

Estimation method from inaccurate paleoseismic activity data of an average activity interval and seismic potential

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It is crucially important to evaluate seismic potential (e.g., an average interval or probability of occurrence in a certain period) of repeating large earthquakes. However, the integrated potential evaluation method that uses enough and wisely uncertainty in data of paleoseismic activity history and/or characteristics of source faults has been left unfulfilled. In this study, the practical evaluation method of seismic potential from an intra plate active fault has developed. This method can be applied, if following information of an active fault can be obtained; One or more event dates with uncertainty; an average fault slip per event, which can be calculated from fault length by using a scaling law; and a slip rate.

In this study, a problem on evaluating seismic potential from paleoseismic activity data involving the indeterminacy is lead to a mathematically easy-handling proposition; then its solution has been derived using multi-variable Bayesian estimation method and Monte-Carlo simulation. In the meeting, details of methods and application examples to each segment of Beppu-Haneyama activity fault zones are presented.