

Abstract

The electroencephalogram (EEG) is a widely used traditional procedure for diagnosing, monitoring and managing neurological disorders. Many artifact types that often contaminate EEG remain a key challenge for precise diagnosis of brain dysfunctions and neurological disorders. Hence, artifact removal is intuitively required for accurate EEG analysis and treatment. This paper presents a new extensive method that can remove a wide variety of EEG artifacts based mainly on Template Matching approach including multiple signal-processing tools. The method was evaluated and validated on real EEG data, giving promising results that offer better capabilities to neurophysiologists in routine EEG examinations and diagnosis.

References

1. Mintaze Kerem Günel “Management of Epilepsy Research, Results and Treatment” InTech, Janeza Trdine 9, 51000 Rijeka, Croatia, 2011 DOI: 10.5772/1139, available at
A Hybrid Approach for Artifacts Removal from EEG Recordings

www.intechopen.com


Index Terms

Computer Science          Signal Processing

Keywords

Electroencephalogram (EEG), artifacts removal, independent component analysis, wavelet, cosine similarity measure