Spatio-temporal distribution of interplate seismicity around the epicenter of the 1994 Sanriku-Oki Earthquake

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We relocated epicenters of the earthquakes around the rupture area of the 1994 Sanriku-Oki Earthquake, including the epicenter of the main shock, by applying a master-event method to the earthquake catalogue of Tohoku University. As the master events we used aftershocks whose hypocenter locations were precisely determined by using OBS data (Hino et al., 2000). Three evident clusters of the high seismicity were identified near the epicenter of the mainshock, which was relocated about 20 km west from the JMA hypocenter. One of the clusters is located to the northeast of the epicenter of the main shock and the seismicity of this cluster became active about half a year before the main shock occurrence. There is another cluster to the trenchward side of the initial point of the main shock rupture. Although another cluster westward of the main shock epicenter was activated soon after the main shock occurrence, the seismicity of the trenchward cluster did not rise until about one month after.