

Fig.17: α wave extracted by ICA with filter.

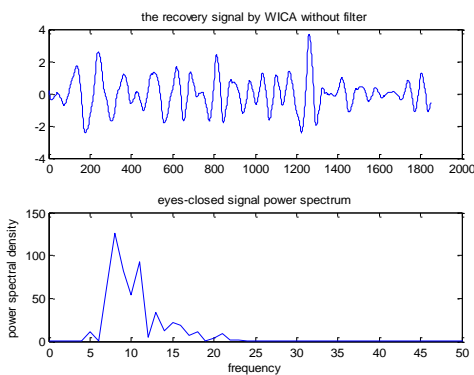


Fig.18: the α wave extracted by ICA and wavelet transform without filter.

Comparing the power spectrum of each method, because of the frequency of α wave band is 8-12HZ, we can conclude that the result of the new method in this paper is better than other method. The results of the experiment show the new method is effective.

5. Conclusion

The basic requirement to find an accurate model is the collection of well distributed, sufficiently, and accurately measured input data. This study tells us that every rhythm has a clear physical meaning. Butterworth filter can effectively filter the noise. Wavelet transform can enhance the composition of the signal to be detected, weaken the off-target signal composition

and noise, at the same time, ICA algorithm can effectively isolated relatively strong target signal components. We can capture the important information from this method introduced in this article which is also a significant part in the signal feature extraction.

6. References

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