Ground Motion Characteristics in the Vicinity of Surface Fault Ruptures due to the 2016 Kumamoto Earthquake

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April 16, 2016, an earthquake of Mw7.0 occurred in the Kumamoto prefecture. The earthquake arose surface fault ruptures in disaster areas. Building damages due to fault displacement were dominant in the vicinity of surface fault rupture, however damages caused by strong ground motion were not to be dominant. This kind of disasters was also reported concerning other earthquakes with surface fault ruptures (e.g. 2011 Fukushima earthquake by Hisada, 2011). In order to evaluate effect of surface geology in the vicinity of surface fault ruptures, aftershock observations in suburb area of Mashiki town and dense microtremor observations in Mashiki town and Minami-Aso village were conducted. The observation points were set to cross the surface fault ruptures, and difference of subsurface structures around near fault area was evaluated. In this study, relation between subsurface structure and strong ground motions in the vicinity of surface fault ruptures is discussed.
Hisada et al., 2011, Journal of Japan Association for Earthquake Engineering, Vol, 12, No.4, pp.104-126.

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