



## **Earth's rotation variations effect the earthquake triggering and lithospheric plates movement**

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The first group of scientists claims that the headline stated above is quite absurd because the Earth's rotation variations exert the pressure only  $\sim 1$  Pa on the lithosphere. The second group claims that the despinning of the axial Earth's rotation only influences not determines the plate motion and earthquake triggering. However the third possibility is correct. The Earth's rotation variations cause the earthquake triggering and the plate movement as many observations can prove. Comparison with neighboring planets shows that Mars has no plate movement owing to the absence of large tidal forming body and Venus has slow rotation and negligible flattening. It is not true that tidal forces acting on the Earth are insufficient. Tidal forces acting on the Earth's flattening cause sufficient northward directing torques acting on plates comparable in magnitudes with the seismic moments. The westward movement of plates is evident but its calculation is more difficult and it is necessary to suppose that both the acceleration and deceleration of the Earth's rotation cause the westward lithosphere movement. Many statistics prove the coincidence of earthquakes with semidiurnal tides as result of mid-ocean ridges formation owing to the material fatigue and by loading of waters in subduction zones. Coincidence of earthquakes with LOD variations extremes resulting in Earth moment of inertia changes owing to the tidal deformation and other coincidences with factors influencing the Earth's rotation as 8.45 years Moon perigee rotation and 18.63 years nodal variation present next proofs. The last confirmation follows from the earthquake repetitions in 19 years Metonic cycle. But claims that the plate movement is caused by the mantle convection or by inhomogeneities in the mantle or even by the Earth's expansions are easily disprovable conjectures.