Seismic waveform browser of Hi-net data coded in Java programming language

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We developed seismic waveform browser coded in Java programming language. Applications coded in Java can be executed on many operating systems. The language includes graphic library, internet library and more libraries, so that adding new functions to the application will be easy. We therefore adopt the Java language.

Hi-net of NIED records seismic wave of earthquakes occurring all around Japan. The recorded data are compressed in WIN32 format. The browser decompresses the waveform data and shows them on the computer display. The browser is composed by three panels. One panel shows the distribution of the hypocenters. Specifying origin time, latitude, longitude, depth and magnitude of the earthquakes, the selected earthquakes are shown. Furthermore, we can choose the earthquakes interactively by the computer mouse. Finally, we choose one earthquake and the triggered event waveform data of the chosen event is shown in the other two panels. One panel shows the all components of each seismic observation station. We can see the detail of the waveform and pick the time of the seismic phase on the panel. The other panel shows the paste-up traces of all stations. It will be easy to find the seismic phase on the panel. The waveform can be zoomed in and out on both panels. The contents of all panels, i.e., the hypocenter distribution, the waveforms of each station, and the paste-up traces can be printed out.

If you download the triggered event data or the continuous waveform data from the Hi-net web site, the data can be also displayed by this application.

We plan to add new functions, such band pass filter, three dimensional expression of the hypocenters, etc., to this browser.