Abstract

Sherin M. Youssef

analysis of non-stationary electrocardiogram signals using iterative wavelet decomposition

ecg signal is acting an important role in the principal diagnosis, prognosis and survival analysis of heart diseases. This paper will present a model for integrating integer packet wavelet transform with iterative signal subspace separation denoising in the analysis of the ecg. A proposed model will be introduced for ecg feature extraction and detection of small variations in ecg signals. A model will be presented for the separation of a desired signal subspace of arbitrary dimensions from noisy, possibly degenerate, multichannel mixtures of signal and noise. An important advantage of this method is that it can separate the subspaces without losing the dimensions of the signals, which is an important issue for deformation analysis of noisy ecg signals. Experimental results show a robust ability of detecting variations in analysis of different ecg signals.