

The surface rupture of the 2016 Kumamoto Earthquake Kumamoto prefecture, central Kyusyu, Japan

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The 2016 Kumamoto Earthquake occurred on 14 April 2016 (Mj = 6.5) 16 April (Mj = 7.3). The surface rupture due to the earthquake appeared along the Futagawa fault zone and Hinagu fault zone (Ikeda et al., 2001; Nakata and Imaizumi, 2002).

To reveal features of the surface ruptures, we carried out field exploration from 15 April to 18. In this survey, we observed ground deformations, recorded location data of fault traces with handy GPS, and carried out simple measurement of vertical and horizontal displacement. In addition, it was interpreted the fault traces by using aerialphotographs taken after the earthquake.

As a result, we confirmed 14-km-long surface ruptures and ground deformations along the Futagawa fault zone and the Hinagu fault zone. Many of sites showed a right-lateral slip. However, there was the surface ruptures that does not match the known active faults. The left-lateral surface ruptures is continuous over 300m in NW-SE direction at Ishikawa. The right-lateral surface ruptures is continuous over 1.5km from Shimoda to Teradomari. This fault traces is to run parallel to the position of about 500 - 800m northwest of Futagawa fault.

In Terai site, damage to the road and lateral displacement of the canal that occurred in the earthquake of April 14 had been expanded after the earthquake of April 16.

Keywords: active fault, surface rupture, The 2016 Kumamoto Earthquake, Futagawa fault zone, Hinagu fault zone