

Digital Signal Processing Laboratory

Lab 6 Exercises

1. We have an electromyography (EMG) measured data file “EMG.mat” with a sampling frequency of 2000 Hz. Please write a MATLAB program to load the 3rd channel data set of EMG and complete the following tasks.
 - (a) Use “decimate” function to down sample the signal with the frequencies of 1000, 400, and 200 Hz, and plot the original and 3 resampling EMG waveforms in a single figure.
 - (b) Use “downsample” function to down sample the signal with the frequencies of 1000, 400, and 200 Hz, and plot the original and 3 resampling EMG waveforms in a single figure.
 - (c) Use “resample” function to down sample the signal with the frequencies of 1500, 800, and 200 Hz, and plot the original and 3 resampling EMG waveforms in a single figure.
 - (d) Compare the results in (a), (b), and (c) and give some comments.

報告繳交注意事項：

1. 報告中請標示學號與姓名，並將檔名改為學號_姓名(ex.B11102200_陳XX)。
2. 撰寫報告方式：(1)使用 MATLAB Live Script 撰寫程式，須執行結果，並輸出成 pdf 檔，上傳至 moodle 系統。(2)使用 m 檔撰寫程式，請將程式碼與執行結果截圖，複製貼上於 word 中，並轉成 pdf 檔案，上傳至 moodle 系統。
3. 評分標準：
 - (1)實驗課當天(TUE)繳交：85 ± 10 分
 - (2)遲 1 天(WED)繳交遲交：75 ± 10 分
 - (3)遲 2 天(THU)繳交遲交：65 ± 10 分
 - (4)其他時間繳交者：0 分
 - (5)有繳交報告，但未轉成 pdf 檔上傳者，一律給 0 分