

歪記録に見られた地震発生に先行した潮汐定数の変化

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Temporal Variations of Tidal Constituents in Strainmeter Records Prior to the Occurrence of Two Large Earthquakes

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Abstract

We search for temporal variations of principal tidal constituents in strainmeter records, for instruments which are closely located to the source regions of large earthquakes in Japan. To obtain temporal variations, we apply the BAYTAP-G (Bayesian Tidal Analysis Program-Grouping Model) to data sets of 30 day lengths with time lags of 1 day. For the O1 constituent of the laser strainmeter record at the Rokko-Takao station, characteristic changes are observed in its amplitude-phase diagram a few years prior to the 1995 Kobe Earthquake (Mw6.9). Although the observed values are narrowly distributed in the amplitude-phase diagram before 1992, they become broader and a doughnut-pattern appears prior to the occurrence of the earthquake. For the case of the 1994 Far Off Sanriku Earthquake (Mw7.7), the same pattern is also noted at the Esashi station. There are no similar significant patterns in the M2 constituent. Temporal correlation with the changes of b-values and micro-earthquake seismicity are also suggested.