

Japan Geoscience Union Meeting 2011

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

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HCG036-05

Room:202

Time:May 24 11:45-12:00

Age estimation of a turbidite layer in surface deposit of the Enshu Trough, off-Tokai district

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Tokai district, central Japan is located near the Nankai-Suruga Trough and has been attacked by the Tokai earthquakes repeatedly. These earthquakes often induced submarine landslides and formation of turbidites. A 7 cm-thick distinct turbidite layer was intercalated in the surface hemipelagite obtained from the Enshu Trough at 1500m water depth. Although mass accumulation rate (MAR) of hemipelagic component and age of the sand layer were estimated based on dry bulk density, grain size distribution, and depth of Cs-137 appearance horizon, enough accuracy of age estimation was not obtained due to shallow position of appearance horizon and low activity of Cs-137. We compare result of new estimation of depositional age of the turbidite using Pb-210 dating with the Cs-137 using estimation.

Keywords: turbidite, hemipelagite, Pb-210 dating, Cs-137, Anse-Tokai Earthquake