

# RTDSP Week 11 Homework

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### 1 Observe DFT result of different N

#### 1.1 Specifications

Take a recorded signal, try to see its spectrum using different number of sampled data (N), with "welch" and "fft" functions of Matlab.

#### 1.2 Results

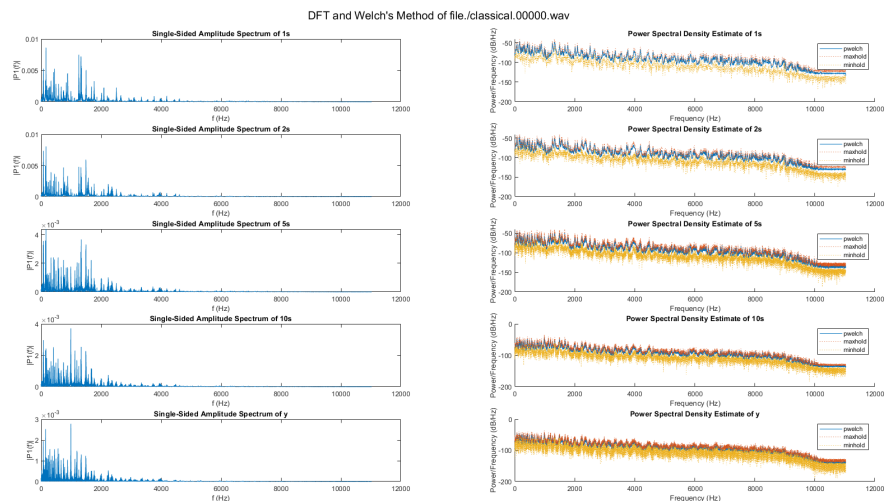


Figure 1: Result

As more data ( $N$ ) is used, we can see from the left side of the picture that more and more details (spikes) are shown. Also, the area below the line is getting more occupied, indicating more details are drawn.

On the right side of the picture, we can see that the color of lines are getting more and more dense when more data ( $N$ ) is used, indicating more details are drawn.