

## Focal mechanism solutions of microearthquakes around the southern part of the Itoigawa-Shizuoka Tectonic Line

# Kazutoshi Imanishi[1]; Ikuo Cho[2]; Yasuto Kuwahara[3]; Naoshi Hirata[4]; Yannis Panayotopoulos[4]

[1] GSJ, AIST; [2] AIST; [3] GSJ,AIST; [4] ERI, Univ. Tokyo

The Itoigawa-Shizuoka Tectonic Line (ISTL) is considered to be one of the most active faults in the Japanese Islands. In order to reveal stress accumulation process of this fault zone, we investigate the stress field based on focal mechanism solutions of small earthquakes.

We have made temporary observations in the southern part of the ISTL since September 2005. The events were recorded at sample rates of 200 Hz in continuous mode and by off-line recording with GPS clock. In the case of small earthquakes, it is difficult to obtain a unique focal mechanism solution, because the number of stations detecting events decreases and their azimuthal coverage becomes poor. In this study, we determined the focal mechanism solutions using absolute P and SH amplitudes and P-wave polarity. The actual procedures of this analysis are as follows: We first determined the tentative focal mechanism solutions and seismic moments where the number of P-wave polarity data was ten or greater. We then calculated the logarithmic average of the ratios between the observed and theoretical amplitudes of these events, which was used as the amplitude station correction at each station. Using the amplitude station corrections, we redetermined the focal mechanism solutions and seismic moments. In total, we analyzed 58 earthquakes that occurred in the southern part of the ISTL during the period from September 10 to November 30, 2005. The JMA magnitude ranges from 0.2 to 3.2. Most of events occurring along the ISTL are reverse faulting events, while focal mechanism solutions of strike-slip are predominant along the median tectonic line (Akaishi tectonic line). This agrees with the slip sense along these faults that were estimated by the trenching survey and seismic reflection profiling. We also found that the P-axis directions are nearly ESE-WNW, which conforms to the general tectonic trend in this area.

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