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Magnetic Stress of Cosmic-Solar Radiation as the Cause of Earthquakes and Volcanic Eruptions

By

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Abstract

In the last a few decades research papers started to appear in the scientific press that clearly show correlation between cosmic-solar radiations and destructive geological events like earthquakes & volcanic eruptions. These research papers are supported by statistical evidence that go back hundreds of years. I went through some of these research papers and found an outstanding observed data that are self-explanatory, if one equipped with the correct physics. But, the researchers could not provide correct interpretation of these data. The reason is the fundamental defects in the basic laws of physics. The cause that trigger earthquakes and volcanic eruption is the external stress of cosmic-solar radiation on earth's magnetic field.

keywords: cosmic radiation, cosmic-solar radiation, jamal shrair, muons, neutron stars, solar radiation, earthquakes, volcanic eruptions

Introduction

Started in the 1967 a study published with the Earth and Planetary Science Letters found solar activity plays a significant role in the triggering of earthquakes. In 1998 a scientist from the Beijing Astronomical Observatory, Chinese Academy of Science, found a correlation between low solar activity and earthquakes. Another recent research, carried by The Space and Science Research Center in Florida, US, showed strong correlation between solar activity and the largest earthquakes and volcanic eruptions within the continental united states and other regions around the world. The study looked at the data of volcanic activity between (1650 - 2009) and seismic (earthquakes) activity between (1700 - 2009) and then the recorded data was compared with the sunspots record (solar activity). The results of this study showed very strong correlation between solar activity and the largest seismic and volcanic events, within the continental US and globally. The correlation for volcanic activity was bigger than (> 80%) and for the largest earthquakes was (100% of the top 7 most powerful) versus solar activity lows. Additionally, the research concluded the existence of a strong correlation between global volcanic activity among the largest of classes of eruptions and solar activity lows. With the 80.6% occurrence of large scale global volcanic eruptions taking place (> VEI 5) during solar activity lows and with 87.5% occurring for the very largest (> VEI 6) eruptions during major solar minimums.

The last paper that I have read about this topic is titled: Explosive Volcanic Eruptions Triggered by Cosmic Ray: Volcano as a Bubble Chamber. http://www.sciencedirect.com/science/article/pii/S1342937X10001966 The research was conducted by Japanese scientists led by Toshikazu Ebisuzaki. They studied the relationship between solar magnetic activity and 11 explosive eruptions from silicate-rich volcanoes in Japan over the past 306 years. They found that 9 of the eruptions occurred during solar minimum (inactive phase of solar activity). However, I believe the researchers are quite accurate with the assumption that the eruption of those volcanoes was triggered by cosmic radiation, but their model of how the eruption is taking place (the mechanism of eruption) - what they called bubble nucleation induced by cosmic muons - cannot possible be correct. The process that would trigger the eruption is located deep within the magma chamber, several kilometers below the surface, not 10 m within the surface of the volcano. To give credibility to their model the researchers chose mountain volcanoes. In other words, they only considered eruptions that occurred high above the sea level. Moreover, although the paper provided clear

data that showed most destructive earthquakes in the last three centuries in Japan took place during solar minimum, no physical mechanism was proposed to explain the correlation between these earthquakes-almost all of them deep earthquakes- and solar magnetic activity.

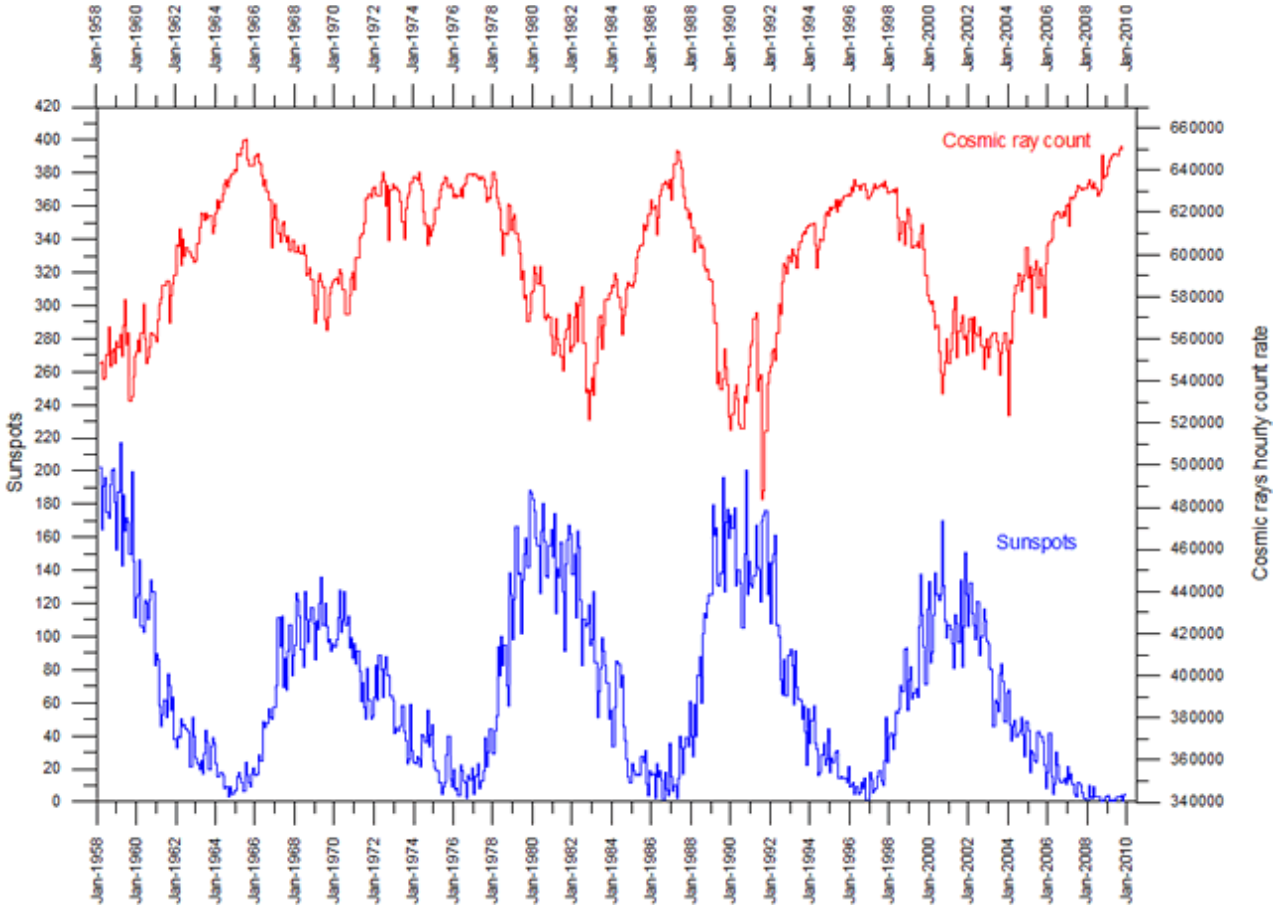
In 2008 researchers, at NASA, announced that close link between electrical disturbances on the edge of our atmosphere and impending quakes on the ground below has been found. This finding is in agreement with similar studies carried out by other space research institutes. Satellites have picked up disturbances 100 - 600 km above areas that have later been hit by earthquakes. Fluctuation in the density of electrons and other electrically-charged particles in the ionosphere has been observed, and huge signal has been detected many times before large magnitude earthquakes strike. Jann-Yeng Liu, from the center for space and remote sensing research in Chung-Li, Taiwan added support to the link between earthquake and disturbances in the ionosphere. He examined over 100 earthquakes with magnitude 5.0 and larger in and around Taiwan over several decades. Based on, the data analysis almost all the earthquakes down to a depth of about 35 Km were preceded by distinct electrical disturbances in the ionosphere.

Minoru Freund from NASA Ames Research Center, developed a theory based on the above observations. "It boils down to the idea that when rocks are compressed-as when tectonic plates shift-they act like batteries, producing electric currents". see the following paper, Air ionization at rock surfaces and pre-earthquake signals. http://www.sciencedirect.com/science/article/pii/S1364682609001837. NASA researchers assume that compressed rocks release electrical charges which travel upwards into the ionosphere. In reality, however, the opposite is true- the reverse is happening. Fluctuations of cosmic-solar radiations are charging the ionosphere. That results in anomalies of geomagnetic field which causes the generation of eddy current. The eddy current heats the rocks in the faults and consequently the shear resistant intensity and the static friction limit of the rocks would decrease. This is the main process that trigger earthquakes and volcanic eruption.

Earthquakes and Volcanic Eruption are determined by the rate of Cosmic-Solar Radiations penetrating the magnetosphere

During solar minimum high energy cosmic radiation can penetrate to a very deep distance below the Earth's surface, in some case a few hundred kilometers. This is the reason why most if not all earthquakes during solar minimum are deep earthquakes. The stress on the Magnetosphere during solar minimum is higher because the Heliosphere is weaker and more high energy charged particles can penetrate the solar system.

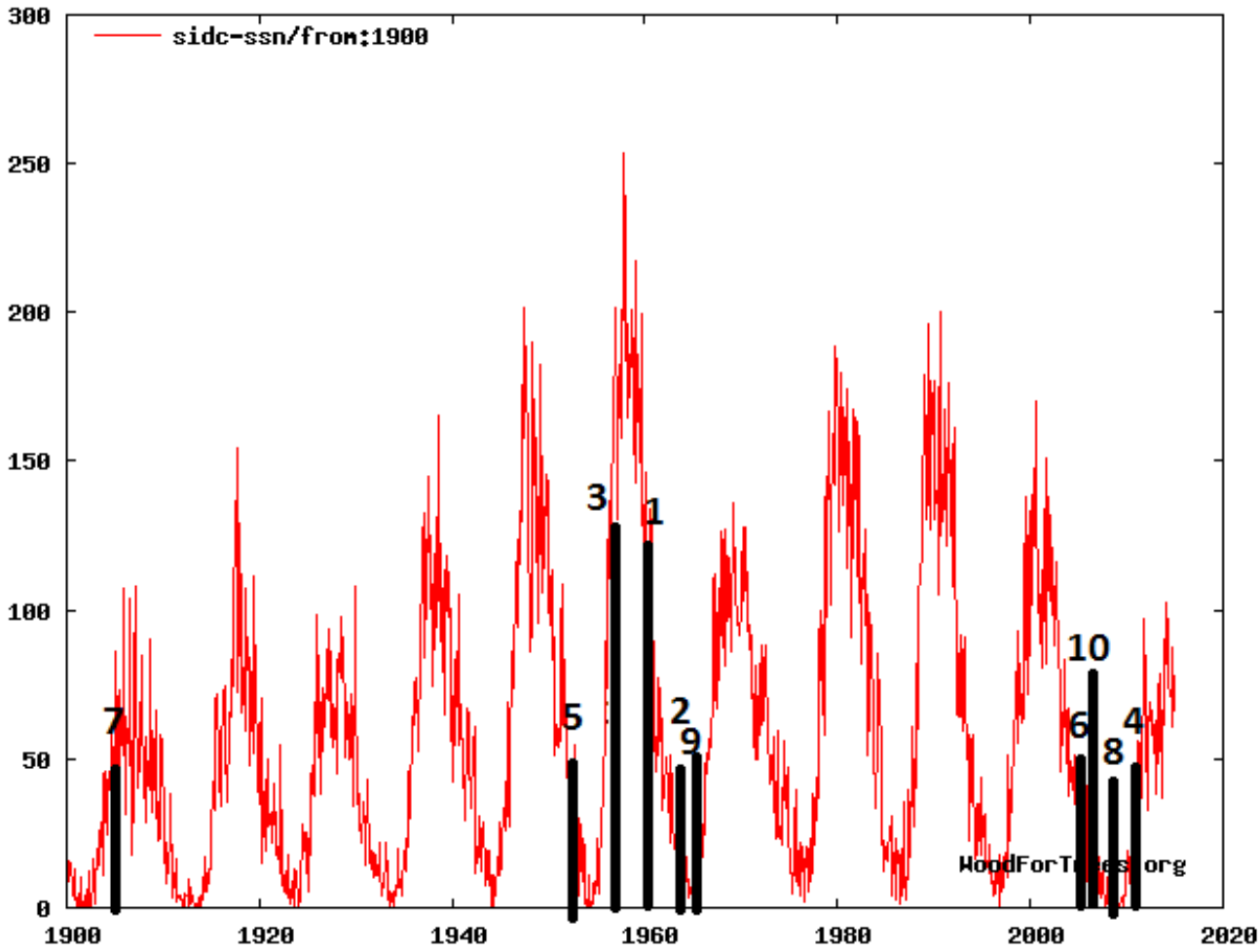
On the average, the flux of cosmic rays is 20% higher during solar minimum. But, if the Sun, is in its highest position in the galaxy-which is also the time when the Earth would be in its final phase of magnetic field reversal-then the impact of cosmic radiation on both the Heliosphere and Magnetosphere is higher even during solar maximum. At that position the Heliosphere is at its weakest state due to a very intense bombardment from high energy particles.



Variation of cosmic ray intensity and monthly sunspot activity since 1958 according to the Germany Cosmic Ray Monitor in Kiel (GCRM) and NOAA's National Geophysical Data Center (NGDC), respectively.

The relationship between the lowest-highest solar cycles and earthquake-volcanic eruption, is supported by an overwhelming evidence. Statistical data show strong correlation between major volcanic activity (based on cubic kilometers of ejected matter), major earthquakes of 8.0 magnitude or more (on Richter scale) and strong solar minimum (grand minimums). The ten largest earthquakes since 1900 took place at solar minimum. The plot below shows the biggest quakes against sunspot number.

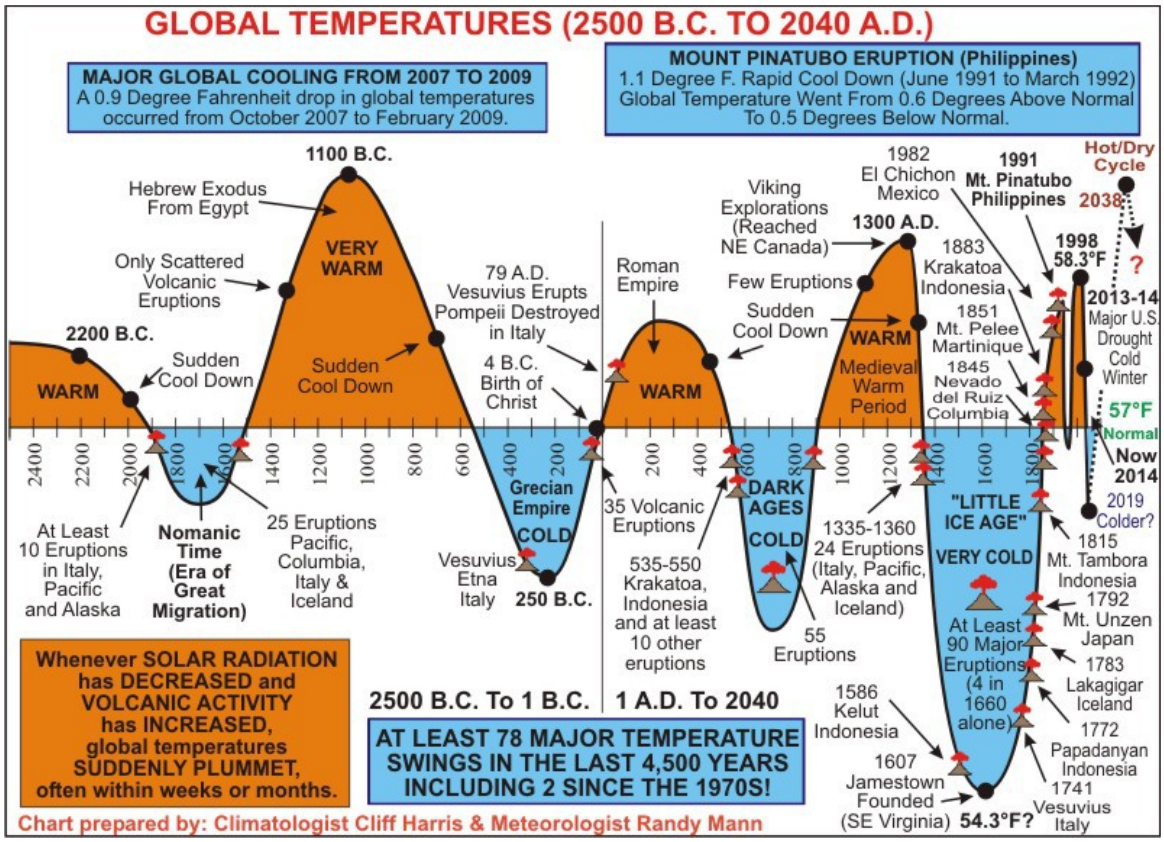
	Location	Date	Magnitude[2]
1.	Chile	May 22, 1960	9.5
2.	Prince William Sound, Alaska	March 28, 1964[3]	9.2
3.	Andreanof Islands, Aleutian Islands	March 9, 1957	9.1
4.	Japan	March 11, 2011	9.0
5.	Kamchatka	Nov. 4, 1952	9.0
6.	Off western coast of Sumatra, Indonesia	Dec. 26, 2004	9.0
7.	Off the coast of Ecuador	Jan. 31, 1906	8.8
8.	Offshore Maule, Chile	Feb. 27, 2010	8.8
9.	Rat Islands, Aleutian Islands	Feb. 4, 1965	8.7
10.	Northern Sumatra, Indonesia	March 28, 2005	8.7

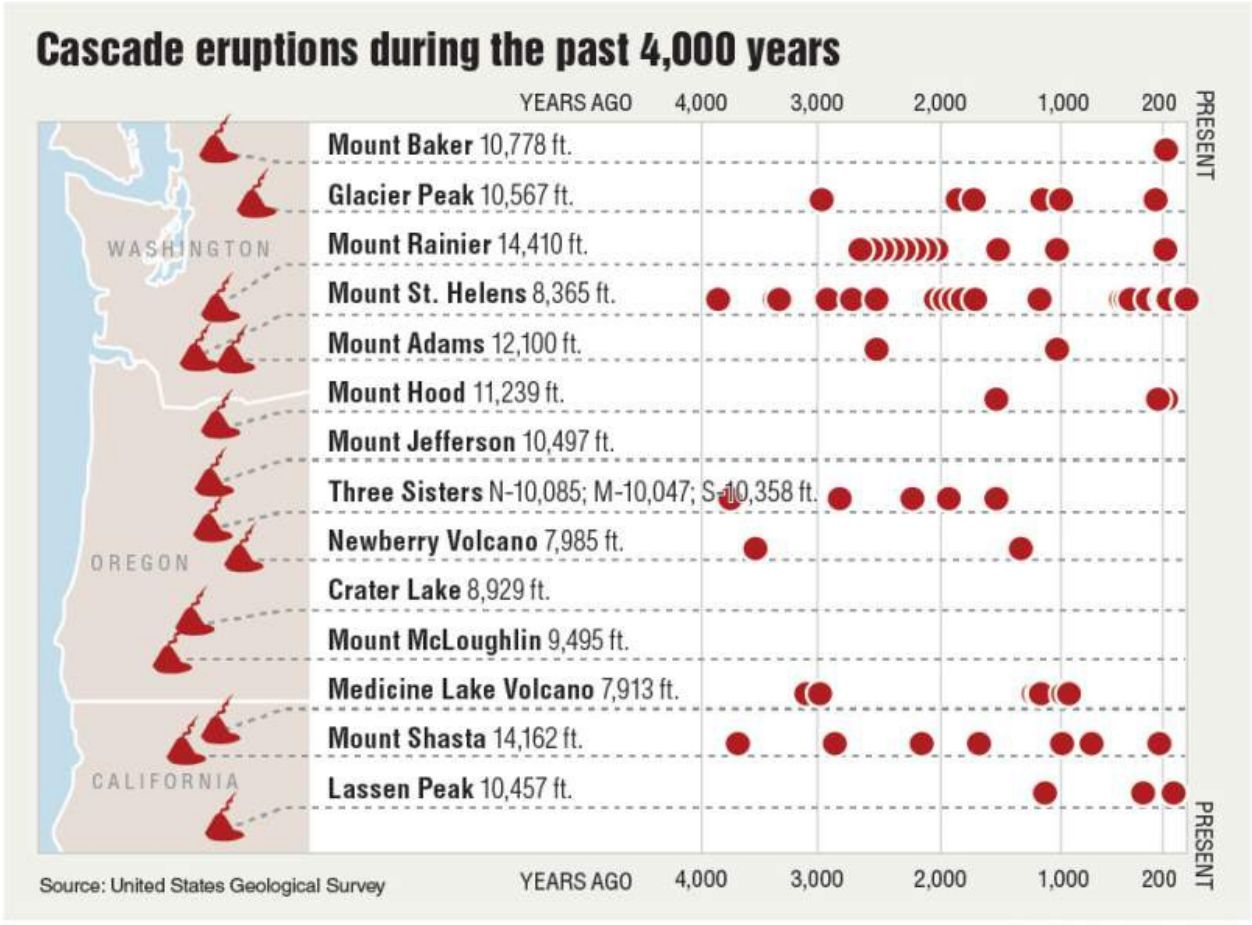


In the last two and half centuries the following major volcanic eruptions occurred during strong solar minimum (Grand minimums), Grimvotn (Iceland) 1783/84 (14 km^3), Tambora (Indonesia) 1810 (150 km^3), Krakatoa 1883 (5.0 km^3), Santa Maria (Guatemala) 1902 (4.8 km^3), Novarupta (Alaska) 1912 (3.4 km^3). The only major eruption to occur during a solar maximum was Pinatabo (Philippines) 1991 (between 6 and 16 km^3).

Furthermore, statistical data that go back 4500 years also show that major volcanic eruptions took place during cold eras and so-called little ice age.

According to climatologist Cliff Harris and meteorologist Randy fully half of all volcanoes in the Cascade Range had erupted around the same time, during low sunspot activity. Look to the charters below.





Andy Zeigert / The Bulletin

Earthquake light

Earthquake light has been observed since the ancient times. It is unusual luminous aerial phenomenon that appears in the sky at or near areas of tectonic stress, seismic activity, or volcanic eruptions. In the last a few years seismologists started to take the earthquake light seriously and consider it worth scientific research. Some theories have been proposed, but they do not provide an explanation of the real cause of this phenomenon. This observed phenomenon is yet another evidence that shows earthquakes and volcanic eruption happen as a result of stress induced on Earth's magnetic field which begins at the ionosphere. Therefore, the development of a detecting system to observe the electromagnetic disturbances at the ionosphere can be established with satellite network system. An early warning system is extremely crucial requirement for the prediction of earthquakes and volcanic eruptions.

Concluding Remarks

It is high time to understand that our planet is permanently linked to the cosmos. All interactions and energetic events on cosmological scales affect or impact our planet in one way or another. Energetic events that take place within our galaxy can influence the solar system within a very short period of time. The physics of isolationism and self sufficient, which is based partially on the misunderstanding of the force of gravity, and partially on the discrete notion of the probability theory of quantum mechanics, in addition to the theories of relativity (special&general) are the most serious obstacles that do not allow us to understand our unified Universe. The Universe exists as a coherent entity. It is absolutely unified by the magnetic force, which is permanently present in the building blocks of matter. For this reason, we are not isolated from events that take place on any scale. But, of course the impact of the energetic events are determined by the distance and the intensity of those events. A strong blast of a supernova or Gamma Ray Burst from the dense regions of our galaxy can shake the entire solar system. And the impact of such energetic explosions would be felt instantly since magnetic fields are continuous. The notion of limited speed of propagation of an energetic event, dictated by the so-called speed of light had and continues to have a devastating consequences on the development of physics. In the last few decades, we have observed so many cosmological phenomena that clearly showed the flaws of this theoretical concept. But, in spite of these observations that are increasing with every new generations of space telescopes and other detecting and observing instruments, both on land and in space physicists refuse to even question the notion of limited speed of light. In fact, the opposite is taking place, these observations are enforced into this theoretical concept, by inventing new theoretical assumptions, like the invention of an imaginary particle, new exotic matter or mystery substance that cannot be detected or observed.

Without revising the force of gravity and accepting it as an attractive weak magnetic force that operates between adjacent magnetic fields when the difference in strengths between them is big (or rather not zero) and without discarding the metaphysics and pseudo physics theories of the 20th century, real progress is impossible. In addition to the distortion of the physical reality of the Universe, the theoretical physics of the 20th century did not have any practical benefits to mankind. There are so many claims of course that GPS works on the principle of special relativity and the transistor is the result of Quantum Mechanics (QM), and quantum computer (QC) would be built etc. In reality, however, these claims are scientifically groundless. On the other hand, if we can one day go back to the drawing board and revise the

force of gravity and discard the myths of the 20th century physics, then surely we can produce the most ideal energy source and be able to manufacture technologies that will allow us to explore the Universe in ways beyond the imagination of science fiction writers.