Characteristics of earthquake fault system of the 2008 Iwate-Miyagi Nairiku Earthquake

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http://www.cande.iwate-u.ac.jp/index-j.html

The earthquake fault of the Iwate-Miyagi Nairiku Earthquake is characterized by many short reverse faults, flexures, and lines of reverse fault. In the east belt with six kilometers wide along the source region, the lines of Itagawa-rindo and Mochikorobashi-Hanokidachi earthquake fault are arranged in parallel. The shortening modification at Wakakamiko is also appeared in parallel with them.

The coseismic crustal movements (Fukushima et al., 2008) and the seismic reflection survey (University of Tokyo et al., 2008) have shown that the line of Itagawa-rindo earthquake fault is the surface rupture of the earthquake source fault.

On the other hand, reverse and normal faults are appeared in the Kurikoma volcano at the west side of the source region. The condition and behavior of the reverse fault agree with them of the fault expected from the crustal movement in the edifice of Kurikoma volcano. This fact shows that the reverse fault is conjugated with the reverse faults at the east side of the source region.

The normal faults are appeared along the existing escarpments. The escarpment with about eighty centimeters high is nearly the same as the displacement of the normal fault. This fact shows that the escarpments were caused by the inland earthquake with the same magnitude as the Iwate-Miyagi Nairiku Earthquake.