

ABSTRACT

Biomechanical models is a tool that serves to produce a sound that is produced by artificial vocal cords. The draft of biomechanical models built with 2 types, namely: biomechanical models men and biomechanical model women. Process undertaken to create biomechanical models include: the modeling of the larynx, models vocal cords artificial, and models resonance. Characterization of acoustic parameters sound produced by artificial vocal cords aims to analyze the performance value of the sounds produced by the vocal cords. Steps being taken to get the value of the acoustic parameters include normalization of sound data, Fast Fourier Transform (FFT), analysis of the fundamental frequency (F_0), jitter, shimmer, and Harmonic-to-Noise Ratio (HNR). Based on the test result of artificial vocal cords that had been done, it was found that range of the values of the fundamental frequency generated from male biomechanical models is 129.88 Hz – 158 Hz with an average value of jitter, shimmer, and HNR 0.9773 %, 0.70595 dB, 27.601 dB. While in women biomechanical models basic frequency range is 195.87 Hz – 230.87 Hz with an average value of jitter, shimmer, and HNR is 0.9325 %, 0.57175 dB, 36.680 dB.

Keywords : *Vocal Cords, Fast Fourier Transform (FFT), fundamental frequency (F_0), jitter, shimmer, Harmonic-to-Noise Ratio (HNR)*