

SSS033-02

Room:105

Time:May 23 14:30-14:45

## Diversity of the Kanto earthquake suggested from paleoseismological data

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The Kanto earthquake generated from the interface between the Philippine Sea Plate and the North American Plate has been historically known as the 1703 Genroku earthquake and the 1923 Taisho earthquake. Reconstruction of the past Kanto earthquake before the 1703 event must depend on geological and geomorphological evidence because of lack of historical records. Although the past Kanto earthquake has been distinguished into two types of the Taisho type and the Genroku type based on evidence of marine terraces, recent paleoseismological data suggests it should be reevaluated.

Asperity of the Taisho type extended from the northern edge of Sagami Bay to Miura Peninsula has been ruptured at every 200-400 years. Recurrence of the Genroku type is inferred to 2000-2700 years, and its rupture area includes the Taisho asperity and extends to southeast off the Boso Peninsula. Mean slip rate of the Genroku asperity can be estimated to be 7 mm/year from inferred coseismic slip and recurrence time, but it is much smaller than the back slip rate (30 mm/year) estimated from GPS observations.

Timing of the Genroku type was inferred from emergence ages of the Numa terrace series along the southern part of the Boso Peninsula, which were Numa I: 7200 cal yBP, Numa II: 5000 cal yBP, Numa III: 3000 cal yBP, Numa IV: the 1703 Genroku. Recently we partly reevaluated them to be Numa II: 4400 cal yBP and Numa III: 2800 cal yBP by drilling survey in the Tateyama lowland. Uno et al. (2007) pointed out that the Numa terraces cannot be rigidly correlated with between the western coast (Uchibo side) and the eastern coast (Sotobo side) because the emergence ages of the terraces in the Sotobo side was dated to be Numa II: 5300 cal yBP and Numa III: 4400 cal yBP. This fact suggests that the rupture event of the Genroku asperity can be identified to be not only the 1703 Genroku type but also another type of independent rupture so called the Sotobo type. If such type event exists, the contradiction of slip rate between geodetically estimated back slip and geomorphologically estimated recurrence would be solved.

Keywords: Kanto Earthquake, asperity, paleoseismology, marine terrace, Boso Peninsula, Miura Peninsula