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METHODS OF ELECTROMAGNETIC INTERFERENCE REDUCTION IN ELECTROCARDIOGRAPHIC SIGNAL ACQUISITION

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Abstract

This paper presents an automatic electrocardiographic (ECG) signal acquisition system and processing method developed the authors. The system was intended to estimate the possibility for electromagnetic interference reduction in case of electrocardiography (ECG) signal acquisition and recording. With the aim to decrease the electromagnetic interference, the proposed system uses the processing system – patient reaction and notch filter, to which we have added wavelet denoised and adaptive filtering. Processed EEG signals were represented both in time and frequency domains in order to highlight the efficiency of each used electromagnetic interference reduction techniques.

The method based on the processing system – patient reaction is more effective than other methods due to the interference reduction at the source.

Key words: adaptive filter, ECG, signal acquisition, signal processing

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