

Abstract: The Electrocardiogram (ECG) is commonly used quick, non-invasive and economical method to observe the electrical activity of the heart. The ECG signals are weak in nature and often obscured by various noises from different sources and elimination of these noises is of prime importance for detecting and analysis of abnormalities. This paper presents a four different mother wavelet, namely, Daubechies, Biorthogonal, Coiflets and Symlets for removal of baseline wander in wavelet domain using soft and hard threshold algorithms. The approach is validated through experiments on the arrhythmia database (MIT-BIH). Both qualitative and quantitative results are provided. From the simulations study, combine coiflet and soft thresholding approach provides better results for baseline wander removal compare to others.

Keywords: ECG, Discrete wavelet transform, Soft thresholding, Hard thresholding, Baseline wander.