

Wavelet Transform Selection Method for Biological Signal Treatment

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Abstract

This paper presents the development and evaluation of an algorithm for compressing fetal electrocardiographic signals, taken superficially on the mother's abdomen. This method for acquiring ECG signals produces a great volumen of information that makes it difficult for the records to be stored and transmitted. The proposed algorithm aims for lossless compression of the signal by applying Wavelet Packet Transform to keep errors below the unit, with compression rates over 20:1 and with conserved energy in reconstruction as comparison parameter. For algorithm validation, the signal files provided by PhysioBank DataBase are used.

Keywords

Energy conservation, CR, ECG, Fetal, PDR, Wavelet packet transform