ABSTRACT

SYSTEM AND METHOD FOR HEART RATE ESTIMATION

Techniques for heart rate estimation are disclosed. In an embodiment, synchronized photoplethysmograph (PPG) and 3-axis acceleration signals are received. Further, the PPG and acceleration signals are partitioned into windows. Furthermore, it is determined whether motion is present in a window of the acceleration signal. Moreover, Fourier transform is performed on the signals to obtain power spectra of the signals in the window when there is motion. Also, it is determined whether a peak of the acceleration signal is present in a range around first highest PPG peak. Further, it is determined whether the peak of the acceleration signal affects heart rate of the user when the peak of the acceleration signal is in the range around the highest PPG peak. The heart rate of the user in the window is then estimated using second highest PPG peak when the peak of the acceleration signal affects heart rate of the user.

Fig. 2A