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REAL TIME ELECTROCARDIOGRAM SIGNAL PROCESSING FOR R PEAK DETECTION USING WIGNER AND WAVELET FUNCTIONS

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Abstract

Electrocardiogram (ECG) signal processing systems must consider various levels of noise/artifacts and develop the techniques to deal with wide range of noise situations. The authors develop a method based two functions (Wigner and Wavelet), highlighting the importance of selecting one of these functions for signal processing in real-time or off-line case. Making use of virtual instrumentation, it was showed that Wigner function can be appropriate for real time monitoring and for mobile devices, using microcontrollers with small resources for data processing.

Key words: ECG signal processing, R peak detection, virtual instrument, Wigner function

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