

Is east off Tori-shima seismic event on August 29, 2002, very low frequency earthquake ?

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The broadband seismic array network detects anomalous events which excites only low frequency seismic waves considering their scales. In our investigation, moment magnitude of the largest event is 4.2. The largest side limit of its scale is important information to understand occurrence mechanism. On 28 August 2002, a distinct event occurred near Tori-shima region. However earthquake catalogues don't list or treat as undetermined magnitude for this event. The broadband array record the long period seismic waves greater than 10 seconds. The characteristics may cause the undetection in usual observation.

In this study, source parameters are estimated by using the broadband seismic record. In first step, rough epicenter estimation by using Rayleigh wave arrival times. In second step, we applied grid search and least square techniques to get the source location and moment tensor. The result shows that hypocenter locates close to Izu trench and depth is about 10km. The moment magnitude is 4.8 and souce time is 10 second or greater. This region has tsunami earthquake (Satake and Kanamori,1991) and non-double couple event (Kikuchi,1996). This event belongs to small tsunami earthquake or largest very low frequency earthquake.