

ABSTRACT

Each individual has different levels of concentration according to several factors, concentration is the ability to focus a person's state on the desired object. The object that needs to be tested is one's concentration when working on the Wartegg test, where someone will experience a high level of concentration when working on it.

This test was conducted to determine the concentration of the brain when the respondents worked on the Wartegg test that will be mapped based on the Alpha wave frequency group (8-13 Hz) and Beta waves (14-30 Hz). Measurement of the concentration form is measured from the Electroencephalogram (EEG) signal information which is a bio-electric signal originating from the surface of the human skin. The method that used in this study is Discrete Wavelet Transform (DWT) as a feature extraction method by extracting signals against alpha and beta waves to obtain a feature that will affect the next stage of the classification process using the K-Nearest Neighbor (K-NN) method.

In this study used a 4 channel monitor or recording device that has 4 channel channels namely AF7, AF8, TP9, TP10. and in this study used 7 training data and 3 test data generated from 10 respondents in 2 different stimuli and have been explained. The results of this study have been able to show the form of alpha signals and beta signals of each respondent, testing the test data obtained the best accuracy on the TP9 channel that is 83 %.

Kata Kunci : *Elektroencephalogram, Discrete Wavelet Transform, K-Nearest Neighbor, Alpha Wave, Beta Wave.*