Seismicity of the northern part of Itoigawa-Shizuoka Tectonic Line

Shin'ichi Sakai[1]

[1] Earthquake Research Institute, Univ. of Tokyo

The relationship between recent seismicity and the active fault systems was investigated by the precise hypocentral distribution which was produced in consideration of heterogeneity of velocity structure around the northern part of Itoigawa-Shizuoka Tectonic Line (ISTL) which is western part of the northern Fossa Magna basin. Because the velocity structure suitable for ISTL is necessary for precise hypocenters to determine, deep seismic reflection and refraction profiling were undertaken in 2002 across the northern part of ISTL. And some temporary stations were installed in order to get information right above the seismic region. The obtained hypocenters were distributed in the shape of a straight line in the direction of north and south. It is sure that the distribution was perpendicular and the lower limit of hypocenters was about 11km. The focal mechanisms were mainly strike-slip of which the direction of P-axis is NW-SE or WNW-ESE. The fault planes expected from these mechanisms are consistent with a distribution of hypocenters. But they are not consistent with a plane of the thrust fault of the previous large earthquakes which was expected by the active fault system. This suggests that the recent seismicity has not been induced by the aftershocks of the previous large earthquake and the movement of the active thrust fault.