Abstract

The electrocardiogram (ECG) is widely utilitarian for prognostic of heart diseases. Quality and utilization of ECG signal is affected by different noises and hence it is very difficult to measure important parameter to know the exact condition of heart. Baseline wander is one type of noise which is normally seen in ECG signal. This artifact severally limits the usefulness of recorded ECG signals and thus need to be removed for better clinical appraisal. Independent component analysis (ICA) is a statistical technique for estimating a multidimensional random vector into components that are statistically not dependent from each other. This paper proposed the implementation of fast ICA with multiple adjustments for removing baseline wander noise effect from ECG. Simulation results demonstrate that the proposed method is better in denoised the baseline wander noise from ECG signal.
Denoising Baseline Wander Noise from Electrocardiogram Signal using Fast ICA with Multiple Adjustments

- Milanesi, M. , Vanello, N.  and Positano, V.  2005. Frequency domain approach to blind source separation in ECG monitoring by wearable system. in Proceedings of Computers in
Cardiology. 767–770.

Index Terms

Computer Science  
Signal Processing

Keywords

Electrocardiogram  
Baseline Wander Noise  
Variable Notch Filter  
Independent Component Analysis.