

Vocal Acoustic Analysis - Jitter, Shimmer and HNR Parameters

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Abstract

A new procedure for automatic diagnosis of pathologies of the larynx is presented. The new procedure has the advantage over other traditional techniques of being non-invasive, inexpensive and objective. The algorithms for determination of jitter and shimmer parameters by their Jitta, Jitt, RAP, ppq5 in case of jitter and Shim, SHDB, apq3 and apq5 in case of shimmer are presented. The algorithm developed and implemented for determining the HNR (Harmonic to Noise Ratio) are also presented. The developed tools allow the diagnosis that indicates whether or not the voice is pathologic.

Keywords: Fundamental frequency; speech jitter; speech shimmer; Harmonic to Noise Ratio; larynx pathologies.
