Abstract

Voice acoustics is an active area of research which studies speaking voice and has gain popularity due to rapid advancements in digital signal processing. The shape of glottal excitation and the vocal tract may be speaker and language dependent. The objective of this paper is to study the effect of glottal excitation interchange on the quality and intelligibility in Hindi and Dogri languages. For this, recordings of six speakers (3 males and 3 females) were carried out in Dogri and Hindi languages. Cardinal vowels (/a/, /i/, /u/) were extracted from recordings of each speaker. Investigations were carried out by interchanging the glottal excitations corresponding to the vowels in the two languages for each speaker. The analysis of the results showed that interchange of excitation does not provide satisfactory quality of the synthesized speech in terms of identity and clarity of speech. Further, the synthesized speech is perceived as it was spoken in the original language. It was also observed that if any two of the parameters (excitation, gain, vocal tract LPC coefficients) are interchanged, the accent of the original language also changes. It means that minimum two of the three parameters are necessary to interchange for modifying the accent of the language under consideration.
References


Index Terms

Computer Science  Information Sciences

Keywords

LPC Component  vocal tract parameters  glottal source  glottal gain