

Event Detection and Separation from Local Noise Using SVM Classifier

One problem with early warning and shutdown systems, is early detection of occurrence of an earthquake in the presence of local and false events. It could be a complicated problem specially when we want to detect an event with a few seconds of received signal. Early warning and automatic shutdown systems, if we discern local noise mistakenly as an earthquake, the least consequences of this decision would be abandoning the system. In other words, early warning and shutdown systems should distinguish earthquakes from local noise and other sources of vibration signals without making mistakes. In the past, various methods have been developed for the job of which SI and CAV methods can be mentioned. Given the high capability and good performance of support vector machine (SVM) methodology as a signal classifier tool, a method has been developed to detect early earthquakes. the results showed that SVM can be used as a powerful tool in early warning and shutdown systems.

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