

Earth Expansion by Neutrino-Power

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Abstract

The paper contents an approach in the field of basic physics research of the expanding earth and the principle of operation of the growing Earth's core, based on the model for interaction and absorption of neutrino radiation. This has been measured at the Neutrino detector Kamiokande from the difference between day and nighttime. There are numerous indications of the growth of the earth for years. In geography montane formations suggest it. In geology, they ask for the origin of forces that let the mountains grow and that put whole tectonic plates in motion. This paper is about the physical process that makes the earth growing.

Keywords: Earth size; Neutrino; Earth rotation; Core of the Earth

Introduction: The pioneer Hilgenberg

Hilgenberg has suggested physical relationships [1] in his paper: "From the growing globe" (1933): if the earth is blown up like a ball, then the crust will burst and magma will ooze out at the interfaces, as it is the case at the Mid-Atlantic Ridge [2]. But the increase of the radius also causes the problem that the curvature circle is too tight, so that compressive forces lead to cracks and rift valleys (Figure 1). Thrust forces within the continental plates cause distortions. Hilgenberg takes credit for probably as the first having demonstrated relations with geo-graphical and geological formations on Earth. At the most, still controversial are his efforts to find a physical interpretation of the origin by means of an ether model.

According to his ether current hypothesis, mass consists of swallowed ether, atoms are ether sinks in his opinion, and the gravity is interpreted as ether electricity at a certain speed [1]. Although this conception may seem unphysical, the method is still common practice in Science, to work with postulated auxiliary models, as long as the textbooks have no answer that is more fitting. Today, there is indeed measurable evidence of the Earth expansion based on NASA data [3] as well as cosmological and geochemical models of the expansion of the Earth without an increasing of its mass [4]. But we are still no step

closer in the question of a possible and much more likely cause of the expansion of the Earth through mass increase as Hilgenberg 70 years ago, which has already tried for a cosmological and geophysical model description (Figure 2).

Another question is whether the ether is suitable as an auxiliary model, after all it was already known at Hilgenberg's time that the ether proof was negative by the experiments of Michelson and Morley, whereupon the ether hypothesis had been dropped in physics. Agreement had been reached with regard to the special theory of relativity by Einstein that there is no ether. In my opinion, the ether discussion is unhelpful for explaining Earth expansion today as well.

Earth expansion due to Neutrino Radiation?

We have to look for cosmic particles supporting energy that radiate

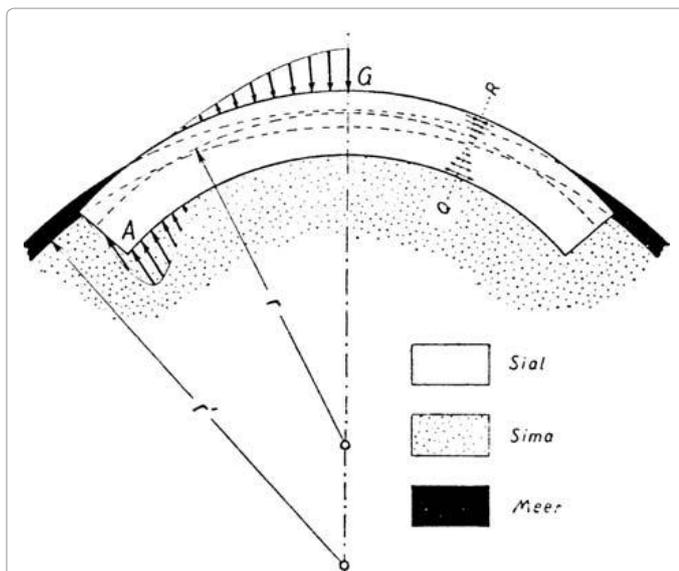


Figure 1: Hilgenberg explains the consequences of a change of the radius of the earth [1].

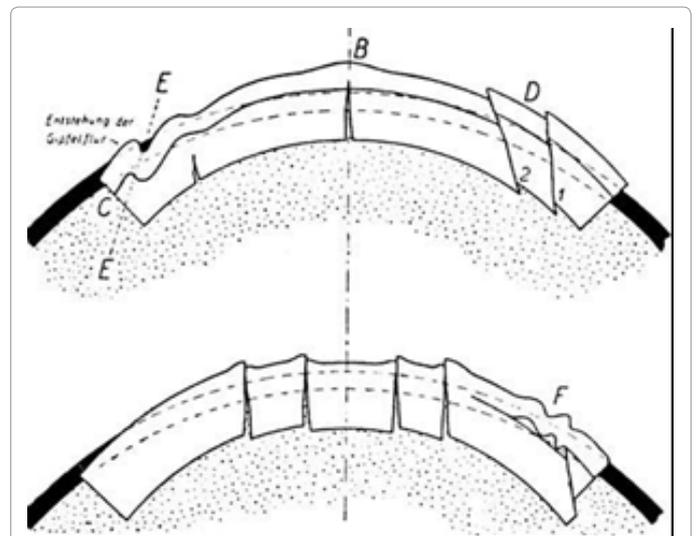


Figure 2: Hilgenberg explains the origin of montan formation [1].

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into the earth and are absorbed there. As, according to the Einstein relation, energy can be converted in mass, the mass introduced this way let the earth grow. In physics, such particles are actually known under the designation "neutrino".

Pauli has introduced the neutrino after he had noticed that balance of energy and impulse during beta decay is not fulfilled. He has solved the problem by postulating that an energy carrying particle is involved in the radioactive decay of a neutron into a proton and electron, which he has called Neutrino. As these particles - apart from the weak interaction - otherwise do not interact and thus escape detection, they would therefore also have no mass and no charge.

How can one imagine a particle consistent with the physical principles, which nevertheless has no mass and no charge but has energy and momentum? From representatives of theoretical physics you get the answer then: "The neutrino does not exist. It's just a convenient working hypothesis". In 2002, the Nobel Prize in Physics came, among others, to two neutrino physicists, so the existence of neutrinos is physically proven. But how these particles produce energy and momentum without mass and charge continues to be very mysterious.

The first problem: Energy without charge and mass?

For this mystery, I offer the following model conception: We imagine the neutrino as an oscillating particle changing from the state of an electron to a positron and back again. One time it is negative, then positive charged, so that, in average over time, the charge is zero. Once it is matter and then antimatter, so that the mass in the middle is zero [5,2]. In this model conception the mean values are although zero, but not the effective value, comparable to the 50 Hz AC network, when the current and voltage at a DC measurement shows zero and nevertheless energy is transferred. Therefore we use another instrument; we measure AC and determine the effective values.

Devices for RMS measurement with which neutrinos would be proofed immediately, yet do not exist unfortunately. But this shortage does not justify the assumption that neutrinos do not exist, just because we cannot measure it yet. Having the neutrino radiation - according to this model we have a source of energy available anytime and anywhere. Is the Earth using this energy? Is this why it is hot deep inside the earth?

The second problem: The mass of the neutrino

Reports are published, that it had been proven at the large neutrino detectors that a neutrino possesses an indeed vanishingly small, but measurable mass. Judging from the Einstein's theory of relativity, the neutrino has consequently a propagation speed just below that of light. The black holes generally apply as neutrino sources, especially in the center of a galaxy. But that requires that neutrinos must be faster than light, otherwise they could not escape the black hole. Light is captured and forced into a circular orbit, which makes this spot in the sky appear black. The idea of an energy transfer by cosmic particles faster than light goes back to measurements of Nikola Tesla [6].

Possibly the measuring device causes a measurement effect, which is called residual mass. The neutrino detection takes place in the Kamiokande-detector in a huge underground water tank. If the neutrino constantly oscillates between plus and minus according to my model conception, so it will stimulate the water molecules to synchronous oscillations upon arrival in the tank. If the neutrino takes the state of e^- , and then the surrounding water molecules rotate so that their positive dipole charge shows in this direction. But if it's changing from e^- to e^+ the next moment, then all water dipoles must rotate 180° .

The neutrino is thus slowed down in the water tank, by releasing energy to the water molecules. Only after some superluminal particles are slowed down in the water tank to values below the speed of light, they can be measured. This process of materialization, which will be described in more detail, in which the neutrino acquires a mass, is also used in other detectors, such as e.g., in Lake Baikal. The proven residual mass would therefore be a consequence of the measuring method. The assumption, when running into the water tank, the neutrino would have already possessed this residual mass is justified by nothing.

The Third problem: The different amount

At the Kamiokande detector in Japan significantly less neutrino have been measured than expected. In publications is the talk of 3 billion/s-cm² neutrinos. At the Gallex experiment in Italy, this figure was 66 billion/s-cm². What does this large discrepancy mean? The measurement methods are different. While counting the Kamiokande flashes of light in the water tank, the resulting in huge, filled with gallium chloride liquid tanks radioactive germanium isotopes are collected and analyzed at Gallex experiment. According to my model conception, if a between the states of e^- and e^+ oscillating neutrino is slowed down, it will materialize in one of the two states. But the tank contents consist of matter and not of antimatter, so the probability of neutrino materialization in an electron e^- is significantly greater than in a positron e^+ . Whereas at the Gallex-experiment the electron effect is measured, at the Kamiokande the dematerialize of positrons is detected, in the ratio of 66 to 3; (3 are about 4% of 66). We have to assume that in our neutrino detectors about 96% materialize to electrons and 4% to positrons. It would be a charming idea to transfer this result to solar activity. Then 4% of the incoming neutrino radiation would let the sun shine, while 96% makes it grow. This expansion might cause developing into a red giant. Of course, in the water tank of the Kamiokande also occur electrons, only those are not measured. The electrons split in the same way as the electrical current during the electrolysis of water molecules into hydrogen and oxygen. As this is the effect of the neutrino radiation, we like to talk of Neutrinolysis in the laboratory. It might be expected that this is a natural process in the world's oceans that e.g., the oxygen in the deep sea is a consequence of Neutrinolysis. Considering geological history it seems likely that the oxygen in the atmosphere is created by Neutrinolysis and not by photosynthesis, which is believed today. Even the splitting of water during photosynthesis might have something to do with Neutrinolysis and there are numerous other examples. In addition, an energy-related use is conceivable.

The fourth problem: The missing neutrinos

An already in the thirties published experimental finding [7] has currently experienced a confirmation at the Kamiokande detector and represents a new puzzle in physics. There were only half as many solar neutrinos detected at night as during the day. Where have they gone? Currently some speculations keep up that the solar neutrinos convert on their way through the earth's core such a way that they can no longer be detected. But why the water tank slows down and detects only a specific type of neutrinos and how the conversion process takes place in the Earth's core, remains unexplained. If only half as many flashes of light are measured at night, then the obvious answer is: The other half is absorbed by the Earth's core. For this solution of the problem even confirmations exist: On the one hand the Earth's mantle is hot as a result of continuous energy irradiation and induced chemical processes, and on the other hand it comes to the Earth expansion. The neutrinos materialized in the Earth's core let the earth grow.

The fifth problem: The lack of interaction Until now

The neutrinos pass through the Earth almost undamped as a result of their enormous penetrating power and minimal interaction with matter [8]. Their weak interaction has a range of only 10^{-13} cm. The experiments at the Kamiokande show something completely different. Which interpretation you may follow, if neutrinos are absorbed in the Earth's core, or if they are changed, in both cases occur an interaction that exceeds the weak interaction by many decimal powers. According to my model conception of an oscillating charge, it is about the resonant case of the electromagnetic interaction, which will take effect under the condition that the source and sink with the same frequency but in opposite phase to each other oscillate, thus they are resonating. For example, if the neutrino source and a sent neutrino are positively charged in a certain moment, then they will repel each other, while the neutrino is drawn to the negatively charged receiver, for example, a particular region in the Earth's core. If all of the three, the neutrino, its source and sink are oscillating at the same time, then this "resonant interaction" takes place entirely. Whereas off-resonance, the effect is almost zero and only in the near range of the neutrino still remarkable as "weak interaction". The range is comparable to the electromagnetic interaction and thus considerably greater than that of gravitation. As for example, the detectable gravitational effect of our sun reaches up to the edge of the solar system, so goes the resonant interaction from the center of a galaxy up to its edge. The edge is characterized by the fact that there still stars are shining which are supplied with neutrino energy coming from the center of the galaxy, usually a black hole. The stars of a galaxy hang therefore on invisible "neutrino strings" that could be equated with the superstrings. This would explain why the outer stars of a like solid rotating galaxy orbit are much faster than inner stars. This fact contradicts Kepler's laws that require the opposite. But Kepler's laws are indeed based on Newtonian mechanics and that again on the gravity and not on the electromagnetic interaction. The Neutrinos mediated in case of resonance are invisible on the one hand, on the other hand they have an oscillating mass and a charge with an effective value not zero which is yet not measurable unfortunately because of a lack of suitable instruments. So it is obvious that the neutrinos are the searched "dark matter".

The cosmic cycle

Summarizing the results, the earth and the sun, the planets and all the stars grow by neutrino absorption. We are participants in a cosmic cycle. Stars falling into a black hole in the center of the galaxy are accelerated to the speed of light. They dissolve into their constituent parts that fling out dematerialized in the form of neutrino radiation into space and serve the celestial bodies of the galaxy as a food. Most of it let the stars grow, a small part of it lights them up and the rest exit the star again as slowed down, weak neutrino radiation. At the sun the soft radiation given away again is called the solar neutrino radiation, in the case of the Earth it is usually called earth radiation [9]. Through the neutrino interaction also suns or planets are interrelated to each other [2]. With regard to the expansion of the Earth, the neutrino radiation is the most obvious matter supplier, so the neutrino absorption which is proven and measurable, is a conclusive evidence. The model conception of neutrino as a particle faster than light with oscillating charge and mass proves seems to be especially efficient (Figure 3). This allows answering all of the questions that had been raised in the modern neutrino research, completely and conclusively. Next, it is about the search for a suitable expansion model for physical explanation and interpretation of the processes in the Earth's interior. At the beginning, again a physical examination is provided.

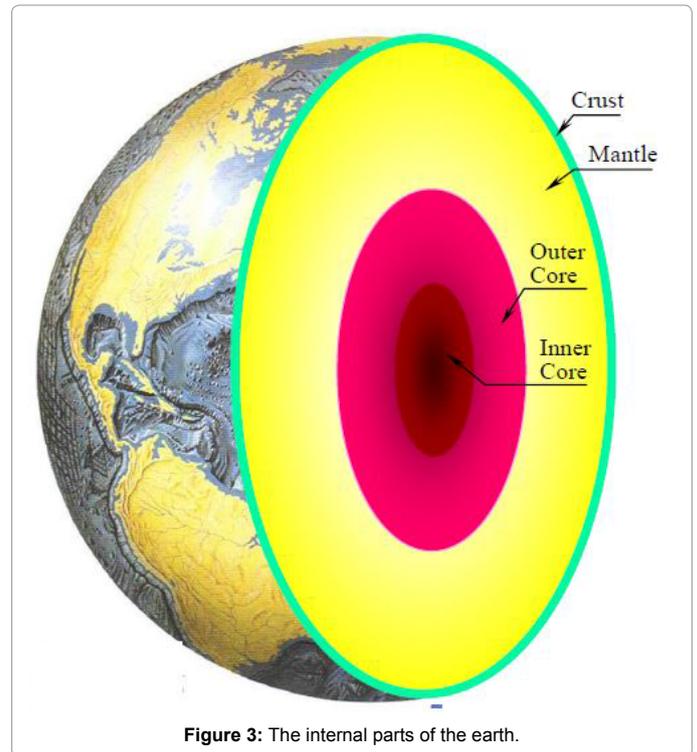


Figure 3: The internal parts of the earth.

Decrease of the Rotation of the Earth

The balance of angular momentum requires that a growing Earth rotates more and more slowly. Every ice skater shows us the effect. In a pirouette, it increases the rotation by putting the arms at the body. By inversely spreading her arms, it slows down the rotation. The conservation of angular momentum, to which also the rotation of the earth is subject, has the result that a decrease in the rotation of the earth has evidential value with regard to an increase in the Earth's diameter and the circumference of the earth. Let's gather several articles on this topic: Bild der Wissenschaft headlines [10]: "A day on the primordial Earth lasted 5 h". That was perhaps 4.5 billion years ago. According to a report in Science one day was just 18 hours about 900 million years ago [11]. With the atomic clocks, we now have highly accurate measuring instruments, with which the slowing down of the rotation of the earth can be measured directly. This is obviously subject to fluctuations, so that, at irregular intervals, all clocks are put back a leap second respectively at New Year, which is popularly known as so called "Cheat second" because of the physical impossibility. According to a short report, a day is extended about 1/500 sec, which corresponds to 0.73s/year [12]. A more reliable data delivers the Physikalisch-Technische Bundesanstalt in Braunschweig, Germany, on its website [13]: "Since 01.01.1958, there had accumulated a time difference of 32 seconds to today. The clock designated as TAI (Temps Atomique International = international Atomic clock) is compared to the clock UTC (Universal Time Coordinated) by 32 seconds in advance". The later clock is based on the actual rotation of the earth. Averaged over 45 years we are dealing with 0.71s/year. Already in ancient times, it was measured very precisely apparently. From the Greek astronomer Aristarchus of Samos is narrated that he determined the length of the year to 365.25062 days in Alexandria 2300 years ago. The representation of the residual value as a fraction results in an error of assumption $(62 \pm 1)/10^5$, which corresponds to an uncertainty in the 5th decimal place. Compared with today's value of 365.25637 days, the extension would be 497 seconds in

2300 years and 0.22 s/a. The comparison with the current value of 0.71 s/a leads to the conclusion that the Earth is currently growing faster than on average over time of the last 2300 years. Fluctuations in the neutrino radiation could possibly be a potential cause.

A wrong approach: the mass of Earth would be constant

Let's calculate with the actual measured change of 0.71 s/a. The conservation of angular momentum requires

$$J \cdot \omega = (2/5) \cdot MR^2 \cdot (2\pi/t) = \text{constant.} \quad (1)$$

$$\text{The constant relation } R^n/t = (R+\Delta R)^n/(t+\Delta t) \quad (2)$$

$$\text{Gives } \Delta R = R[(1+\Delta t/t)^{1/n} - 1] \quad (3)$$

In this way it is possible to convert the slowing down of the rotation of the earth Δt in a radius growth ΔR respectively in an increase of the volume around the equator $\Delta R \cdot 2\pi$ and to compare it with observations.

Some researchers assume that the mass of earth M remains constant and the expansion of the Earth is done solely at the expense of density. In this case (for $n = 2$), density and gravity would continuously decrease. This assumption had so far no confirmation:

- On the one hand, the gravity of the earth couldn't have been much more a long time ago. It must have been, quite the opposite, much smaller than today. For instance, a dinosaurs living 160-60 million years ago with a net weight of more than 60 (to 100) tons could not bear his weight. His bones would be too weak.
- On the other hand, the calculation of the angular momentum conservation provides without changing the mass of earth (for $M = \text{const.}$ and $n = 2$), an annual increase of the equatorial circumference of 45 cm. This is clearly too much. According to the knowledge of the present-day, continental plates drift with relative speeds between 1 and 12 cm per year [15]. Across the Atlantic 5-10 cm/a are determined. This is likely to correspond approximately the growth of the Earth's diameter. Perrin I confirmed that by his analysis of NASA data on global Hemispheric rings [3]: he gets to a diameter growth of $2\Delta R = 7.79$ respectively 7.94 cm/a.

In relation to the equator the current measurements correspond to a circumference growth of $\Delta R \cdot 2\pi = 24.5$ respectively 24.09 cm/a. But the constructed value of 45 cm exceeds the maximum anticipated value of 25 cm about nearly twice. This idea of a growing earth whose density decreases continuously and their mass remains unchanged turns out to be false.

The approach confirmed by measurements: The density is constant

Next, we calculate the obvious alternative that the density ρ of the Earth does not change. In this case, with the radius R

$$\text{the volume of the Earth grows } V = (4/3)\pi R^3 \quad (4)$$

and with the Volume again the mass grows $M = \rho \cdot V$.

The calculation for the conservation of angular momentum (with $n = 5$) gives an annual increase in the earth's circumference from 18 to 19 cm at the equator (at 0.71 to 0.73 s/a). This result rather applies, confirming the correctness of this approach.

For an expansion of the earth of 18 cm, however the earth must collect matter in the amount of 8×10^{16} kg respectively 72×10^{32} Nm energy per year. Cosmic dust or tidal friction by the moon drop out completely as explanatory models for the continental drift and the

cheating second, like it is shown by the calculation. Entirely different orders of magnitude are collected here. The neutrino radiation, which remains based on the measured day-night variation in the Earth's core, is a possible candidate. This now raises the question of the mechanism of interaction and absorption of neutrino radiation in the Earth's core.

The Internal Structure of the Earth

How is the Earth's interior structured? For example, how much weighs a sample mass in the center of the Earth? The last question is answered quickly by a simple consideration: Nothing! In the center of the Earth, there is weightlessness, just like in space. In the center, we are attracted from all directions with the identical force, adding up all the forces to zero. Has no force longer an impact on a body, so it is in a state of weightlessness.

And how does a mixture of different substances in all four states of aggregation arrange themselves? At school, the evidence will be demonstrated in a test tube. We might as well watch the stratification on our planet. Above the crust of the earth consisting of solid matter, the fluids, the water, accumulate in the ocean basins. About them the gas arranges itself in the atmosphere. In the ionosphere, most materials exist in ionized form and form a kind of plasma. Still further out we get into space, where the known weightlessness exist, just like in the center of the Earth. Only the order is reversed toward the center of the earth.

We have to regard the earth as a kind of sphere vortex, which is held together from the outside by a contracting potential vortex and which an expanding vortex counter-acts from the inside again. Which model conception should whatever is used, we must necessarily act on the assumption of an corresponding stratification in the interior of the earth. Inside the quite thin crust is the mantle, which is relatively hot and fluid, like the by volcanoes ejected Magma shows us significantly. Still no one can push forward deeper with instruments. It has to be expected that there is also analogous to the known material states lithosphere-hydrosphere-atmosphere the outer core of gas and the inner of plasma, because only then the weightlessness in the center is plausible [16].

A plasma- or iron core?

This, however, contradicts the view of an iron core. Is the gas in a metallic state? Certainly the gas in the Earth's core is under an extremely high pressure. If thereby the electrons fall from the shell of individual gas atoms in the atomic nucleus, the atoms will collapse into neutrons.

The neutrons are requiring only little space compared to the gas atoms and they allow a high packing density with high specific weight. However, they are also subject to the beta decay, the decay into protons and electrons, which in turn form hydrogen gas. At this process neutrinos are involved, where their inclusion has to be equated with the delivery of antineutrinos. The decay equation is:



At this point, there is in fact absorption of neutrinos, an irradiation of neutrino energy in the inner core.

The equilibrium state

The wide space requirement by the resulting hydrogen gas leads to the high pressure, which makes the atoms collapse to neutrons. However, not all implode at the same time because an equilibrium state is reached, as after each implosion the overpressure suddenly disappears.

The vortex physics even allows an exact calculation of the

equilibrium state when both the neutron and the hydrogen atom are regarded as a vortex [5]. Namely, if a vortex changes its diameter, then both energy and momentum must be balanced. But that only works if the expanding vortex radiates its energy surplus e.g. in the form of heat. In the opposite case a contracting vortex produces cold, as a result of a calculable energy deficit [2]. In the case of the Earth's core only as many gas atoms can collapse even under an even so high pressure until all the available heat energy is consumed and the absolute zero of -273°C is reached. Now the next gas atom can implode only when a captured neutrino makes free neutron decay and the required amount of radiation is released. This also occurs during the beta decay appearing radioactive radiation.

Thus, the vortex physics requires that an equilibrium state occurs only when the inner core is cooled down to zero Kelvin. This idea needs getting used to but it delivers as a result of the so expected superconductivity in the core of the Earth a new and compelling explanation for the potential geomagnetism [2].

Discussion

The question of the iron core has a plausible answer: The combination of neutron star of extreme density and gas of minimum density is currently taking the Earth's core to a state of equilibrium, which corresponds to the specific weight of iron. The oscillation between the states is static when no neutrino radiation is present. However, because neutrino radiation from the black hole at the center of the Milky Way reaches the sun constantly, the oscillation does not come to a standstill and so the associated absorption of neutrino energy and the growth of the Earth. But they can have a significant temporary increase through the radiation from supernova explosions in closer proximity. Then this results in variations of the Earth expansion.

To summarize: In the inner core, connected to the beta decay, especially the absorption of energy from the cosmic neutrino field and the materialization of elementary particles take place. In the outer core the most diverse gases arise, which are subject to the influence of extreme pressure and so to a constant change.

Random products and chemical reactions give rise to liquid matter that is pressed as a result of centrifugal forces in the Earth's mantle

and there it is stirred slowly as a chewy hot mass. Liquid emergence products are for example Juvenile water that feeds the ocean from the interior of the earth ($1 \text{ km}^3/\text{a}$), or mineral oil, that can fill up the empty pumped oil fields over the time or even completely unexpected occur in granites [17,18]. When such phenomena are observed and reported that surprise only professionals who work with unsuitable model concepts [19].

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