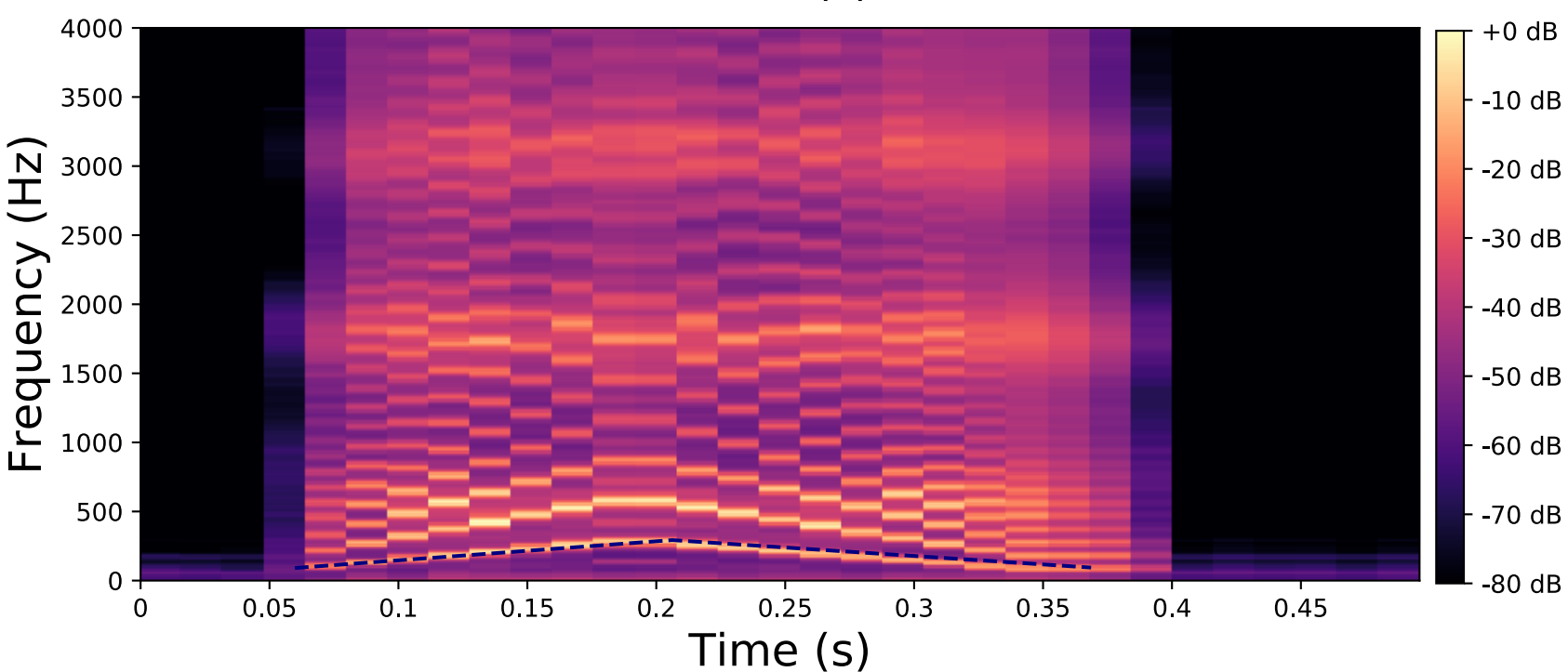
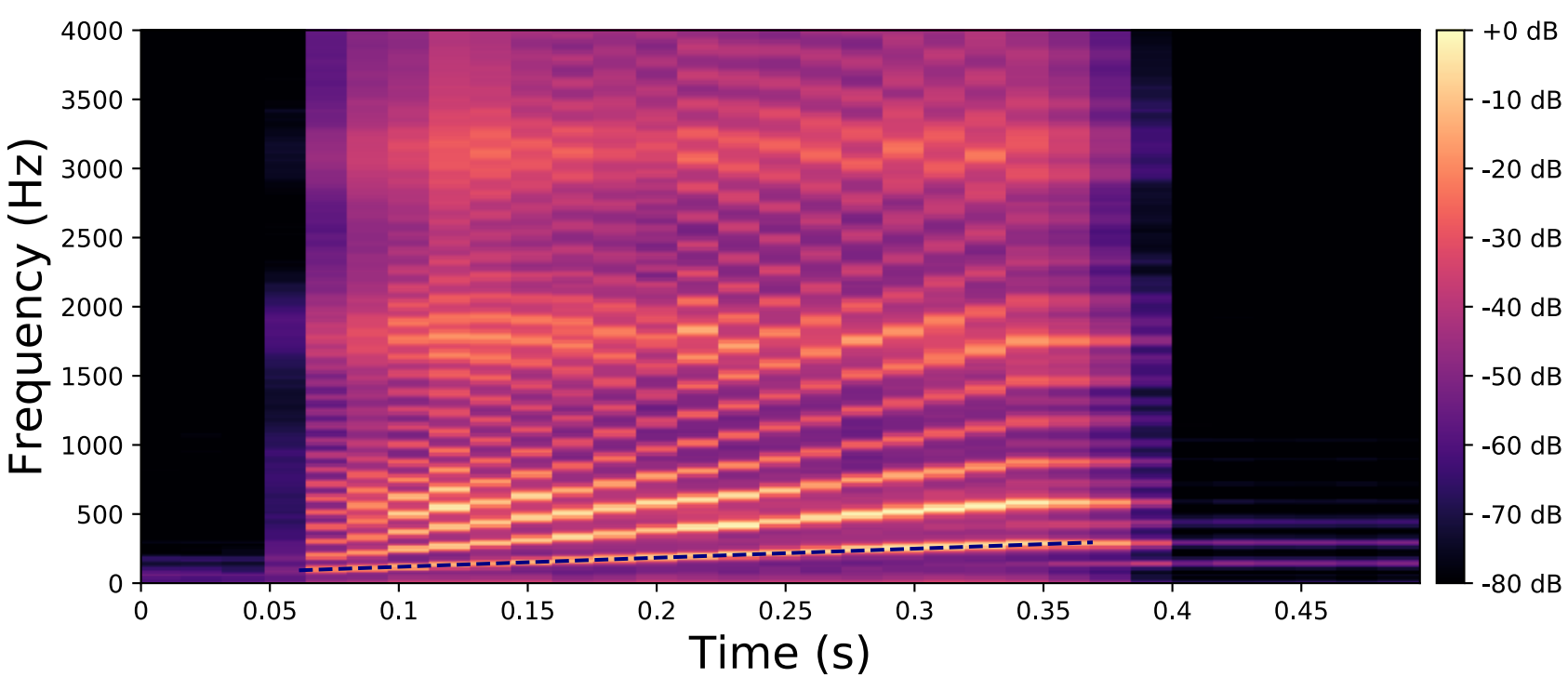
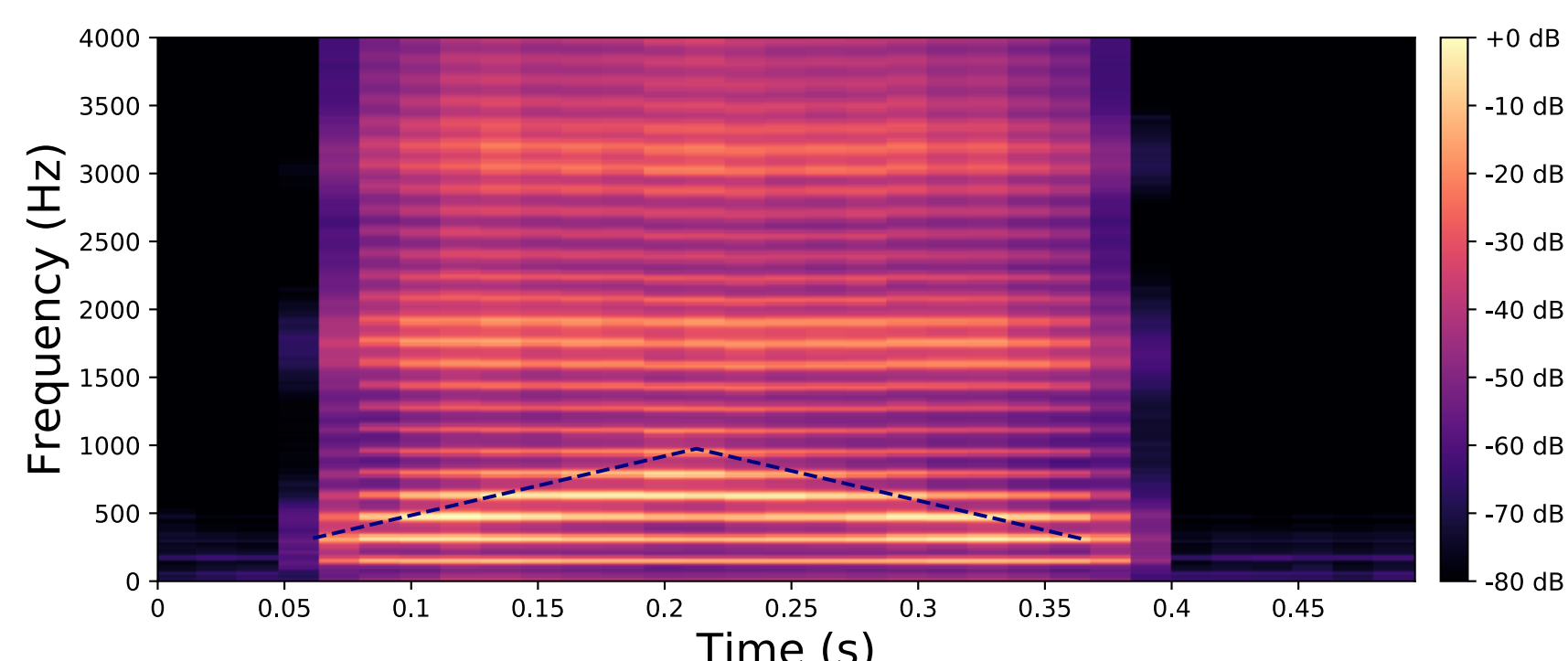
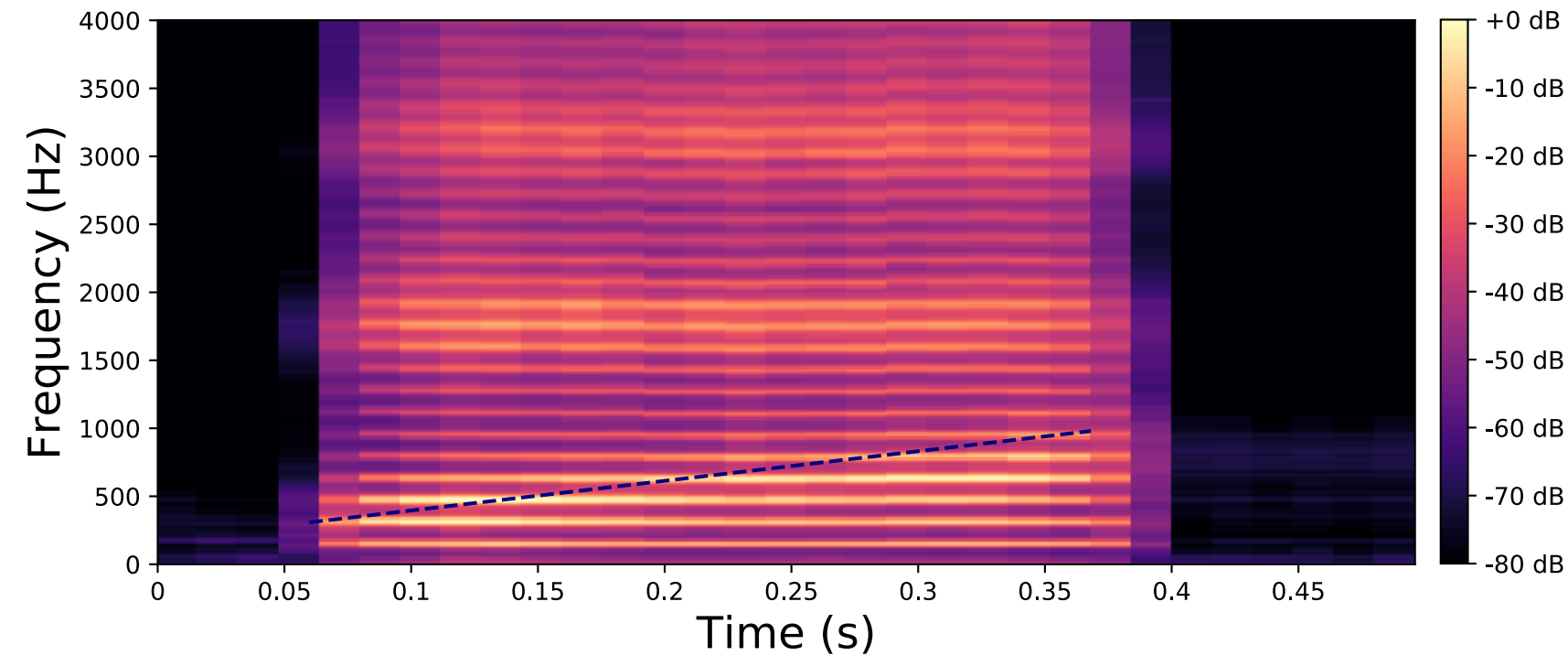


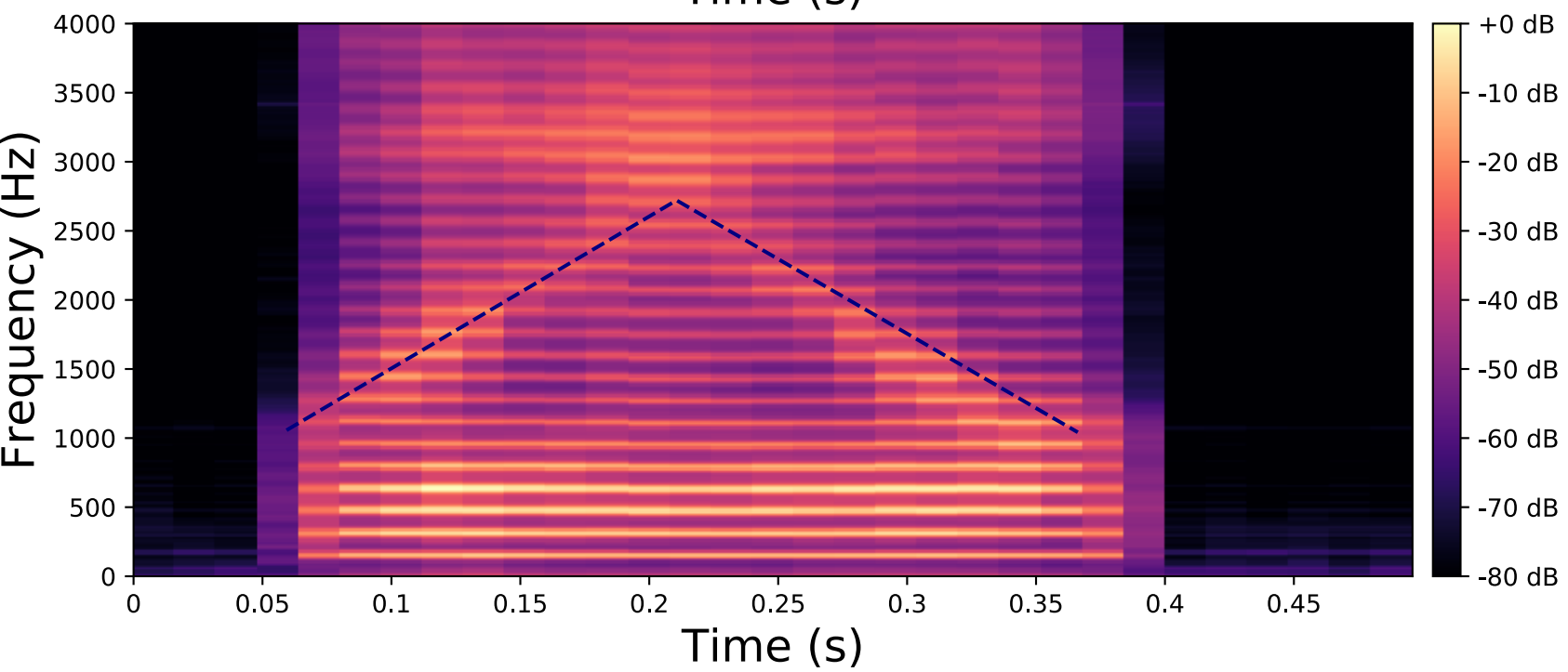
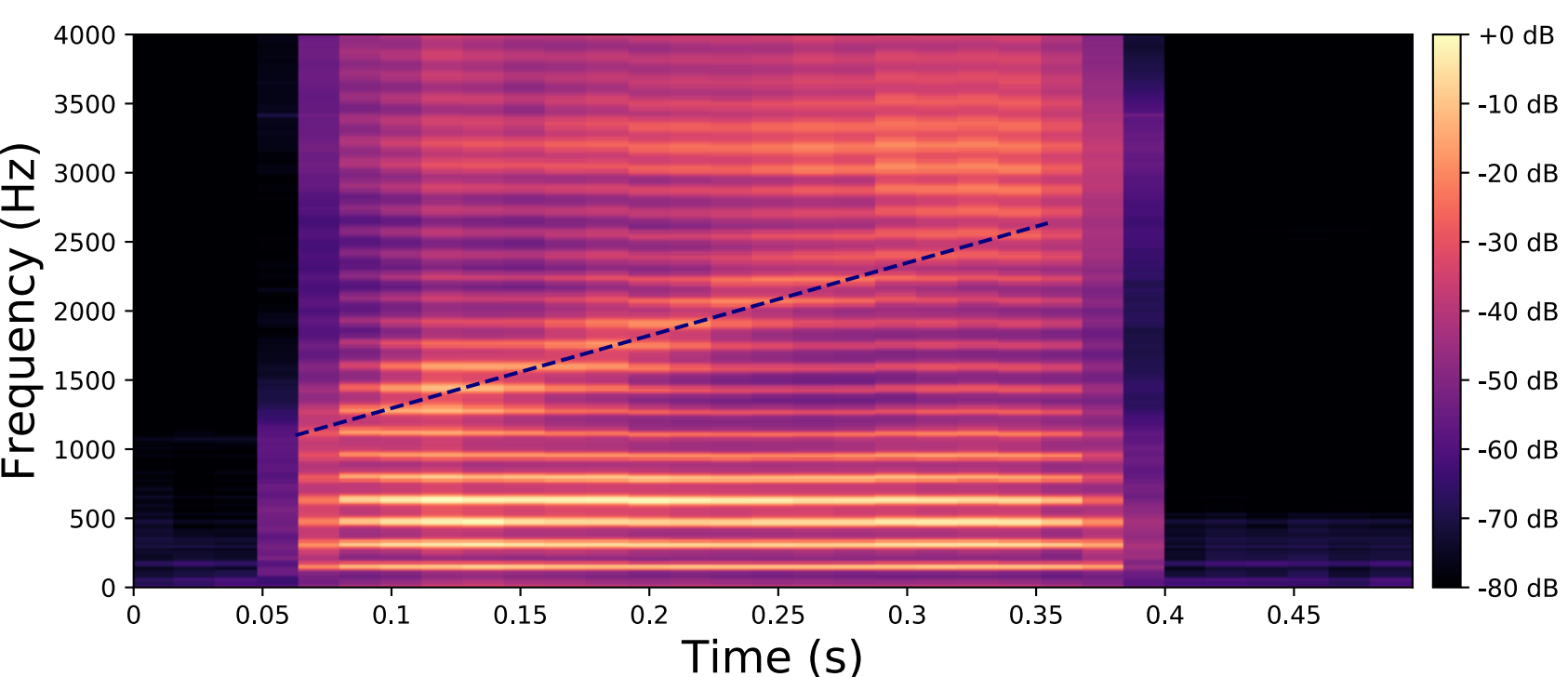
(a) Original spectrogram of the vowel /ae/ uttered by a male speaker.



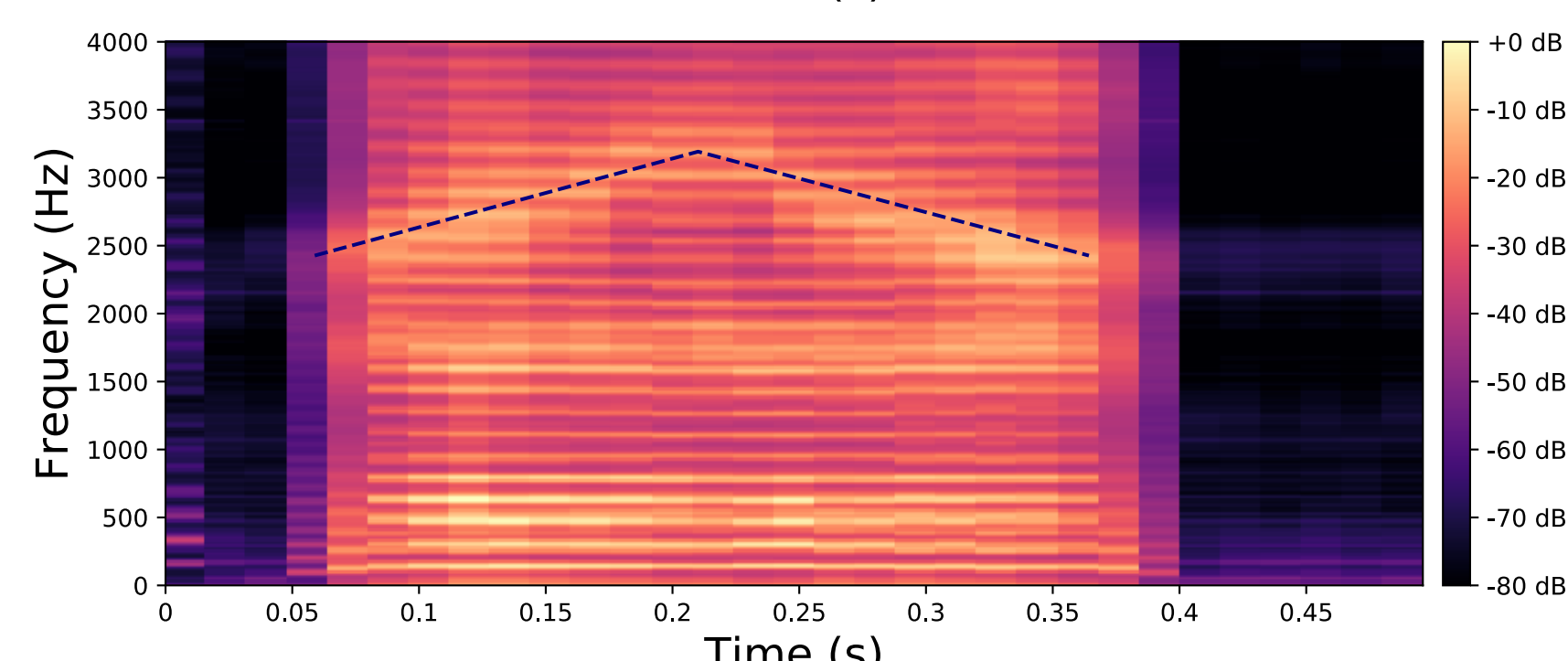
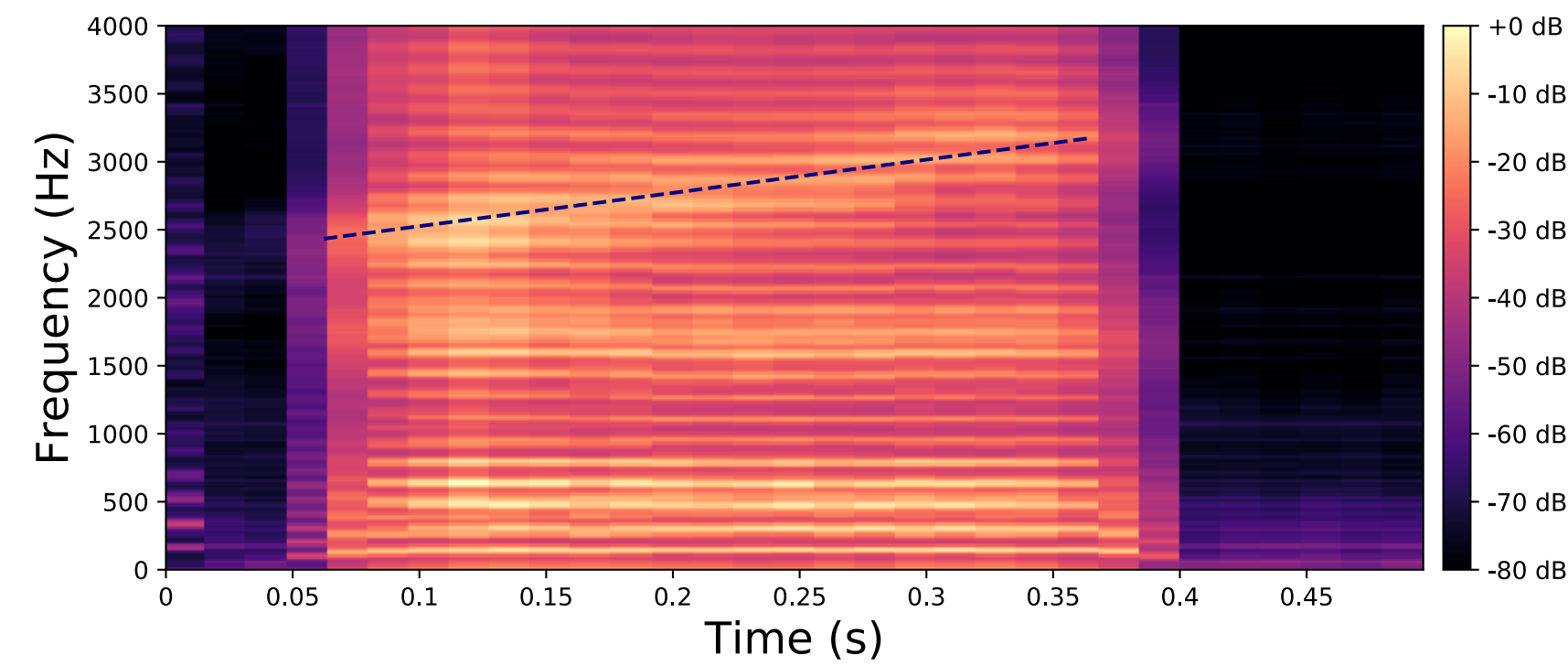
(b) Transformation of the fundamental frequency.



(c) Transformation of the 1st formant frequency.



(d) Transformation of the 2nd formant frequency.



(e) Transformation of the 3rd formant frequency.