

Sea level measurements at bay heads in south Sanrku using a pressure gauge

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Sea level measurements were carried out at bay heads in south Sanriku, Japan on November, 2000 and September 2001 using a pressure gauge. The location names are Ayukawa, Yagawa and Samenoura at Samenoura bay, Nonohama and Onagawa port at Onagawa bay, Omaehama and Ogatsu at Ogatsu bay, Ozaki port at Oppa bay, Oritate port and Shizugawa port at Shizugawa bay. After reductions of the tide and the terminals using the average and Hanning window the amplitude was decomposed into the spectra with Goertzel method. From the spectra most predominant period was obtained at each point.

From the result 23, 25, 21, 37, 41, 31, 18, 16, 42 and 47 minutes were obtained respectively. Plotting the maximum runup levels of large tsunamis (1896 Sanriku, 1933 Sanriku, 1960 Chile and 1968 Tokachioki tsunamis) observed at the measuring points for the predominant period we obtained tsunami resonance curves. The 1960 tsunami showed a resonance at the long period but the others at the short period. The resonance curve is more effective for a separated plotting at each branch in a bay having a branch structure.