

Acoustic Analysis of Vocal Dysphonia

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Abstract

Voice acoustic analysis is becoming more and more useful in diagnosis of voice disorders or laryngological pathologies. The facility to record a voice signal is an advantage over other invasive techniques. This paper presents the statistical analyzes of a set of voice parameters like jitter, shimmer and HNR over a 4 groups of subjects with dysphonia, functional dysphonia, hyperfunctional dysphonia, and psychogenic dysphonia and a control group. No statistical significance differences over pathologic groups were found but clear tendencies can be seen between pathologic and control group. The tendencies indicates this parameters as a good features to be used in an intelligent diagnosis system, moreover the jitter and shimmer parameters measured over different tones and vowels.

Keywords: Vocal Acoustic Analysis; Jitter; Shimmer; Harmonic-to-Noise Ratio (HNR); Dysphonia.
