

2017年長野県南部の地震の震源域におけるQの時間変化 Temporal variations of Q in the source region of Southern Nagano prefecture earthquake in 2017

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The Southern Nagano prefecture earthquake in 2017 (Mj5.6) occurred on June 25 in 2017. The hypocenter of this event is in the source region of the Western Nagano prefecture earthquake in 1984 (M6.8), and also locates at the several kilometers from the Mt. Ontake, which erupted in 2014. This is because it is important that we understand the characteristic of this event. Murakami (2017) found that the seismic radiated energy of this event is larger than that of the events occurred in this region (e.g., Venkataraman et al., 2006). However, it is possible that this event caused the temporal variations of the site effect and/or the path effect in the source region. Then I estimated the temporal variations of Q by the method of Ohtake (1987). Ohtake (1987) estimated the temporal variations of Q caused by the Western Nagano prefecture earthquake in 1984. I selected the magnitude of the events equals to 1.0, which occurred from January 1 to December 31 in 2017 around the source region of the Southern Nagano prefecture earthquake in 2017. In the preliminary analysis, I picked the pulse widths of the initial P wave in the velocity seismograms of the Mj1.0 events observed at N.GERH of the Hi-net station. The distribution of the P wave pulse width ranges from 10 msec to 80 msec until about 7 hours after the occurrence of the Mj5.6 event. On the other hand, from about 7 hours after to 9 days after the occurrence of the Mj5.6 event, the P wave pulse width ranges from 40 msec to 80 msec. After 9 days after the Mj5.6 event, the distribution of the P wave pulse width is similar to the one until 7 hours after Mj5.6 event. I will present the results obtained from this analysis.

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