

Independent component analysis of noisy geoelectric potential data

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Geoelectric potential data obtained in an urban area are sometimes tainted by artificial noise, especially leakage currents from electric railways. This is very serious in the case of observing small signals. However, it is not easy to separate. We focus on the Independent Component Analysis (ICA) and apply them on the geoelectric potential data obtained during water injection experiment on Awaji Island, Japan. With this method, we obtain independent components, which should contain a clear signal associated with water injections and a signal that corresponds to the leakage currents from electric railways.