Extra help with nasal acoustic analysis

LING313

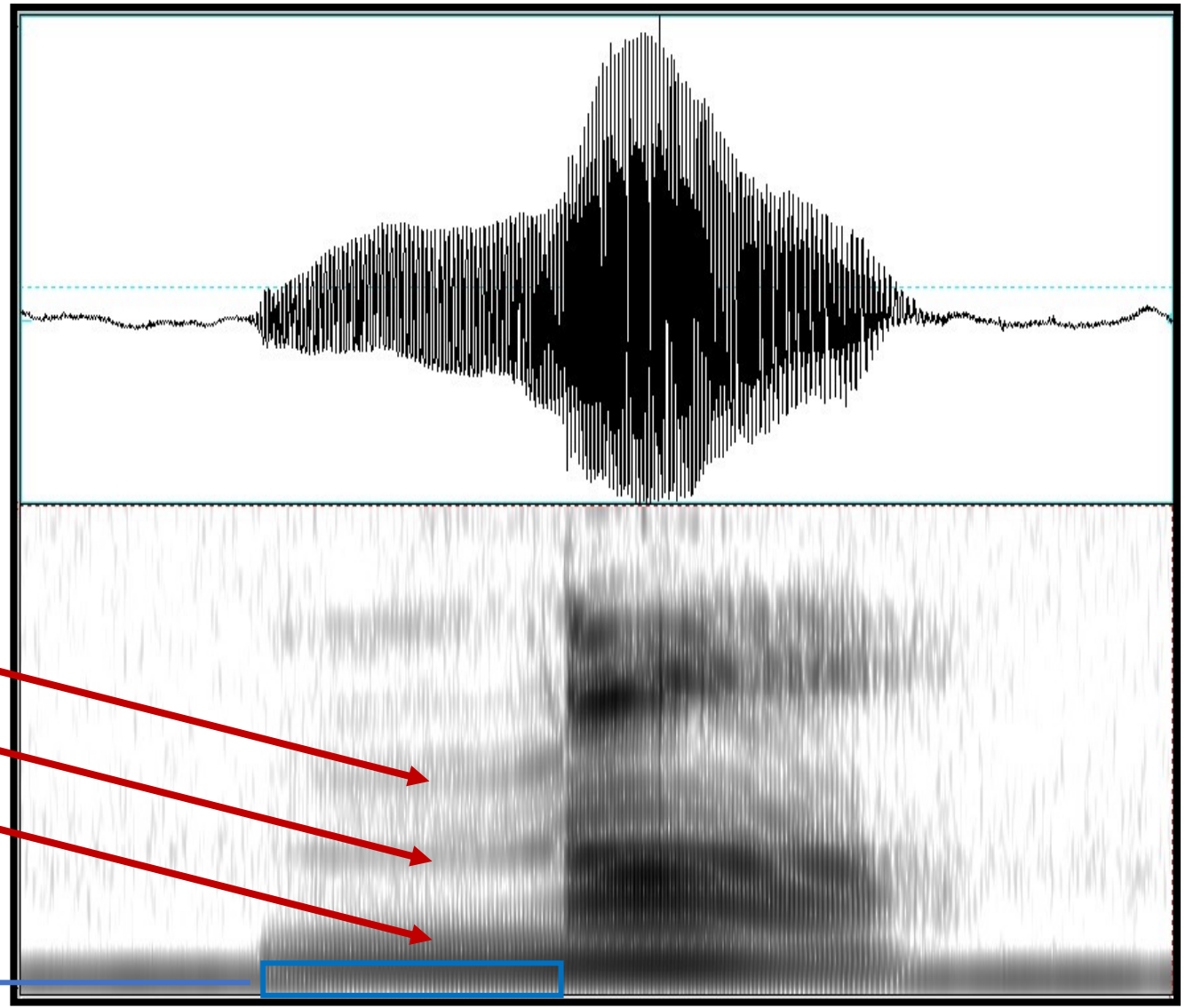
Extra Guidance for Analysing Nasals

1. Choose one nasal from lab 8 or make a recording of your own
   - Make sure your settings are 0 – 5000 for the frequency range (see previous labs for how to change this)
2. There are different ways to analyse nasals, we will focus on formants, formant transitions, and antiformants.
3. Formant analysis should be straight forward, you are looking for the same three formants as in vowels or approximants. Spectra or spectrograms can be used, but spectrograms are the easiest way to get frequency values for formants (see here for an example)
   a) You want to provide approximate frequency values for the midpoints of the formants

Extra Guidance for Analysing Nasals

1. **Formant transitions** must be looked at on the spectrograms (see here for an example). As we have discussed this tells you about place of articulation. You will find similar formant transitions in nasal as stops.
   a) Describe the pattern clearly (e.g., the frequency of F1 rises moving from the nasal to the vowel)
2. **Antiformants** are seen most easily through spectra. You are looking for areas where frequencies have been filtered out (or are very low amplitude) on the spectrum (see here for an example)
   a) Select a portion of the spectrogram > generate a spectrum from this (see previously labs if you aren't sure how to do this)
   b) Identify areas of very low or filtered out frequencies (these will be areas which have frequency lines)
   c) Get an approximate measure of the frequency of the first three antiformants

Nasals Formant Example



midpoint F3

midpoint F2

midpoint F1

voicing bar and recording noise
NOT formant

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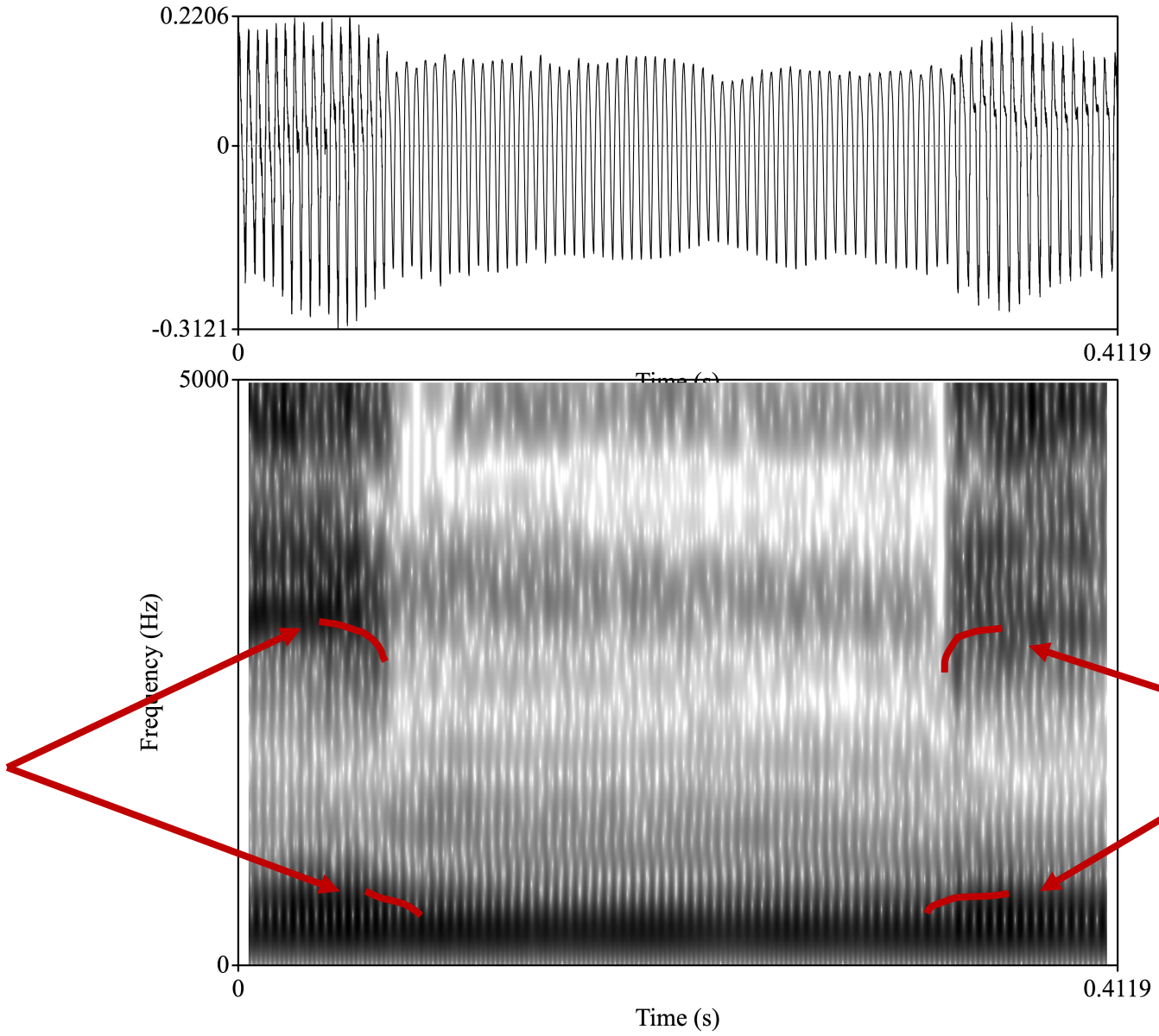
Nasals Formant Transition Example



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formant transitions from vowel into nasal

formant transitions from vowel into nasal

Nasals Antiformant Examples

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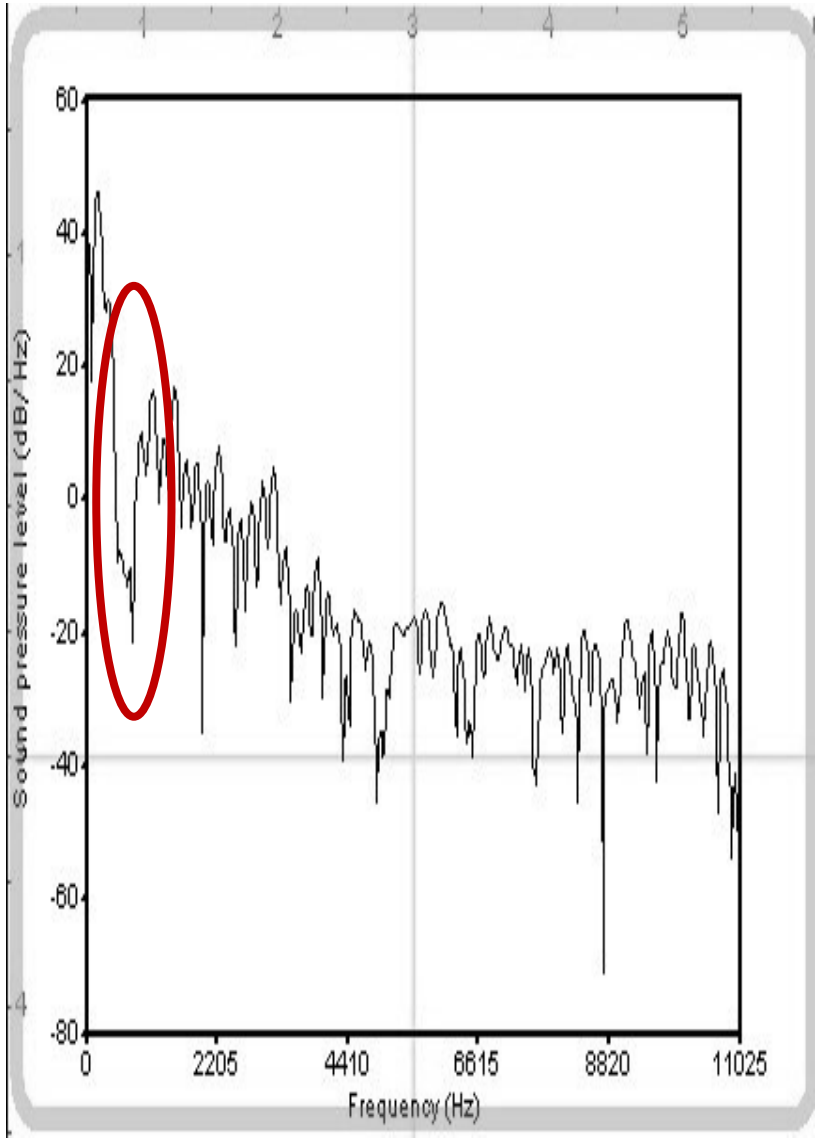

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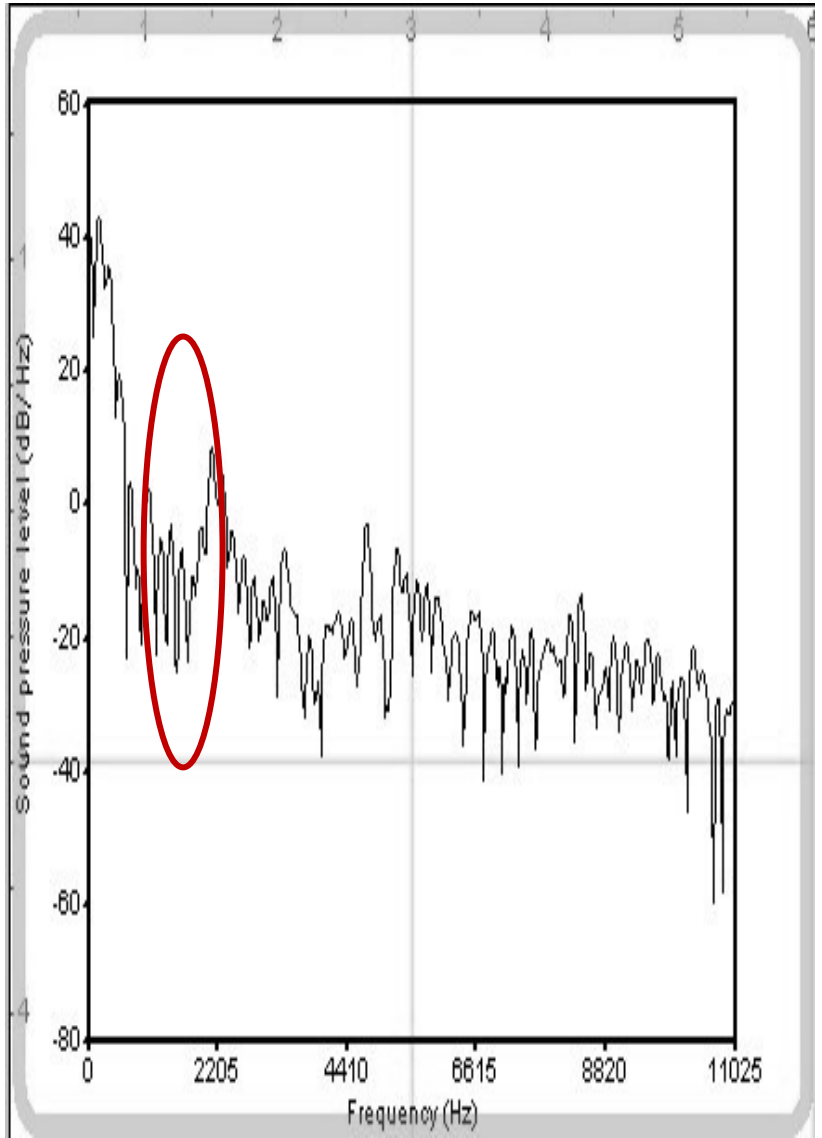

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