

Improvement of determination of hypocenters by pop-up type ocean bottom seismographs near Ogasawara Islands

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There are only three permanent seismic stations in Ogasawara Islands, two Chichi-jima and one Haha-jima stations. Hypocenters, therefore, can be poorly determined in regard to locations of the east-west direction.

Meteorological Research Institute (MRI) deployed pop-up type Ocean Bottom Seismographs (OBSs) to investigate the more accurate locations of hypocenters than JMA catalogue in this area. The observation network covers the area of the range 26-29°N and 140-143°E. Observation period was from 15 Jul. to 10 Oct., 2015. We analyzed the eight continuous data at OBS stations and determined the hypocenters. We compared hypocenters determined by the OBS data with those of JMA catalogue. We extracted 31 events as the same events whose difference between the origin time by the OBS and the JMA are within three seconds. The hypocenters by the OBS tend to be shifted by 30' to 1° westward from those of the JMA. Its tendency is same as the result between hypocenters by the USGS and the JMA. It suggests that the locations of hypocenters can be improved by applying the results to the data of only permanent stations.

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