

Later arrivals observed in Mito, Japan

Tomiichi Uetake[1]

[1] Seismic Design Gr., TEPCO

Significant later arrival is recognized in observed waveform at Mito during the 1938 Shioyazaki-Oki earthquake. It is important to consider whether this later arrival is excited in local area or not for source process study of the events occurred in east off Ibaraki and Fukushima prefecture, Japan. We studied the later arrival characteristics at Mito using K-NET records.

We compared K-NET data at Mito station from six events with magnitude over 5.3 occurred in east off Fukushima and Ibaraki Prefecture since 1997. Later arrivals were detected all records and the time lag between S waves and later arrivals were almost 20s in spite of epicenters area.

We compared the wave forms at Nakaminato, Mito and Ishioka during the east off Ibaraki prefecture event (July 21, 2000: M6.4). These stations and epicenter were on almost the same line. Mito is located between Nakaminato and Ishioka. The remarkable later arrivals were recognized at Mito but not recognized in Ishioka and Nakaminato. The later arrivals at Mito show dispersion characteristics. These later arrivals may be surface waves generated locally in the vicinity of Mito. Kobayashi et al. (2004) evaluated the time lag of the P to S converted waves with the P wave using the K-NET observation record in Kanto district. Their result shows that the basement at Mito is deeper than that at the circumference observation stations. Low gravity anomalies around Mito area suggest that basement depth is deep around Mito. The deep basement structure around Mito may generate the later arrivals.