

عنوان مقاله:

Noninvasive Assessment of Biological Conditions by Using of PPGTDs

محل انتشار:

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خلاصه مقاله:

Photoplethysmographic time differences (PPGTDs) are new bio-signals field. These method uses time difference variations between separate simultaneous Photoplethysmographic signals as an interesting pseudo-biosignal. PPGTDs have been introduced as advantageous and noninvasive analytical technique. In fact, PPGTDs are new features that can be used for many bio-physiological measuring aims. In this study, time difference features were analyzed in two different studies in order to indicate the ability of these features. Breath holding test and walk-sleep experiment were carried out for this aim. Statistical analysis was used to analyze the obtained for evaluating time difference variations in various conditions. A computer connectable multi-channel PPG device and a MATLAB® based program were used to obtain concurrent transmission mode PPG signals with different wavelengths. The time differences between the pairs of these signals were obtained during experiments to investigate and compare their variations within the experiments. Results showed that different PPG signals had significant time difference variations (time shifts relative to each other) with changes in a psychophysical state of investigated subjects. It can be concluded that the used time difference features had very good potential to classify various bio-physiological conditions and this method had a good potential for cardiovascular and blood analyses

کلمات کلیدی:

PPGTDs, feature, bio-signal, variation

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