Digital Communication and Signal Processing 2024

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Seminar 6

Exercise 1:

The typical syntax for computing the FFT of a signal is FFT(x), where x is the signal x[n] that you wish to transform. Try to generate a signal as you like, plot it out, try FFT, and plot it out in frequency domain.

Exercise 2:

Load the data “handel” in matlab. This data is a piece of music signal.

1) Try to plot this signal in the time domain.

2) Transform this signal by using FFT and plot this signal in the frequency domain.

3) Try to work out the spectrogram.

4) Why not try to add some noise to this signal? for example, noise at 1000HZ or 2000HZ, or even a white noise? And then plot this noised signal as 1), 2), 3) and compare with the original one.