A Method for Creating a Clean Energy Source Using Solar Wind and Earth's Magnetic Field

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Abstract

A previously unknown phenomenon of formation of ecologically clean energy sources has been theoretically established. A huge magnetic field arises inside the Sun, creating forces for holding and compressing the plasma volume, accompanied by a loss of stability. As a result, conditions arise on the surface of the Sun that lead to the ejection of a huge prominence plasmoid, which begins to move away from the Sun at a tremendous speed. The solar wind that arises at this time, reaching the Earth's ionosphere, creates a strong magnetic field that allows you to get electricity. This electricity can be used to obtain pure hydrogen by electrolysis of water. This is an effective technology and one of the promising ways to obtain alternative fuel. The method of obtaining hydrogen using high-temperature water electrolysis has a number of advantages. Firstly, available raw materials are used - demineralized water and electricity. As a result of water electrolysis, not only hydrogen is formed, but also pure oxygen, which can be used to improve the environment.

Relevance of the problem

One of the most important problems facing humanity is the reduction of harmful emissions arising from the use of hydrocarbons (oil and gas) and

coal for energy production. Currently, due to the growth of the Earth's population and the increase in energy consumed for the development of industry and transport, there is a noticeable change in the Earth's climate. This is due to the release of a huge amount of carbon dioxide, which in turn disrupts heat exchange in the Earth-atmosphere system, leading to climate change and environmental pollution.

If this process is not stopped, it can lead to the destruction of the Earth's habitat and the death of civilization.

In this regard, the scientific and technical direction of creating clean energy sources that could prevent this catastrophe is currently developing.

There are several known approaches to solving this problem. This is the use of hydropower, solar panels, wind and wave energy. The proposed invention considers a method using the energy of the Earth's Magnetic Field, which is one of the cleanest and cheapest sources of energy.

Theoretical foundations of the method

Back in the early 20th century, Tesla pointed out the possibility of using the Earth's magnetic field to obtain a clean energy source. According to the laws of electrodynamics, this requires a conductor circuit and a change in the magnetic field.

Theoretically, several designs of such sources have been developed at present, but their practical use cannot yet be implemented due to the fact that magnetic fields have a small value near the Earth's surface, even if we try to use them near the poles, where they are maximum.

There have been attempts to create such sources in the Arctic regions and near the South Pole. The basis of this approach is the fact that near the poles

the strength of magnetic fields is maximum (the lines of force converge to the poles) and during magnetic storms the Earth's magnetic fields change and are the source of the Northern Lights, which are actually currents in the ionosphere!

Solar wind

1) Indeed, first we will prove the role of the solar wind, which occurs due to the periodic occurrence of pertoburans on the surface of the Sun. Solar prominences are charged plasma fields periodically occurring on the surface of the Sun, overcoming the gravitational and Coulomb attraction of the Sun, breaking out from the surface of the Sun. Moreover, part of the prominence matter returns back to the Sun, and part, in the form of the solar wind, flies apart in different directions.

As is known, the Sun contains hydrogen isotopes deuterium and tritium, from which a thermonuclear reaction occurs when the temperature reaches several million degrees and pressures reaching thousands of atmospheres. In addition, the Sun contains Helium atoms, which are obtained as a result of a thermonuclear reaction.

As a result of huge currents inside the Sun, a huge magnetic field arises, creating forces that hold and compress the volume of plasma in the Sun. Sometimes this system loses stability and conditions arise on the surface of the Sun that lead to the ejection of a huge prominence plasmoid, which begins to move away from the Sun at an enormous speed. In this case, two forces act on the electrons and protons contained in the plasmoid: the Coulomb force and the force of gravity. In this case, the forces of gravity act, trying to return the particles back to the Sun. However, given that protons are 2000 times heavier than electrons, and the Coulomb forces are

approximately the same, protons under the action of gravity return to the Sun more actively than electrons.

Inversions

2) Part of this wind reaches the Earth and charges the capacitor the Earth's surface - the Ionosphere with a negative charge. Note that the proposed theory of the cause of the Earth's magnetic fields allows us to easily explain not only the origin of the Earth's and Planets' magnetic fields, but also the Inversion of their Magnetic Fields, which occurs every few hundred thousand years stochastically. Based on the position that the Sun was initially neutrally charged and emits a solar wind that currently carries a negative charge, due to the change in the Sun's charge to an increasing positive charge, which occurs as it increases due to the loss of the negative charge carried away by the solar wind over millennia, the Sun begins to charge with an increasing positive charge. This increases the Coulomb repulsion force of protons and increases the Coulomb attraction force of electrons and, starting from a certain point, causes the solar wind to charge with a positive charge and emit a positively charged solar wind! After a certain period of time, due to the decrease in the positive charge of the Sun due to its being carried away by the solar wind, the sign of the solar wind charge changes to negative. This periodic process is repeated and leads to the recharging of the planets' ionospheres and to the occurrence of inversions of their magnetic fields! Such inversions occur and, as the analysis of the charge sign of the layers of sandstone deposits of the Earth shows, to the occurrence of inversions of the Earth's magnetic field, which occur periodically every few hundred thousand years.

Let us dwell on the disadvantages of traditionally used energy sources. Solar batteries and nuclear reactors are most widely used as energy sources on satellites and space objects. One of the advantages over currently used solar batteries is that the proposed generators can operate in the absence of sunlight.

It turns out that the main "pumping" of energy along the chain of solar-terrestrial connections occurs as a result of solar flares, which are accompanied by magnetic storms. Therefore, if a conductive circuit is placed in the Earth's ionosphere, then in such a circuit during a change in the magnetic field strength in accordance with the laws of physics (Faraday's law), an electromotive force arises, causing an electric current. The estimate of the total power of currents constantly flowing in the Earth's ionosphere, provided that a large number of generators are located there, significantly exceeds the needs of mankind. On the other hand, in order to increase the power of such a generator, the required number of circuits can be connected to this circuit in parallel or in series. It should be noted that the fact that the ambient temperature (ionosphere) can be lower (-100) C, the electrical conductivity of the circuit material will be significantly greater than on the Earth's surface. That is, instead of one circuit, a coil can be used on one side, which significantly increases the energy generated. Due to magnetic storms on the Sun, vibrations of the magnetic field continuously occur in the Earth's ionosphere.

The impact of magnetic storms on technical objects, sometimes catastrophic, is caused by the induction electric field that occurs when the magnetic field strength on Earth changes rapidly. Currently, the analysis of alternative clean energy sources gives preference to hydrogen. This is explained by the fact that its implementation does not require significant

changes to the existing design of transport equipment running on oil and gas, as well as the existing system of hydrogen transpiration to the point of use (these are pipelines and special ships).

It should be noted that the use of hydrogen can be used in almost all cases of need for clean energy, these are:

all types of transport - cars, airplanes, steamships, thermal power plants, heating of houses, consecration, etc.

Obtaining pure hydrogen by electrolysis of water is the most obvious and effective technology, and one of the most promising ways to obtain alternative fuel. Hydrogen is extracted from any aqueous solution, and when burned, it turns back into water. That is, this method is not associated with environmental pollution.

Compared to other methods of obtaining hydrogen, the use of water electrolysis has a number of advantages. Firstly, the input is available raw materials - demineralized water and electricity. Secondly, there are no polluting emissions during production. Thirdly, the process is fully automated. Finally, the output is quite pure (99.99%). Of all the electrolysis methods, high-temperature electrolysis is considered the most promising (hydrogen cost price from 2.35 to 4.8 $/kg).

Water electrolysis is a physical and chemical process in which distilled water is decomposed into oxygen and hydrogen under the action of direct electric current. As a result of the division of water molecules into parts, twice as much hydrogen is obtained by volume as oxygen. The efficiency of electrolysis is such that from 500 ml of water about a cubic meter of both gases is obtained with the expenditure of about 4 kW / h of electric energy. The technological current for the process of water electrolysis to obtain hydrogen and oxygen is obtained, as a rule, using an industrial rectifier with

the necessary operating parameters, usually this is a voltage of up to 90 V and a current of up to 1500 A.

It should be noted that the original source of the Earth's magnetic field is the Sun with a virtually infinite amount of energy, there is always the possibility of increasing the total energy by increasing the number of devices used. So in Greenland, it is possible to install thousands of generators using free clean energy - the Earth's magnetic field. It should be noted that by connecting them with electrical contacts, you can actually get any amount of electricity, which can be used not only as electricity, but also to obtain such a clean fuel as hydrogen using water electrolysis for this. It should be noted that as a result of water electrolysis, not only hydrogen is obtained, but also a huge amount of pure oxygen, which can be used to improve the ecology of the Earth. All this makes this technology especially attractive!

And finally, it can be noted once again. that the proposed source uses the Earth's magnetic field, which can also be used on the surface of the Earth.

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