Recent surface faulting event of Akagiyama fault, the Itoigawa-Shizuoka Tectonic Line active fault system

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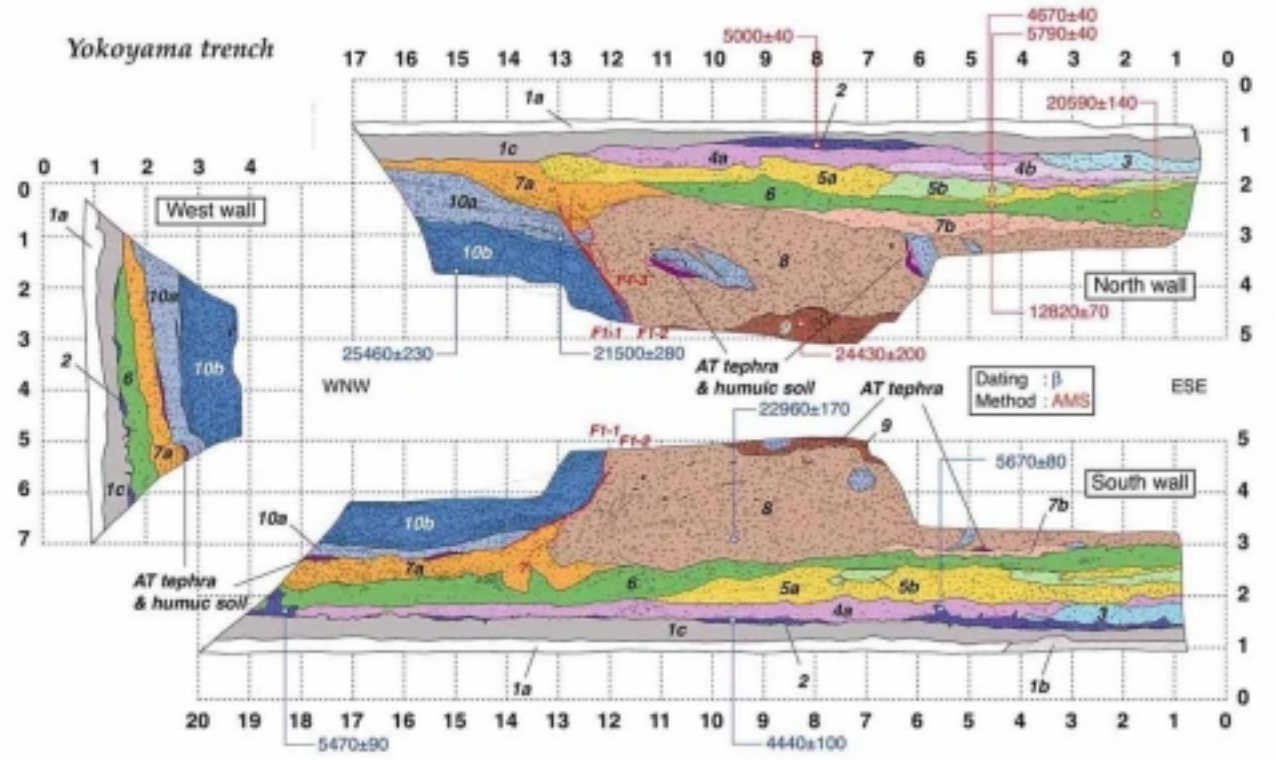
We investigated co-seismic faulting activity of the Akagiyama fault in the central part of the Itoigawa-Shizuoka Tectonic Line active fault system, central Japan. The 2 km long Akagiyama fault consists of straight fault trace from northeast to southwest direction and occurs adjacent to the Gofukuji fault in which is the most active fault of the fault system. We conducted a trench excavation at the Yokoyama site across the buried fault scarp. The excavation revealed evidence of the latest surface faulting events occurred sometimes between 6530 and 15,660 cal y BP. In addition, we inferred the possible penultimate event by using deformational characters and genetic relationship of fluvial and debris-flow deposits. The inferred timing of penultimate event is ca. 29,000 cal y BP just after deposition of AT tephra derived from Aira caldera, southern Kyushu, Japan. The recurrence time between these two events is approximately estimated as 14,000-23,000 years. These timings of co-seismic events and long recurrence interval indicate largely inactive faulting history of the Akagiyama fault than the Gofukuji fault. Co-faulting of them in ca. 1200 or ca. 1700 cal y BP is implausible. Financial supports by the electric power companies in Japan are acknowledged.


Yokoyama trench
West wall
North wall
South wall
WNW
ESE
Dating : β
Method : AMS
AT tephra & humuic soil
AT tephra
4570±40
5790±40
5000±40
20590±140
12820±70
25460±230
21500±280
24430±200
22960±170
5670±80
5470±90
4440±100
Ft-1
Ft-2
Ft-3
1a
1b
1c
2
3
4a
4b
5a
5b
6
7a
7b
8
9
10a
10b