

DAFTAR PUSTAKA

- [1] M. S. Chavan, R. A. Agarwala, and M. D. Uplane, “FIR Equiripple Digital Filter for reduction of power line interference in the ECG Signal,” no. January 2008, pp. 147–150, 2008.
- [2] Physio Control Inc., “Minimizing ECG Artifact,” *Physio-Control*, 2015, [Online]. Available: <https://www.physio-control.com/WorkArea/DownloadAsset.aspx?id=2147489452>
- [3] L. Sornmo and P. Laguna, “ELECTROCARDIOGRAM (ECG) SIGNAL PROCESSING,” *Wiley Encycl. Biomed. Eng.*, vol. 28, no. 1, 206AD.
- [4] P. J. Michalek, “An Authentic ECG Simulator,” 2006.
- [5] K. M. Gaikwad and M. S. Chavan, “Removal of high frequency noise from ECG signal using digital IIR butterworth filter,” *Proc. - 2014 IEEE Glob. Conf. Wirel. Comput. Networking, GCWCN 2014*, pp. 121–124, 2015, doi: 10.1109/GCWCN.2014.7030861.

- [6] H. Pandey and R. Tiwari, “An Innovative Design Approach of Butterworth Filter for Noise Reduction in ECG Signal Processing based Applications,” *Prog. Sci. Eng. Res. J.*, no. April 2020, 2014, [Online]. Available: <https://www.researchgate.net/publication/322083494>
- [7] N. Das and M. Chakraborty, “Performance analysis of FIR and IIR filters for ECG signal denoising based on SNR,” *Proc. - 2017 3rd IEEE Int. Conf. Res. Comput. Intell. Commun. Networks, ICRCICN 2017*, vol. 2017-Decem, pp. 90–97, 2017, doi: 10.1109/ICRCICN.2017.8234487.
- [8] Y. A. Altay, A. S. Kremlev, K. A. Zimenko, and A. A. Margun, “The Effect of Filter Parameters on the Accuracy of ECG Signal Measurement,” *Biomed. Eng. (NY).*, vol. 53, no. 3, pp. 176–180, 2019, doi: 10.1007/s10527-019-09903-2.
- [9] X. Zhang and S. Jiang, “Application of Fourier Transform and Butterworth Filter in Signal Denoising,” *2021 IEEE 6th Int. Conf. Intell. Comput. Signal Process. ICSP 2021*, no. Icsp, pp. 1277–1281, 2021, doi:

10.1109/ICSP51882.2021.9408933.

- [10] U. Gnaneshwara Chary and H. Kakarla, “Low Power Analog Multiplexers for ECG Applications,” *J. Phys. Conf. Ser.*, vol. 1804, no. 1, 2021, doi: 10.1088/1742-6596/1804/1/012177.
- [11] A. R. Williams and J. M. Hare, “Mesenchymal stem cells: Biology, pathophysiology, translational findings, and therapeutic implications for cardiac disease,” *Circ. Res.*, vol. 109, no. 8, pp. 923–940, 2011, doi: 10.1161/CIRCRESAHA.111.243147.
- [12] I. Sudjadi, I. A. Warsito, and E. S. Nugroho, “Pengenalan Pola Sinyal Elektrokardiograf (EKG) dengan Jaringan Syaraf Tiruan Backpropagation untuk Diagnosa Kelainan Jantung Manusia,” 2011.
- [13] R. khandpur, *Handbook of Second Edition Biomedical Instrumentation*. 2002.
- [14] R. A. Rachman, I. D. G. H. Wisana, and P. C. Nugraha, “Development of a Low-Cost and Efficient ECG devices with IIR Digital Filter Design,” *Indones. J. Electron. Electromed. Eng. Med. informatics*, vol. 3, no. 1, pp. 21–28, 2021, doi: 10.35882/ijeeemi.v3i1.4.
- [15] S. Abdillah, P. C. Nugraha, and D. Titisari,

- “Analisis Filter Digital (Filter IIR pada ECG Pada,” in *Prosiding Seminar Nasional Kesehatan Politeknik Kesehatan Kementerian Kesehatan Surabaya*, 2020, pp. 1–10.
- [16] J. Francis, “ECG monitoring leads and special leads,” *Indian Pacing Electrophysiol. J.*, vol. 16, no. 3, pp. 92–95, 2016, doi: 10.1016/j.ipej.2016.07.003.
- [17] B. J. Drew *et al.*, “Practice standards for electrocardiographic monitoring in hospital settings: An American Heart Association scientific statement from the councils on cardiovascular nursing, clinical cardiology, and cardiovascular disease in the young,” *Circulation*, vol. 110, no. 17, pp. 2721–2746, 2004, doi: 10.1161/01.CIR.0000145144.56673.59.
- [18] G. D. Gargiulo *et al.*, “On the einthoven triangle: A critical analysis of the single rotating dipole hypothesis,” *Sensors (Switzerland)*, vol. 18, no. 7, 2018, doi: 10.3390/s18072353.
- [19] S. Butterworth, “On the Theory of Filter Amplifiers.,” *Experimental Wireless & The Wireless Engineer*, no. October. pp. 536–541,

1930. [Online]. Available:
[https://www.changpuak.ch/electronics/downloads/
On_the_Theory_of_Filter_Amplifiers.pdf](https://www.changpuak.ch/electronics/downloads/On_the_Theory_of_Filter_Amplifiers.pdf)
- [20] G. Bianchi and R. Sorrentino, *Electronic Filter Simulation & Design*. McGraw Hill Professional, 2007.
- [21] I. W. Selesnick and C. Sidney Burrus, “Generalized digital butterworth filter design,” *IEEE Trans. Signal Process.*, vol. 46, no. 6, pp. 1688–1694, 1998, doi: 10.1109/78.678493.
- [22] G. B. Adityaputra, T. Tasripan, and T. A. Sardjono, “Rancang Bangun Elektrokardiograf 12-Leads Untuk Sistem Pengawasan Kesehatan Jantung Jarak Jauh,” *J. Tek. ITS*, vol. 8, no. 1, 2019, doi: 10.12962/j23373539.v8i1.38341.
- [23] L. Aulina, “DELPHI LANGUAGE INTRODUCTION,” *Nuevos Sist. Comun. e Inf.*, pp. 2013–2015, 2019, doi: 10.31219/osf.io/cwy6t.
- [24] S. Yunus and R. Djalal, *Modeling For Electrical Circuits*, 1st ed. Deepublish, 2019.
- [25] I. S. C. sidney Burrus, Matteo Frigo, Steven G. Johnson, Markus Pueschel, *Fast Fourier Transforms*. Texas, 2012.

- [26] D. T. Kusuma, “Fast Fourier Transform (FFT) Dalam Transformasi Sinyal Frekuensi Suara Sebagai Upaya Perolehan Average Energy (AE) Musik,” *Petir*, vol. 14, no. 1, pp. 28–35, Oct. 2020, doi: 10.33322/petir.v14i1.1022.
- [27] L. Tan, *Digital Signal Processing Fundamentals and Applications*. USA: Elsevier, 2008.
- [28] A. Phinyomark, P. Phukpattaranont, and C. Limsakul, “Feature reduction and selection for EMG signal classification,” *Expert Syst. Appl.*, vol. 39, no. 8, pp. 7420–7431, 2012, doi: 10.1016/j.eswa.2012.01.102.
- [29] R. Alvionita *et al.*, “Design of Cardiac Monitor for Multi Parameters,” *Proc. - 2019 Int. Semin. Appl. Technol. Inf. Commun. Ind. 4.0 Retrospect. Prospect. Challenges, iSemantic 2019*, no. September, pp. 423–428, 2019, doi: 10.1109/ISEMANTIC.2019.8884264.