

Tectonic history of the Arima-Takatsuki Tectonic Line as inferred from cumulative offset of basement rocks and stream channels

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The late Quaternary activity of active faults in Japan have been studied in detail in 1980-90's, whereas the important questions are still unresolved; when and how did the active faults initiate and whether or not the tectonic history of the active faults are related with the preexisting geologic structures? To resolve these questions, the interdisciplinary studies must be needed. In this study, we try to clarify the tectonic history of the Arima-Takatsuki Tectonic Line as a case study. The geological and geomorphological evidence shows that the ATTL formed after the late Miocene age, and the ATTL has moved as a dextral strike-slip fault since its formation to Holocene. These shows that the driving force for origin of the ATTL may closely related to the opening of the Japan Sea.