Applied Signal Processing

Computer studio session 1:

DFT with applications

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1 Introduction

In this session you will use MATLAB and use DFT/FFT as a tool to analyze and solve several problems. The session is based on an interactive MATLAB workbook `studio1.m`. Download it from pingpong and open it in the MATLAB editor. Follow the examples and experiment with the settings to further exemplify the properties. Cut, paste, change and learn!

> **Note**: In these examples the frequency axis is normalized with the sampling frequency. Frequency values are hence relative to the sampling frequency. Relative frequency 1 is the sampling frequency and relative frequency 0.5 is the Nyquist frequency. A transform in the frequency range from relative frequencies from 0.5 to 1 are equal to the transform from -0.5 to 0 since the DFT is a periodic function with period 1 (in relative frequencies).
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> In some toolboxes in MATLAB the convention is to use normalized frequencies relative to the Nyquist frequency instead.