

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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SSS032-P15

Room:Convention Hall

Time:May 25 16:30-17:30

Paleoseismicity on the Kajiya, Sekigahara and Miyashiro faults in the Yanagase-Sekigahara fault zone, central Japan

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The Yanagase-Sekigahara fault zone truncating from Japan Sea to western Gifu prefecture, central Japan, is one of the major fault zones in Japan. The Earthquake Research Committee evaluated that the probability of the earthquake occurrence in the future on the southern part of this fault zone is unknown because of the lack of paleoseismological data. We carried out paleoseismological studies on the Kajiya, Sekigahara and Miyashiro faults in this fault zone to evaluate the rupture probability in the future of these faults, using the fund of the Ministry of Education, Culture, Sports, Science and Technology. A high-angle fault exposed on the trench walls at the Kajiya A site on the Kajiya fault. Radiocarbon dates indicate that at least one faulting event occurred in these 3,300 years. At the Kajiya B site, a fault cutting the bedrock and terrace deposit was observed, and radiocarbon dates indicate that the last faulting event occurred in these 1,000 years. At the Akiba site on the Sekigahara fault, the bedrock covered by the slope deposit and no fault was observed. On the Miyashiro fault, boring surveys show that the top of the Tokai Group and the bottom of young gravel layer are vertically displaced about 35 meters and 3 meters respectively.

Keywords: Yanagase-Sekigahara fault zone, Kajiya fault, Sekigahara fault, Miyashiro fault, trench excavation, paleoseismology