

Fine attenuation structure beneath Japanese Island derived with maximum amplitude data

Shutaro Sekine[1]; Makoto MATSUBARA[1]; Kazushige Obara[2]; Keiji Kasahara[3]

[1] NIED/ADEP; [2] NIED; [3] N.I.E.D.

Q structure in the Japanese Islands with the maximum amplitude was estimated by Sekine et al. (2004). However, room for improvement remained in the point of requesting a detailed structure because it was the same grid interval (each grid 0.5 degrees), and the part etc. where the change in local Q was large uniform whole country it became indistinct. A detailed structure is requested because it comes to be able to use it to analyze a lot of data in the place where a lot of earthquakes occur like the region where the seismic activity is active like the Kanto region and the mid- Niigata Prefecture provinces, etc. Therefore, the detailed structure local comes to be shown though the Japanese whole country is delimited to a small area, it calculates by the resolution in the each province, the difference is caused in the resolution by as a result tying. Therefore, the resolution is expected to go up as a whole.

In this research, the Japanese Islands were divided into eight blocks, and the value of Q_p and Q_s was calculated in each area. Data uses the amplitude of P wave and S wave of the earthquake between M2.5 to M5.5 when the peak magnitude comes from the P and S wave arrivals within two seconds. That decides the first movement mechanism among earthquakes that happened in December, 2005 decided NIED Hi-net. It is thought that the effect of the head wave can be avoided by using this data. Moreover, there was a problem of becoming it as well as the initial structure in the technique of Sekine(2005) used to calculate for the part that was not able to be solved too much well to decide the value of Q from initial Q a value gradually. The value of Q was requested by the absolute value without nearing to a relative value by adjusting the value of Q_p and Q_s used for an initial value to cancel this problem to two or more values, calculating, and comparing it assuming that near.

The result such as indicating an observation value and harmonized value was able to be obtained about the area that seemed to be impossible to presume too much well up to now because it was located on the edge of the area when the results of the calculation by calculated result and nationwide batch of each area were compared, for instance, the value of Q in the wisdom floor provinces etc. Moreover, the Philippines sea plate etc. sank in the Kanto region and the Tokai region, etc. and it came to understand a crowded appearance more in detail. In this announcement, it introduces the feature of Q structure in such various places.