

Seismotectonics of collision, stripping and accreting in the South Fossa Magna

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Collision, stripping and accreting have occurred by multiple-collision of the Izu island arc at the South Fossa Magna. It is presumed that this mechanism was occurred intermittently with a great earthquake or a slow slip.

In this study, I apply the study, which I submit this meeting differently, of the mechanism of accreting of the Mineoka block to the area of Izu-Tanzawa region. And I review the tectonics in this area.

First, I redefine next words, collision, stripping and accreting as a matter of convenience.

”Collision” means a state that a release late of relative movement between oceanic plate and hanging wall at an old forward subduction boundary fall to well below 100%.

”Stripping” means an activity of detachment fault, which detaches an oceanic arc crust from an upper mantle.

”Accreting” means a state that stripped oceanic arc crust begins to move as same plate as the hanging wall. In other words, it means a state that an activity of fault at an old forward subduction boundary becomes static.

Second, I categorize a fault which tears an oceanic arc crust off an oceanic plate to three types.

The A-type fault shears an oceanic arc crust and it indicates the property of a normal-fault.

The B-type fault is detachment fault at the oceanic Moho.

The C-type fault shears an oceanic arc crust and it often has high normal stress. So it often becomes strong asperities.

For example, the faults ruptured at latter half of rupture of the 1923 Great Kanto earthquake under the Miura peninsula and at the aftershock occurred three minutes later under the Tokyo bay are an A-type fault conceivably. Moreover, a day later, the aftershock occurred at new usual thrust under southern off Boso peninsula. In fact, it skipped the C-type fault under the Boso peninsula. This C-type fault is equal to the source faults of 1703 Genroku Kanto earthquake. It was revealed that this type of earthquakes has occurred with great slip every about 2300 years. It can attribute this strong asperity to high normal stress at the C-type fault presumably.

Keywords: The South Fossa Magna, Collision, Stripping, accreting, micro semi-plate, detachment fault