

Influence of preliminary tremor and later phase parts of strong motion records on 3-D Qs inversion

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We have used the whole of wave form of strong motion records, K-NET and KiK-net, for the 3-D Qs inversion (Nakamura and Uetake, 2002,2004, etc.). Here, we compare the results by using the main part of S-wave and the whole of wave form.

For extracting the S-wave part from whole of data, we made paste up columns of records and compared them with the S-wave theoretical travel time table of JMA2001. Since, the occurrence time table listed in the K-NET and KiK-net data did not contain the time unit of 'second', we gave the data of 'second' by verification with the JMA earthquake monthly report catalogue.

The paste up columns by the shallow earthquakes show that the phase caused maximum amplitude of records within about 100 km from epicenter is in good agreement with the S-wave arrival time of JMA2001, although in case of about 100 km and over, those tend to be late for the theoretical arrival time. This means that the delayed phases are composed of not only S-wave but also other kind of waves (ex. Lg-wave). Therefore, we used the records within 100 km in this study. To make the main part of S-wave, we used a section that became 0.85 of the energy accumulations of the record.

The results show that the Qs structure obtained by using total wave length is similar to that by using only the main part of S-wave.