

SCG087-P05

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Determination of focal mechanisms of small events in Hokkaido for investigating the motion of Kuril fore-arc sliver

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In order to find the evidence of transcurrent movement of fore-arc sliver along the southern Kuril trench, we investigated the focal mechanisms of events determined by F-net from 1997 to 2009. Especially we focused on the focal mechanisms with P-axis parallel to the trench in the vicinity of the Hidaka Mountains due to the collision of Kuril fore-arc with northeastern Japan arc, and those of strike-slip type with the nodal plane of right-lateral slip along the volcanic front that may represent the motion of Kuril fore-arc relative to overriding plate. To increase the data of focal mechanisms, we also determined the focal mechanisms of smaller events using the method developed by Imanishi et al. (2006). We used P- and SH-wave amplitudes as well as P-wave polarity and determined focal mechanisms with magnitude larger than 3 and the numbers of P-wave polarity data are 10 or greater.

In the western side of Hidaka Mountains, we find the focal mechanisms of thrust and strike-slip types with P-axis parallel to the trench. We also find the focal mechanisms of strike-slip type with the nodal plane of right-lateral slip along the volcanic front. Most of these strike-slip events concentrate around Teshikaga area, and of a few others are distributed at different sites along the volcanic front. Around the central Hokkaido where the Hidaka Mountains and volcanic front intersect, strike-slip types with moderate dip-slip component were determined.