ABSTRACT

This thesis describe decomposition of electromyographic signal into its constituent motor unit action potential trains. A size and a shape of the action potencials can provide an important information about neuromuscular function. There are described the basics of neurophysiology and physiology of muscle in the theoretic section. Mainstay part of the thesis is description of electromyography and chapter about decomposition of electromyogprahy signal, where is introduced a method of decomposition and algorithms used for decomposition. In practical part is tested a robustness of algorithms, which are contained in program called EMGLAB. The trial is performed with three different signal and results are assessed and compared by the statistical methods ANOVA and paired t-test.

Key words: action potencial, EMG signal, electromyography, decomposition, EMGLAB