

SCG062-19

Room:IC

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Formative process of the Beppu-Simabara Graben and its active tectonics

Tanio Ito^{1*}, Hiroshi Sato², Keiji Takemura³, Shinji Nagaoka⁴, Makoto Hayakawa¹, Takeshi Ikawa⁸, Satoshi Yamakita¹¹, Takeshi Kudo⁶, Toshifumi Imaizumi⁵, Tatsuya Ishiyama², Hiroyuki Tsutsumi³, Tetsuya Takeda⁷, Ryoyu Arai¹⁰, Susumu Abe⁹

¹Chiba University, ²University of Tokyo, ³Kyoto University, ⁴Nagasaki University, ⁵Tohoku University, ⁶Chubu University, ⁷NIED, ⁸Hanshin Consultants, ⁹JGI, ¹⁰Kawasaki Geological Engineering, ¹¹Miyazaki University

The basic tectonics of the Beppu-Shimabara Graben (BSG) is roughly characterized by the right-lateral motion along the main fault with releasing bends based on the interpretations of seismic profiles at both ends of the BSG. However, following three problems on the formative and growing process are still unsolved.

1.The main fault corresponds to the Median Tectonic Line (MTL) from Beppu, the eastern end to Kumamoto, and extends straightly to the west separately from the MTL. Thus the westernmost part of the main fault does not correspond to the MTL from Kumamoto to the Shimabara Bay, western end of the graben. What significance does the westernmost part have in the Inner zone in Kyushu?

2.As roll-over structures are found in sedimentary basins at both ends, a listric structure surely exists in the main fault down to a certain depth. However what structural style does the main fault have as a whole?

3.The releasing bend seems to connect with E-trending Matsuyama-Imari Tectonic Line corresponding to the northern side of the Nagasaki Triangle.

If so, what structural relationship does the BSG to the Nagasaki Triangle?

Generally speaking, active tectonics concerning a certain structure is the present stage of the formative and growing process of the structure. This means to understand the formative and growing process of the structure is essentially important to make clear active tectonics. Fortunately the huge amount of geological, geomorphologic, seismological, geodetic, gravitational data sets have been accumulated in northern Kyushu, which gives us the great advantage to challenge the more understandings of the formative and growing process of the BSG. In this talk, at first, we will discuss the formative and growing process of the BSG using the newly accumulated data sets, and then, analyze the active tectonics.

Keywords: Beppu-Shimabara Graben, half graben, extension tectonics, Median Tectonics Line, Kyushu