

## Seismic activity investigation by the hypocenter redetermination on and around Northern Itoigawa-Shizuoka Tectonic Line

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For three years from 2002, the pilot intensive investigation observation on and around Itoigawa-Shizuoka Tectonic Line was operated by Ministry of Education, Culture, Sports, Science and Technology (MEXT) as main instruction. Japan Meteorological Agency (JMA) participated in this project and observed natural earthquake for grasping the crust activity in this region. For this observation, JMA newly deployed 5 seismic stations (NSHIGA, MATNAK, HOTAKA, SHINMA and AZUMI) around this tectonic line. The wave data of these stations is transmitted from each station to the JMA and analyzed after merging with other data. In this region, Sakai (2004) pointed out the vertical extension of hypocentral distribution by using the uniform seismic wave velocity structure model to the all stations for the hypocenter determination.

We redetermined hypocenter on and around northern fault belt by using phase detection data dealt by JMA and MEXT and the hypocenter determination method with different velocity structures for each seismic station. We redetermined hypocenter by using averages of O-C residuals for each stations as a station correction too.

We also applied Double - Difference hypocenter determination method (Waldhauser and Ellsworth , 2000) to the each area earthquakes divided with small areas in this fault belt.

As a result, we think the hypocenter determination accuracy is to be improved that the vertical and lateral distribution of hypocenter clusters are determined to shallower (lower limit is about 15km) and narrower than the JMA hypocenters. The detail of redetermined hypocenter distribution were obtained that thought to be associated with eastward decline on a part of the northern fault belt in this region indefinitely.

We used the result JMA and MEXT dealt cooperatively. Seismic wave data is provided by Geographical Survey Institute, Hokkaido University, Hirosaki University, Tohoku University, University of Tokyo, Nagoya University, Kyoto University, Kochi University, Kyushu University, Kagoshima University, National Research Institute for Earth Science and Disaster Prevention, Japan Agency for Marine - Earth Science and Technology, National Institute of Advanced Industrial Science and Technology, Tokyo Metropolitan Government, Shizuoka Prefecture, Hot Spring Research Institute of Kanagawa Prefecture, City of Yokohama and JMA. We used the hypocenter calculating program Dr. S. Sakai (University of Tokyo) improved on the basis of HYPOMH by Hirata and Matsu'ura. (1987). We make a grateful acknowledgement for associated people.

### References

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