Abstract

Fetal ECG contains precise knowledge that may aid doctor in creating well-suited choices throughout pregnancy and labor. Authentic FECG signal is still extraordinarily complicated and very contaminated by outer disturbances. Hence extraction of clean fetal ECG is extraordinarily crucial for fetal surveillance. This is often accomplished by putting electrodes on mother’s abdomen. Anyway it is tainted with varied sources of noise. This paper compares LMS adaptive filter for FECG extraction with neural network based adaptive filter. Real fetal ECG database was used. Experimental results validated superiority of later scheme in terms of SNR and MSE.

References

3. L.D. Lathauwer, B.D. Moor, J. Vandewalle, Fetal electrocardiogram extraction by blind
4. J. Szalai, F.E. Mozes, Determining fetal heart rate using independent component
5. A. Karimi Rahmati, S.K. Setarehdan, B.N. Araabi, A PCA/ICA based fetal ECG extraction
from mother abdominal recordings by means of a novel data-driven approach to fetal ECG
electrocardiogram based on generalized autocorrelations and reference signals, J.Comp. Appl.
8. Wei Zheng, Xiaolong Li, Xueyun Wei, H. Hongxing, Foetal ECG Extraction by support
9. P.P. Kanjilal, S. Palit, G. Saha, Fetal EXG extraction from single channel maternal ECG
10. R. Almeida, H. Goncalves, J. Bernardes, A.P. Rocha, Fetal QRS detection and heart
11. Mohammad Niknazar, Bertrand Rivet, Christian Jutten, Fetal ECG extraction by
12. A. K. Barros and N. Ohnishi, “Fetal heart rate variability extraction by frequency
tracking”, in Proc. of the 3rd Intl. Conf. Independent Component Analysis and Source

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