



Lithospheric resonances of the Earth's rotation

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To investigate the behavior of lithosphere as mechanical oscillator oscillating in resonant frequencies evoked by variations of the Earth rotation and rotational axis movement, the following aseismic tremors and GPS slips were compared with length of a day variations and pole position movement:

(i) distribution of nonvolcanic tremor pulsing in 12.4 and 24-25 hour tides from Puget Sound/Southern Vancouver, (ii) episodic tremors and slips from Victoria Geological Survey of Canada sites with 14 months periodicity, (iii) one year periodicity of tremor and slips from southern Mexico, (iv) 6 month periodicity of tilt changes in Japan, (v) decadal tilt and strainmeter variations from Southern China and (vi) triggering of earthquakes from Sumatra and Alaska.

. Generally, a correlation exists between Chandler period or more accurate between minimums of pole position record and tremors. Very convincing correlation is between the pole position record and transient slips detected by GPS. Objections against this claim are disproved by comparison of pole position record for given époque with tremors, considering dependence of pole tide amplitudes on latitude and performing analysis of beats created by superposition of Chandler and annual frequencies.