Abstract

This paper reports our study in QRS complex detection. The short-time Fourier transform (STFT) was employed in ECG filtering stage. The narrow rectangular window was used to transform ECG signals into time-frequency domain. The temporal information at 45 Hz from spectrogram was analyzed for detecting QRS locations. The automated thresholding combined with local maxima finding method was modified to find the QRS location. The data used in this study is MIT-BIH Arrhythmia database. As the results, our proposed technique achieved the detection rate better than 99% and fail ratio was 1.3%.

Reference

- Chen, S.-W., Chen, H.-C., Chan, H.-L., 2006, A real-time QRS detection method based on moving-averaging incorporating with wavelet denoising, Computer Methods and Programs in

**Index Terms**

Computer Science  
Soft Computing

**Key words**

QRS detection  
Electrocardiogram  
Shot-time Fourier Transform