

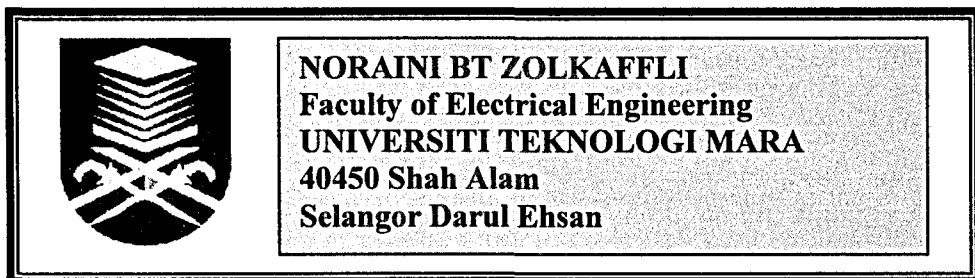
APPLICATION OF SIGNAL ANALYSIS TECHNIQUES FOR THE
ANALYSIS OF NORMAL ELECTROGASTROGRAPHY
(EGG) SIGNAL

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APPLICATION OF SIGNAL ANALYSIS TECHNIQUES FOR THE ANALYSIS OF NORMAL ELECTROGASTROGRAPHY (EGG) SIGNAL.

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ABSTRACT

The slow wave (SW) of Electrogastrography (EGG) area mainly functions to obtain smooth muscle contraction, which provides the essential power of motility. The electrical coupling promotes interaction between muscle cells, and contributes to SW rhythm. The SW is refer to the weak signal obtain in the stomach because of the motion of other organs also produce rhythmic electricity for example heartbeat, respiration and even body movement.

In this thesis, EGG signal is analyzed using the signal analysis techniques that is power spectrum density (PSD) and central finite difference (CFD) of the instantaneous frequency. Dissimilarity is made to determine which of the two methods can best analyze EGG signals in terms of projecting its parameters. The EGG signal found from the literature review indicate that the SW of normal human is in range of 2.4 to 3 cycle/min, but abnormal is in range that more than 4.0 cycle/min.

The two analysis technique was applied to view and extract significance features of the signal. Therefore the aim of this study is to characterize the best signal analysis technique among the normal and abnormal signal of EGG.

TABLE OF CONTENT

DECLARATION	I
ACKNOWLEDGEMENT	II
ABSTRACT	III
TABLE OF CONTENT	IV
LIST OF FIGURE	VII
LIST OF TABLE	VIII
CHAPTER 1	1
INTRODUCTION	1
1.1 Background	1
1.2 Objectives	2
1.3 Scope of Work	3
1.4 Outline of Thesis	4
CHAPTER 2	5
ELECTROGASTROGRAPHY SIGNAL (EGG)	5
2.1 Introduction	5
2.2 The Anatomy of Stomach	6
2.3 Gastric Electrical Activity	8
2.3.1 Gastric Motility	11
2.4 Electrogastrogram	12