

# Homework #2 - Solutions

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January 30, 2015

## 1 TIME-FREQUENCY ANALYSIS

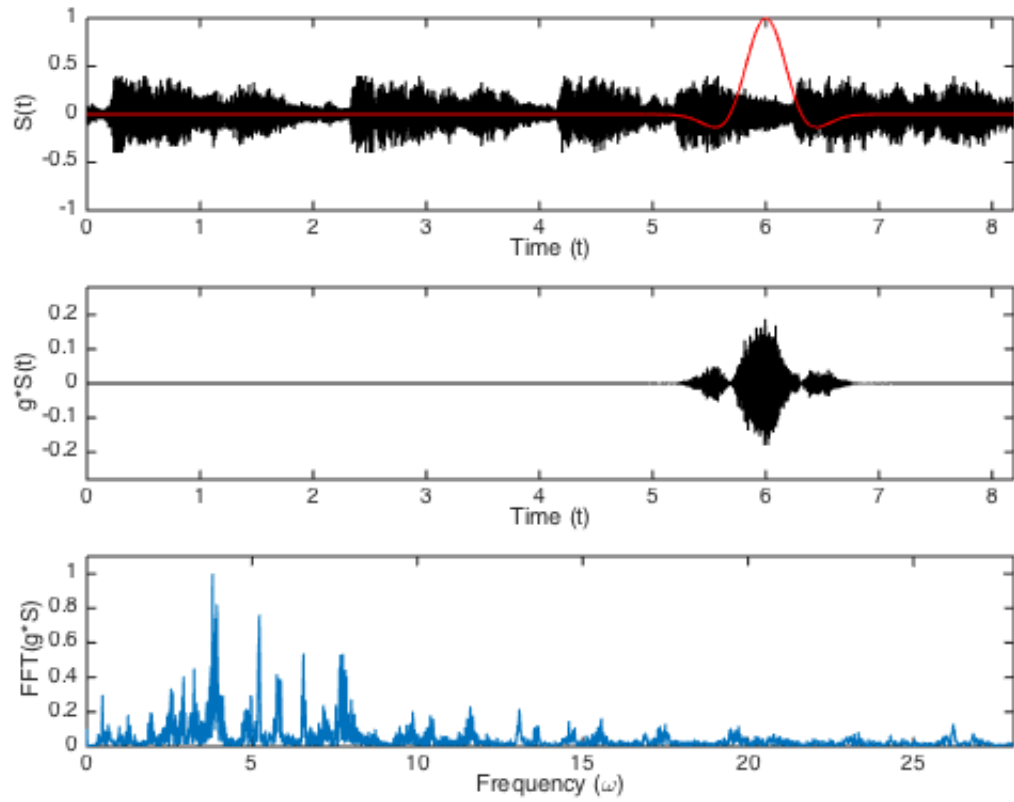


Figure 1.1: Time frequency analysis of 8.192 second clip of Handel's Messiah using a Mexican Hat wavelet with width of  $1\text{s}^{-1}$

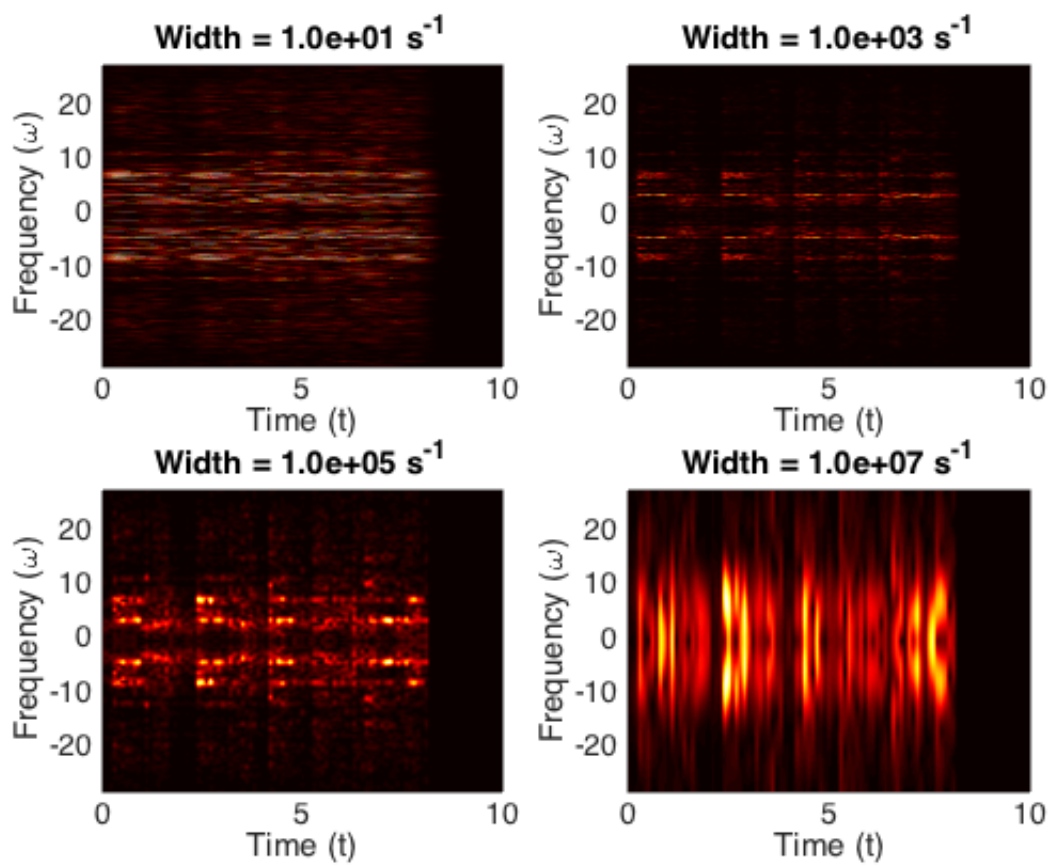


Figure 1.2: Examples of spectrograms constructed using Gaussian wavelets of varying widths. Signal is an 8.192 second clip of Handel's Messiah.

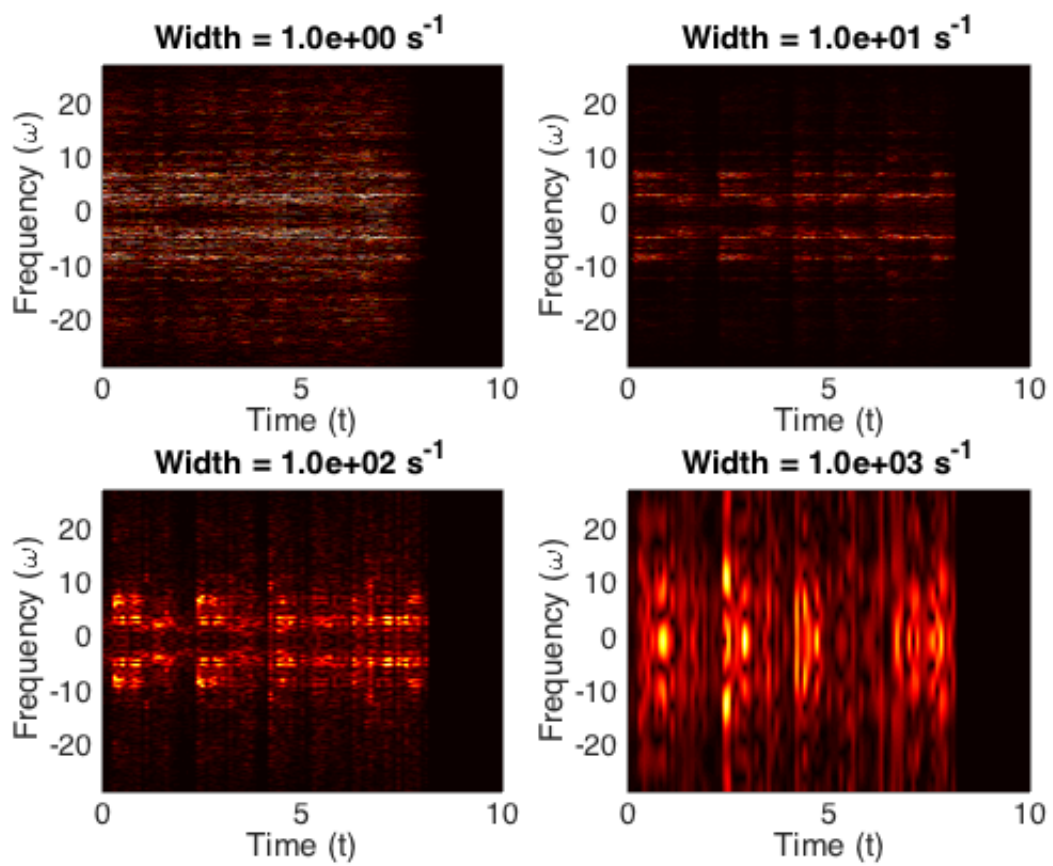


Figure 1.3: Examples of spectrograms constructed using Haar wavelets of varying widths. Signal is an 8.192 second clip of Handel's Messiah.

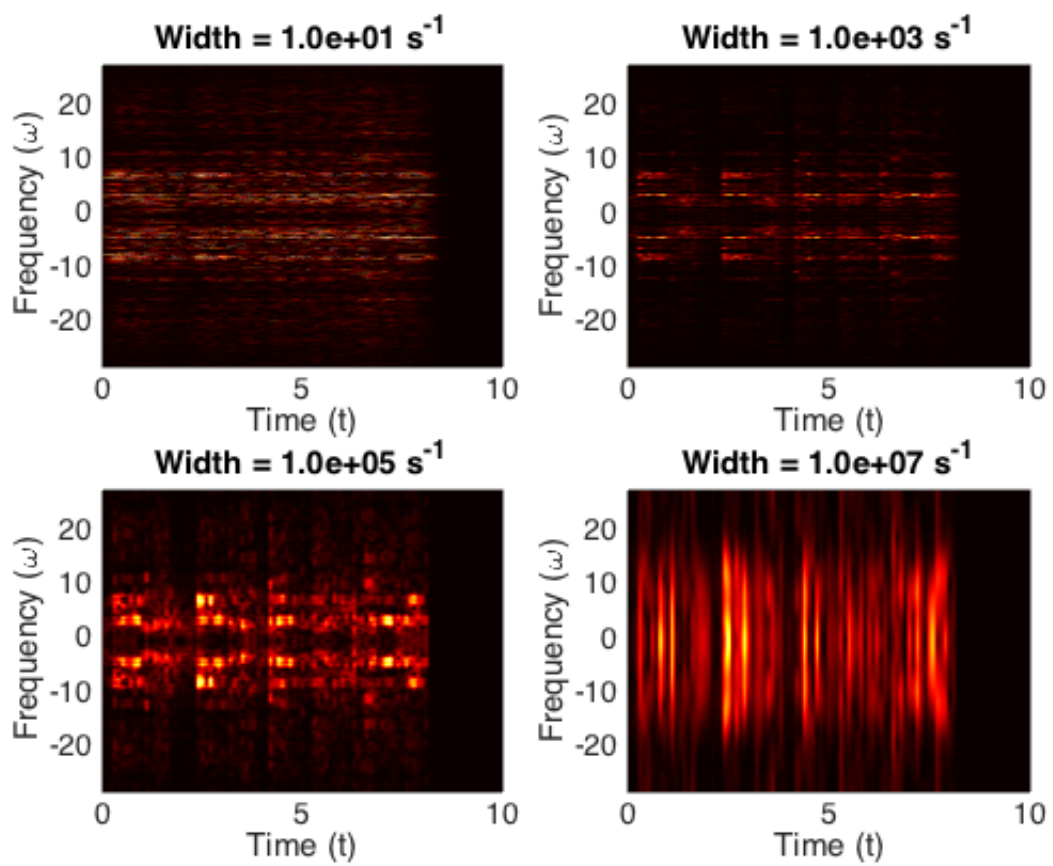


Figure 1.4: Examples of spectrograms constructed using Mexican Hat wavelets of varying widths. Signal is an 8.192 second clip of Handel's Messiah.