

Tidal triggering of earthquakes in Iwo-jima island Tidal triggering of earthquakes in Iwo-jima island

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Tidal triggering of earthquakes clearly appears in Iwo-jima volcanic island, 1250 km south of Tokyo. This tidal earthquake occurs only in the northern area of the island although the seismicities in the northern and southern are the similar for the 7-year record. In the statistical analysis, the maximum of the number of low- and high-frequency earthquakes per an hour in the northern area coincides with the minimum of sea level and probably with the maximum of the volume strain, respectively. We speculate that the low- and high-frequency earthquakes triggered by the ocean and solid-earth tides is caused not by the tidal stress but by the cavitation of groundwater containing gas at the fault and the stress drop due to the groundwater intrusion into the fault, respectively

キーワード: 地震活動, 誘発地震, 潮汐

Keywords: Seismicity, Triggering, Tide