

The Analysis of Asymmetry in Heart Rate Transitions Obtained from Photoplethysmogram

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The Photoplethysmography (PPG) is a convenient method of heart rate measuring. We attempted to evaluate Heart Rate Asymmetry (HRA) using PPG signals by analyzing 413 recordings of healthy young people from an open database (AOMIC). We used common HRA indices and also evaluated the mean Deceleration Input (DI) into heart rate transitions to evaluate HRA in PPG signals. Most of the studied subjects showed DI asymmetry (DI < 0.5 in 63.4% of participants). The analysis of three consecutive heart-beat intervals to investigate the temporal variability in heart rate can be a useful tool in assessing the performance of the autonomic nervous system in healthy people.