

Cancelling Motion Artifacts in the wrist Photothlethysmography using Arterial & Venous PPG Signal

ManSeung Heo¹, Jiwon Jamie ryu¹, and Hee Chan Kim^{4*}

1. Bioengineering Major, Graduate School, Seoul National University,
Seoul 151-742, Korea
2. Department of Biomedical Engineering, College of Medicine, and Institute of
Medical & Biological Engineering, Medical Research Center, Seoul National
University, Seoul 110-744, Korea

E-mail : goodfeelingms@melab.snu.ac.kr

Cancelling motion artifacts from measured Photoplethysmography(PPG) signal is one of the important issues, because PPG signal is highly susceptible to motion. Motion artifact cancelling is also required to make system portable and wearable. In this research new motion artifact cancelling method was suggested to get rid of motion artifacts effectively. The suggested method uses both arterial and venous PPG signals acquired synchronous manner.

There are two radial arteries and a bundle of vein in the wrist. Two arteries exist on the opposite site of the wrist, on the other hand veins are distributed irregularly. By using geometrical difference, it is possible to acquire arterial and venous PPG separately. During motion, relative low pressure and irregular distribution of the venous PPG make it more susceptible than Arterial PPG. Extracted motion noise from venous PPG is used to cancel the motion artifact of the arterial PPG signal.

References

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