

عنوان مقاله:

On The Separation of EMG Signal from Recorded ECG Using Efficient Signal Processing Algorithms

محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

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خلاصه مقاله:

In this paper, the efficient signal processing algorithms for separation of the EMG signal from the recorded ECG signals are discussed and their performance is compared. Starting from the adaptive algorithms and by means of the adaptive noise cancellation (ANC) principle, the goal is achieved successfully. Then, with the help of one of the effective algorithms of independent component analysis, which is based on the maximization of the fourth-order cumulant, the task is performed again. The simulation results confirm the correct behavior of the both approaches, while the mathematical equations and the final error of simulations depict that the ICA approach chosen outperforms the ANC approach because of its effectiveness in EMG signal estimation.

کلمات کلیدی:

adaptive noise cancellation; independent component analysis; electrocardiogram; electromyogram

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