

Dominant periods of 2006, 2007 Kuril Tsunamis observed in Japan

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Dominant periods of Kuril Tsunamis on 2006 and 2007 were obtained for the tsunamis observed at 34 tide stations in Japan. The dominant period was defined as a period showing the maximum amplitude of the spectra. The spectra were calculated for six hours from a time before the arrival using Goertzel method. As the result the main difference was found for tide stations at the northeast coast. At the stations dominant period of 64-69 minutes was observed for the 2006 tsunami but not for the 2007 tsunami. And it was not observed for both the tsunamis at the southwest coast. It is attributed to shelf oscillation excited on the shelf of the origin for the 2006 tsunami. Resonance period of 66 minutes is calculated on Merian's formula assuming the sea depth of 1500m and the width of 120km. It is related to the shelf structure along the Pacific coast. Difference of the excitation is explained from the difference of source location between two tsunamis. The 2006 tsunami was generated on the shelf and the 2007 tsunami was generated outside the shelf.

2007 Kuril tsunami dominant period

