalizer and the channel with and without equalization.

5.5 Lab 3 - Frequency Response
Lab due Nov 16, 2015 at 15:30 UTC

- Topic 6: The Discrete Fourier Transform
- MATLAB download and tutorials
- MATLAB Sandbox

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