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Earthquake triggering, Earth's rotation variations, Meton's cycle and torques acting on the Earth.

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In contrast to unsuccessful searching (lasting over 150 years) of correlation of earthquakes with biweekly tides the author found correlation of earthquakes with sidereal 13.66 days Earth's rotation variations expressed as the length of a day (LOD) measured daily by the International Earth's Rotation Service. After short mention about earthquakes Denali Fault Alaska 3rd November 2002, M 7.9, triggered on LOD maximum and Great Sumatra earthquake 26th December 2004 triggered on LOD minimum and the full Moon, the main object of this paper are earthquakes of period 2010-VI. 2011: Haiti M 7.0 Jan. 12, 2010 on LOD minimum, Maule Chile M 8.8 Feb. 12, 2010 on LOD maximum, Sumatra and Andaman Sea region 6 earthquakes revealed from 7 on LOD minimum, New Zealand, Christchurch M 7.1 Sep. 9, 2010 on LOD minimum and Christchurch M 6.3 Feb. 21, 2011 on LOD maximum and Japan Near coast of Honshu M 9.1 March 11, 2011 on LOD minimum. I found that LOD minimums coincide with full or new Moon only twice in a year in solstices and also twice in the year with LOD maximums in equinoxes. To prove that determined coincidences of earthquakes and LOD extremes stated above are not accidental events, histograms were constructed of earthquake occurrence and their position on LOD graph deeply in the past, in some cases from the time the IERS started to measure the Earth's rotation variations in 1962. Evaluation of histograms and the Schuster's test has proven that maxima of earthquakes are triggered always in both Earth's rotation deceleration and acceleration. Backward overview of the past earthquakes revealed that the Great Sumatra earthquake Dec. 26, 2004 had its equivalent in the shape of LOD graph, full Moon position, character of aftershocks, 19 years ago in difference only one day of Dec. 27, 1985 M 6.6, proving that not only sidereal 13.66 days variations but also the 19 years Meton's cycle is the period of the earthquakes occurrence.