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An Acoustic Study of the Frequency Area of Anti-formant in Persian Nasals[1]

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Abstract

Nasal consonants are a sonorant category of the sounds of the world languages and are considered among universal sounds. Almost all the world languages have the category of nasal consonants in their sound system. Acoustically, nasal consonants have some features one of which is the formation of anti-formant. This research explores 1170 spectrums of two nasals, [m] and [n] which have been produced by three adult Persian women and three adult Persian men in order to identify the frequency area of anti-formant formation in Persian nasals. The FFT and LPC spectrums of these two nasals were extracted by Speech Studio software and their frequency area

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of anti-formant formation were determined on the basis of formants' intensity. The results of this research show that anti-formant formation in the production of Persian nasals is not a permanent issue. Nonetheless, the existence of anti-formant is visible in three frequency areas including, F1 and F2, F2 and F3 and F3 and F4.

Keywords: nasal, anti-formant, intensity, LPC spectrum