

ABSTRACT

IMPLEMENTATION OF WAVELET TRANSFORMATION IN PRESENTING ECG SIGNAL

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An electrocardiogram (ECG) signal is a record of the electrical activity of a person's heart condition. However, there are often disturbances that interfere with ECG signals, reducing the accuracy of diagnosis. To solve the problem, this research will apply wavelet transformation to present ECG signals. Wavelet transformation is an effective signal analysis technique that decomposes signals into different frequency parts, which can help identify and filter noises and detect important features such as T waves, P waves, and QRS complexes. The dataset used in this study comes from medical record data, which includes various electrocardiogram recordings of different heart conditions. This research uses Daubechies 4 wavelets, which is one of the Daubechies family of wavelets known to have good properties for signal analysis such as ECG signals. The wavelet transformation process is used to remove noise from the signal and extract important characteristics related to clinical diagnosis and can also identify peaks in the transformed ECG signal to estimate beats per minute (BPM). The results show that wavelet transformation reduces artifacts and noise and significantly improves the signal (ECG) quality.

Keywords: *Electrocardiogram Signal; Wavelet Transformation; Beats per Minute*