



Length of a day and the strong Taiwan region earthquake of 26th December 2006

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Coincidence of earthquakes with maximum amplitudes of the length of a day record since beginning of the year 2006 during the extreme Earth's rotation deceleration has proved that variations of the Earth's rotation triggered earthquakes in Taiwan-Luzon collision area of Eurasian and Philippine Sea plates. This area is characteristic by obduction of oceanic lithosphere over continent in Taiwan and the retreat of Manila subduction zone owing to gravity subsidence. The last but one of the coincidence series had been the strong Taiwan region earthquake of 26th December 2006. To verify the coincidence relationship for larger period, 59 samples of detailed seismic investigation of Kao et al. (2000) from 1964 to 1996 were used, further 11 samples of USGS Catalogue over 5.8 magnitude and schematically 900 earthquakes over 3 magnitude for period 1996-2006 covering the period from minimum to maximum Moon's declination. Final investigation has shown that westward collision events coincide with length of a day maxima, however the events along northward directed faults coincide with length of a day minima, i.e. the maximum Earth's rotation. This coincidence of westward and northward collision events is statistically significant and it supports that the driving mechanism of the Philippine Sea plate as a buffer plate is controlled by forces following from the Earth's rotation as tidal drag and Eötvös force. The Philippine Sea plate is a product of tidal force which had broken the oceanic lithosphere on equator 35-60 Ma ago, today witnessed as fossil mid-ocean ridge in the middle of the plate. The young oceanic lithosphere 35 Ma ago could not subduct beneath the Eurasian continent and following obduction created the folded area of Taiwan.