

Characteristic behavior of asperity inferred from seismic analysis

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During 20th century there occurred many large earthquakes in Japan, which were recorded at observatories of Japan Meteorological Agency (JMA) and Universities. In Japan, the strong motion observation was made from the beginning of 1900's. Using the strong motion record we try to obtain source process of large earthquakes around Japan to make the asperity map. The characteristics of asperity obtained in this study are as follows:

- (1) The location of asperity is fixed in space.
- (2) The size of asperity is characterized in source regions.
- (3) Aftershocks occur around the asperity.
- (4) Adjacent asperities may be synchronized to generate a huge earthquake.

It came out of the area which experienced the repeating earthquakes in dozens of years. For example, 1968 Tokachi-oki and 1994 Sanriku-haruka earthquakes, 1952 and 2003 Tokachi-oki earthquakes, 1961 and 2004 Kushiro-oki earthquakes.