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Power spectrum density based analysis of photolythmographic signal for different physiological conditions

(Conference Paper)

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Abstract

This paper investigates to represent and analyze the Photolythmographic (PPG) signal on the basis of the Power Spectral Density (PSD) as parameter for the varying physiological conditions. An infra-red optical-sensing device is placed on the finger tip used to sense the blood variation measurement and generates the PPG signal at its output. Easy Pulse Sensor module is used to condition this signal by passing it through a series of Low pass, High pass filters and Op-Amps to produce the final PPG signal. The programs are developed for Arduino processing board which is used as a bridging device between Easy Pulse Sensing module and PC. The so obtained PPG signal waveforms and data are then analyzed by using Kubios HRV software. The PPG samples under the four volunteers are collected in four different physiological conditions, that is, sitting, standing, laying, jogging and then these data items are analyzed for the PSD representation under each condition. The results are clear PSD representation of each physiological condition. © 2014 IEEE.

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Author keywords

[Analysis](#)
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