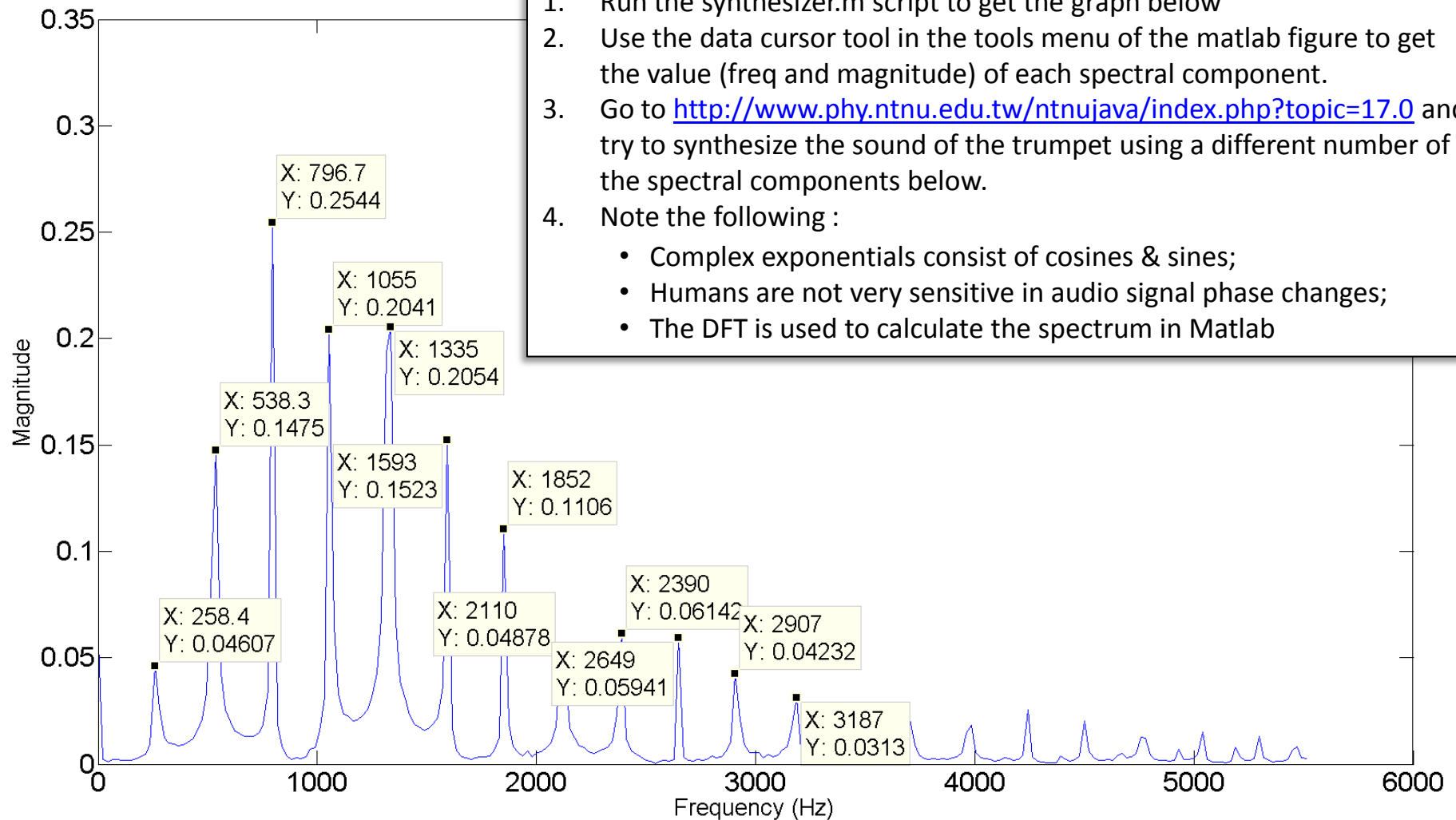




Fourier Series

1

Synthesise Sound



1. Run the synthesizer.m script to get the graph below
2. Use the data cursor tool in the tools menu of the matlab figure to get the value (freq and magnitude) of each spectral component.
3. Go to <http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=17.0> and try to synthesize the sound of the trumpet using a different number of the spectral components below.
4. Note the following :
 - Complex exponentials consist of cosines & sines;
 - Humans are not very sensitive in audio signal phase changes;
 - The DFT is used to calculate the spectrum in Matlab