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Periods of 10-30 minutes of sea level variation observed in the coastal regions of Taiwan

Li-Ching Lin (1), Mao-Chang Liang (1), and Hsien-Kuo Chang (2)

(1) Academia Sinica, Research Center for Environmental Changes, Taipei, Taiwan (plih@gate.sinica.edu.tw), (2) Department of Civil Engineering, National Chiao Tung University,Hsinchu,Taiwan

Two years of sea level data are analyzed using high resolution tide gauges installed in the coastal regions of Taiwan. Sea level variations with 10-30 min periods are observed. Possible sources of the variation are meteorological forcings such as monsoons, cold fronts and typhoons. The peak to peak variation can reach as high as 1.5 m, approximately 60% that of the tidal variation. Conditions that excite the waves are examined. Found in both shallow and deep waters of Taiwan, the signals cannot be satisfactorily explained by mechanisms such as the Proudman resonance. Implications for triggering seismic waves are discussed.