

The Confirmed Validity of the Explanatory Aspect of the Thermohydrogravodynamic Theory
Concerning the Evaluated Maximal Magnitude of the Strongest Earthquake of the Earth near the
Predicted Date 2021.1 AD During the Range from October 27, 2020 to May 17, 2021 AD

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Abstract

We present the confirmed theoretical possibility to explain (in the frame of the established thermohydrogravodynamic technology (Simonenko, 2020; 2021)) the maximal magnitude $M=8.1$ of the most strongest earthquakes of the Earth occurred on March 4, 2021 AD (during the considered range from October 27, 2020 to May 17, 2021 AD) near the calculated (Simonenko, 2019) date 2021.1 AD (presented on the 10th International Conference on Geology and Geophysics (Simonenko, 2020)) related with the maximal combined planetary and solar integral energy gravitational influence on the internal rigid core $\tau_{c,r}$ of the Earth.

To obtain the satisfactory explanation (in the frame of the thermohydrogravodynamic theory of the Earth subjected to the combined non-stationary cosmic integral energy gravitational influences (Simonenko, 2013; 2014; 2019) of the planets (Mercury, Venus, Mars and Jupiter) and the Sun (owing to the gravitational interaction of the Sun with Jupiter, Saturn, Uranus and Neptune) of the maximal magnitude $M=8.1$ (according to the U.S. Geological Survey) of the strongest earthquake occurred in [Kermadec Islands, New Zealand](#) on March 4, 2021 AD near the calculated (Simonenko, 2019) date 2021.1 AD (corresponding to February 7, 2021 AD), we have analyzed (in the frame of the thermohydrogravodynamic theory of the Earth) the following strongest earthquakes (of the Earth occurred near the local maximal values of the calculated combined planetary and solar integral energy gravitational influences on the internal rigid core $\tau_{c,r}$ of the Earth) occurred on (according to the U.S. Geological Survey): 1964-03-28 ($M=9.2$, Southern Alaska), March 11, 2011 ($M=9$, near the east coast of Honshu, Japan), February 27, 2010 ($M=8.8$, offshore Bio-Bio, Chile), April 11, 2012 ($M=8.6$, off the west coast of northern Sumatra), 1938-02-01 ($M=8.5$, Banda Sea), 1922-11-11 ($M=8.5$, Atacama, Chile), 2001-06-23 ($M=8.4$, near the coast of southern Peru) and additionally the strongest earthquakes (of the Earth occurred near the local maximal values of the calculated combined planetary and solar integral energy gravitational influences on the internal rigid core $\tau_{c,r}$ of the Earth) occurred from 1980 AD to 1994 AD and in 2020 AD (Simonenko, 2020) occurred (according to the U.S. Geological Survey) on 2020-28-01 ($M=7.7$, 123 km NNW of Lucea, Jamaica).

Considering and analyzing the strongest earthquakes (occurred near the local maximal combined planetary and solar integral energy gravitational influences on the internal rigid core $\tau_{c,r}$ of the Earth) on the plane $M_{up}(i, \text{loc. max.}), \Delta_{g,s,p}(i) \sin \varphi(i)$, where $M_{up}(i, \text{loc. max.})$ is the maximal magnitude of the strongest earthquake occurred near the local maximal combined planetary and solar integral energy gravitational influence (for the year i) on the internal rigid core $\tau_{c,r}$ of the Earth, $\Delta_{g,s,p}(i)$ is the established (Simonenko, 2019) calculated (for the corresponding year i of the occurred strongest earthquake) normalized dimensionless numerical function (related with the local maximal and minimal combined planetary and solar integral energy gravitational influences (for the year i) on the internal rigid core $\tau_{c,r}$ of the Earth), $\varphi(i)$ is the angle (for the strongest earthquake occurred in year i near the local maximal value of the calculated combined planetary and solar integral energy gravitational influence on the internal rigid core $\tau_{c,r}$ of the Earth) between the projection of the Earth axis (of rotation) on the ecliptic plane and the approximate line (in the ecliptic plane) Earth – Sun – Jupiter (characterized by the equal angle deviations of the Earth and Jupiter from the approximate line), we have established that the dimensionless ranges (containing the value $\Delta_{g,s,p}(2021) \sin \varphi(\text{March 4, 2021 AD}) = 4553.5262$ and the magnitude $M = 8.1$ of the most strongest earthquake occurred on March 4, 2021 AD) $4300 \leq \Delta_{g,s,p}(i) \sin \varphi(i) \leq 4600$, $8.0 \leq M_{up}(i, \text{loc. max.}) \leq 8.2$ include only one realized strongest earthquake (from the all analyzed strongest earthquakes) occurred on (according to the U.S. Geological Survey) the date 1986-05-07 (in Andreanof and Aleutian Islands, Alaska) accompanied by the corresponding magnitude $M_{up}(1986, \text{loc. max.}) = 8.0$.

Taking into account the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1986-05-07 (Andreanof and Aleutian Islands, Alaska, $M_{up}(1986, \text{loc. max.}) = 8.0$) and the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1980-07-17 ($M_{up}(1980, \text{loc. max.}) = 7.9$, Santa Cruz Islands), we have evaluated (based on the linear interpolation) the corresponding first magnitude (of the possible strong earthquake of the Earth, which can occur on March 4, 2021 AD for the corresponding value $\Delta_{g,s,p}(2021) \sin \varphi(\text{March 4, 2021 AD}) = 4553.5262$):

$$M_{up}(\text{March 4, 2021 AD, loc. max., 1}) = 8.0624.$$

Taking into account the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1988-03-06 ($M_{up}(1988, \text{loc. max.}) = 7.8$, Gulf of Alaska) and the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1982-12-19 ($M_{up}(1982, \text{loc. max.}) = 7.2$, south of Tonga), we have evaluated (based on the linear interpolation) the corresponding second magnitude (of the possible strong earthquake of the Earth, which can occur on March 4, 2021 AD for the corresponding value $\Delta_{g,s,p}(2021) \sin \varphi(\text{March 4, 2021 AD}) = 4553.5262$):

$$M_{up}(\text{March 4, 2021 AD, loc. max., 2}) = 8.09795.$$

Taking into account the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1985-03-03 ($M_{up}(1985, \text{loc. max.}) = 8.0$, offshore Valparaiso, Chile) and the strongest earthquake occurred on (according to the U.S. Geological Survey) the date 1991-06-20 ($M_{up}(1991, \text{loc. max.}) = 7.5$, Minahasa, Sulawesi, Indonesia), we have evaluated (based on the linear interpolation) the corresponding third magnitude (of the possible strong earthquake of the Earth, which can occur on March 4, 2021 AD for the corresponding value $\Delta_{g,s,p}(2021) \sin \varphi(\text{March 4, 2021 AD}) = 4553.5262$):

$$M_{\text{up}}(\text{March 4, 2021 AD, loc. max., 3}) = 8.13906.$$

The mean magnitude $M_{\text{up}}(\text{March 4, 2021 AD, loc. max.}) = 8.0998$ (of the obtained magnitudes 8.0624, 8.09795 and 8.13906) is in good agreement with the maximal magnitude $M=8.1$ (according to the U.S. Geological Survey) of the strongest earthquake of the Earth occurred on March 4, 2021 AD near the predicted (Simonenko, 2019) date 2021.1 AD (corresponding to February 7, 2021 AD) related with the maximal combined planetary and solar integral energy gravitational influence on the internal rigid core $\tau_{\text{c,r}}$ of the Earth.

This research is based on the V.I. Lenin's formula (given in his *Materialism and Empiriocriticism*): "From an abstract to the concrete, and then from the concrete to the truth" applied to the global seismic activity of the Earth considered in the frame of the Solar System.

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