

Seismic quiescence prior to the 2016 Kumamoto Earthquakes

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We developed new algorithm named RTM detecting seismic quiescence before large earthquakes. The RTM algorithm is a kind weighted parameter survey method, which taking into account region (R), time (T) and size of earthquakes (M) (Nagao et al., EPS, 2011). The most notable feature of the RTM algorithm is very sensitive to detect small change of seismicity.

We applied the above RTM algorithm to 2016 Kumamoto Earthquake swarm and detected clear seismic quiescence in the western Kyushu Island. The seismic quiescence started at around beginning of 2015 and ended March 2016. The main shock of M7.3 occurred just the edge of seismic quiescence region. It is well consistent with the past examples (e.g. 1995 Kobe EQ). In the presentation, we would like to present the results of parameter search and robustness of the obtained quiescence.

The figure shows the maximum of the seismic quiescence prior to the 2016 Kumamoto Earthquakes. This study was partly supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan, under its Earthquake and Volcano Hazards Observation and Research Program, and Resarch projects of Institue of Oceanic Research and Development, Tokai university.

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