

## **Noninvasive Continuous blood pressure measurement at ear site using photoplethysmography-based wavelet analysis**

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In this work, we present an unobtrusive beat-to-beat blood pressure (BP) estimation algorithm using photoplethysmography (PPG) taken at the ear site. Specifically, systolic blood pressure (SBP) and diastolic blood pressure (DBP) are extracted by performing wavelet analysis of the morphological features of PPG signals in the time-frequency domain. The algorithm contains two steps: (1) extraction of the morphological features of pulse waves and (2) BP estimation based on the morphological features using logistic regression. The experiments on 16 volunteers show that the proposed method can effectively improve the accuracy of BP estimation using only PPG signals.