



Vernal Point and Seismic Activity in Tibet Mountains and Andes Mountains

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The gravitational influence of the sun and moon on the equatorial bulges of the mantle of the rotating earth causes the precession of the earth. The retrograde motion of the vernal point through the zodiacal band is 26,000 years and passes through each constellation in an average of 2000 years (Milankovitch subcycle). The vernal point retrogrades one precessional degree approximately in 72 years (Gleissberg-cycle), and approximately enters into the Aquarius constellation (declination 11.5° S) on March 20, 1940. On earth this entry was verified through: a) stability of the magnetic equator in the south central zone of Peru and in the north zone of Bolivia (11.5° South latitude) since 1940 b) the greater intensity of equatorial electrojet (EEJ) in Peru and Bolivia since 1940. Besides, there was a long history of studies of coupling between earthquake-ionosphere. In IUGG (Italy-2007), Cusco was proposed as a prime meridian that was based on: (1) the new prime meridian (72° W $\equiv 0^{\circ}$) was parallel to the Andes and its projection the meridian (108° E $\equiv 180^{\circ}$) intersects the Tibetan plate (Asia). (2) On earth these two areas present the greatest thickness of the crust with an average depth of 70 kilometers. The aim was to synchronize the earth sciences phenomena (e.g. geology, geophysics, etc.). The coordinate system had the vernal point from meridian (72° W $\equiv 0^{\circ}$) and March 20, 1940. The retrograde movement of the vernal point was the first precessional degree ($2012 = 1940 + 72$). The west coast of South America (parallel to meridian 72° W $\equiv 0^{\circ}$) was a segment of the circum-pacific seismic belt where more than two thirds of major earthquakes in the world happened. During the first precessional degree ($1940 + 72 \equiv 2012$) seismic activity were: (a) near the new prime meridian (72° W $\equiv 0^{\circ}$) occurs in: (a1) Haiti (18.4° N, 72.5° W), January 12, 2010 with magnitude of 7.0 Mw. (a2) Chile (36.28° S, 73.23° W), February 27, 2010 with Magnitude of 8.8 Mw. (a3) Chile (35.2° S, 72.21° W), March 25, 2012 with Magnitude of 7.1 Mw. (b) Earthquakes close to the area of the opposite new prime meridian (108° E $\equiv 180^{\circ}$). Around 2012-2013: (b1) Indonesia (2.311° N, 93.063° E), April 11, 2012 with magnitude of 8.6 Mw followed by several aftershocks one of 8.2 Mw. (b2) China ($31,021^{\circ}$ N, 103.367° E), May 12, 2008 with magnitude of 7.9 Mw. (b3) China ($30,284^{\circ}$ N, 102.956° E), April 20, 2013 with Magnitude of 6.6 Mw. A Correlation between earthquakes in the area of Tibet and Andes mountains and the vernal point were found.