Japan Geoscience Union Meeting 2013
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G02-P01 Room:Convention Hall Time:May 19 18:15-19:30

Class room excercises using the JMA-59 type seismograph records.

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The JMA-59 type electromagnetic seismograph was a standard seismograph in Japan. We tried to develop some educational tools for earthquake study in mid to high-school class room using waveform data recorded by the JMA -59 type electromagnetic seismograph.

The main purposes of this tools are 1) reading features of wave records 2) measuring the S-P time 3) estimation of hypocentral distance with the Omori's distance formula 4)hypocebter determination using S-P times of surrounding several stations 5) calculation of magnitude using the Tsuboi's magnitude formula.

Advantages using the JMA-59 type wave records are 1) displacement records are easy to compare with real ground motion 2)the records drawn in ink are easy to realize an analog image of seismograph for students 3) 100 times amplitude and 1mm/sec time scale are easy to convert other scale.

We investigated and choose some seismograms for class room exercises among many wave records stocked in our library as following rules; 1) shallow earthquakes which are able to calculate magnitude using the Tsuboi's magnitude formula 2) wave records are not saturated 3) easy to read S-P time and maximum amplitude 4) easy to determinate hypocenter using these wave records.

In the conference, we will present our preliminary trial of this project.

Keywords: the JMA-59 type seismograph, seismograms, hypocenter determination, magnitude calculation, educational tool, class room exercise