

# Accepted Manuscript

## An Integrated Blood Pressure Measurement System for Suppression of Motion Artifacts

Huthaifa N. Abderahman , Hilmi R. Dajani , Miodrag Bolic ,  
Voicu Z. Groza

PII: S0169-2607(16)30839-2  
DOI: [10.1016/j.cmpb.2017.03.007](https://doi.org/10.1016/j.cmpb.2017.03.007)  
Reference: COMM 4376



To appear in: *Computer Methods and Programs in Biomedicine*

Received date: 10 August 2016  
Revised date: 20 February 2017  
Accepted date: 1 March 2017

Please cite this article as: Huthaifa N. Abderahman , Hilmi R. Dajani , Miodrag Bolic , Voicu Z. Groza , An Integrated Blood Pressure Measurement System for Suppression of Motion Artifacts, *Computer Methods and Programs in Biomedicine* (2017), doi: [10.1016/j.cmpb.2017.03.007](https://doi.org/10.1016/j.cmpb.2017.03.007)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Highlights**

- An algorithm based on Empirical Mode Decomposition to suppress the effect of both transient motion artifacts and vibration during the blood pressure estimation is proposed.
- The new stage monitors motion artifacts using a 3-axis accelerometer.
- The new stage can be applied on any blood pressure monitor.
- For transient motion artifacts, the proposed algorithm resulted in a Mean Absolute Error of 2.4 mmHg for both Systolic and Diastolic Blood Pressures.
- For vibrations, the MAE was 0.8 mmHg for SBP and 1.1 mmHg for DBP.

Download English Version:

<https://daneshyari.com/en/article/4958133>

Download Persian Version:

<https://daneshyari.com/article/4958133>

[Daneshyari.com](https://daneshyari.com)