

Real-time segmentation of heart sound pattern with amplitude reconstruction

ABSTRACT

This paper presents a new idea for real-time segmentation of heart sound using amplitude reconstruction. Biomedical signal processing usually uses recorded information as the inputs. Real-time processing systems are challenging fields of engineering including biomedical signal processing. Segmentation of heart sound means that, system receives an audio stream and it separates the given signal into cycles that includes heart sound pulses, first and second heart sound. For implementing real-time heart sound segmentation, a fast method with low complexity is required. In the proposed system, the heart sound is filtered on frequency domain, and then it is processed on amplitude domain to extract the cycles. Although this technique is implemented without any complex calculation such as Furrier or wavelet transforms, the absorbed results showed its feasibility as a real-time segmentation method.

Keyword: Heart sound; Segmentation; Real-time; Amplitude reconstruction