

Investigation on earthquake damage in the Near-Surface-Fault area during the 2016 M_w 7.0 Kumamoto earthquake

*Hongjun Si¹, Tetsuro Sasaki²

1.Seismological Research Institute Inc., 2.The Japan Atomic Power Company

On 16 April, 2016, an earthquake of M_{JMA} 7.3 (M_w 7.0) occurred in Mashiki-machi, Kumamoto Prefecture. During the earthquake, traces of surface fault are observed in the source region along the Futagawa and Hinagu faults, and heavy building damages are report in Mashiki machi, South Aso village, and other area.

In this study, in order to study the damages in the near field area, we carried out an investigation for the damage in the near-surface-fault-area, from 6th to 8th, May, 2016, 20 days after the earthquake. The main methods used in the investigation are interviews and photography. The investigation is carried out along the Futagawa faults at Fukuhara, Shimochin, Kamichin, sugidou, and Miyazono in Mashiki machi, Ohkiri-hata dam in Nishihara village, and Kawayo and Kurokawa area in South Aso village. The preliminary results of the investigation indicate that, (1) The surface faults are a little distant from the center of the Mashiki machi, the most damaged area; (2) in Mashiki machi, the damaged buildings just near the surface faults tend to be older buildings, rather than newer and well-constructed ones. (3) in the South Aso village, relatively new buildings just on the fault were damaged due to large deformation, but keep not collapsed, though an old temple building was totally collapsed.

Based on our preliminary results, a Future detailed investigation is considered necessary for better understanding the damages during the Kumamoto earthquake.

Keywords: Surface fault, Damage, Kumamoto earthquake