Abstract

This diploma project consists of 52 pages, 26 illustrations, 32 formulas, 22 literature sources.

In the diploma project the aorithm of localization of the point of origin of the electromiagraphic signal was developed, the EMG signal was modeled. The dependences of signal propagation in muscle tissue on the signal characteristics are derived. The algorithm implements amplitude analysis and power spectral density analysis.

A mathematical model of the signal, an algorithm for finding the time delay from the amplitude of the signal, as well as an algorithm for localizing the point of origin of the electromiagraphic signal have been developed.

The purpose of the work - is to develop an algorithm for localizing the point of origin of the electromiagraphic signal.

The object of research - is the origin and propagation of the electromiagraphic signal.

The subject of research - changing the characteristics of the electromiagraphic signal over time and distance.

Scientific novelty - in the development of the algorithm it is proposed to take into account the attenuation of the amplitude for localization of the signal using only three electrodes.

Key words: electromyographic signal, EMG, localization, moving unit, biomyography.