

Microtremor chain array survey across the abnormal damaged zone of the 1946 Nankai Earthquake in the northern part of the Izumo Plain, Taisha-cho, Izumo City, Shimane Prefecture, Japan.

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An abnormal severe damaged zone of the 1946 Nankai Earthquake was observed along the northern edge of the Izumo Plain, Taisha-cho, Izumo City, Shimane Prefecture. In this study, we carried out a microtremor chain array survey across the damaged zone for imaging the detailed surface profile of the damaged zone. Correlating with previous geologic data by using pseudo-S-wave velocity and N value, the phase velocity profile of the present survey demonstrates a buried terrace at approximately 11 meter deep as an unconformity between Pleistocene and Holocene deposits. At the center of the survey line, a buried fossil valley cutting the buried terrace was clearly recognized. It implies that the severe damage of the earthquake might be affected by the thickened soft sediments at the buried fossil valley.

Keywords: microtremor chain array, the 1946 Nankai Earthquake, Izumo Plain