

Humanity is Surrounded by a Magnetic Field

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ABSTRACT

heliophysical parameters of the planet Earth determine the physiological characteristics of living organisms. In recent years, a lot of evidence has been collected showing the effect of magnetic field fluctuations on biological and physiological processes in living organisms. During periods of strong solar activity, irreversible pathologies of the brain can be observed, because the brain is essentially a complex electromagnetic, biochemical and mechanical device.

The theory of the celestial spheres and their mutual relations was first elaborated by Albert Einstein in 1916 in his theory of relativity. More than 1 century has passed and this topic remains relevant. The magnetic field, which is the source of the Earth's core, surrounds the entire planet. It is also affected by the solar field and the magnetic fields of other cosmic bodies. therefore, the intensity of the earth's magnetic field is not uniform, it depends on the geographical location of the object. Man, along with all living organisms, contributes to the non-uniformity of this magnetic field. For example, near power lines, electronic devices, these indicators are always high, and of course, it depends on many other factors.

The effect of the magnetic field on a person is very great. It affects the speed of biochemical processes, life expectancy, etc. Each molecule that makes up matter is polarized by a magnetic field, similar to the Earth's magnetic poles. It accelerates reactions in the body, promotes proper metabolism [4].

Heliophysical parameters of the planet Earth determine the physiological characteristics of living organisms. In recent years, a lot of evidence has been collected showing the effect of magnetic field fluctuations on biological and physiological processes in living organisms. Geomagnetic disturbances are maximally manifested in high-latitude regions, which determines the special relevance of the research conducted for the North [3].

The introduction of scientific areas such as heliobiology and space biology is associated with the names of A. L. Chizhevsky [4] and V. I. Vernadsky [2]. It is known that the channel of negative effects of solar activity on human health is related to irregular phenomena on the Sun -

electromagnetic field (EMM) of the magnetosphere, non-stationary and flash processes that lead to disruption of the upper and surface layers of the atmosphere [4]. At the same time, special attention is paid to the geomagnetic field (GMM) as one of the most important ecological factors of the environment in the study of the impact of natural EMFs on living nature.

In the last 100 years, it became known that the Sun emits not only visible and invisible light, but also particles that carry electric charges. These particles continuously evaporate from the Sun's atmosphere and form the continuation of the Sun's corona. This gas, which evaporates from the sun, consists of charged particles. It fills the entire area of the Solar Galaxy and is in constant motion, so it is called the solar wind [8].

Planet Earth exhibits a "response reaction" to the high-speed aggressive currents of the solar wind by perturbing its geomagnetic field. The magnetic field of our planet acts as protection from the solar wind. Electricity and magnetism are closely related: the structure of the magnetosphere is such that the Earth's magnetic field in different places is affected differently by cosmic factors, in particular, the solar wind.

Under its pressure, the magnetosphere on the solar side of the earth shrinks by half or even more. A strong compression of the magnetosphere means an increase in the strength of the magnetic field. Magnetic storms are formed in this way and can last from several hours to several days [1].

Electromagnetic fields have a harmful effect on human health. But unfortunately, at the current stage of development, humanity cannot live without it. After all, even young children are now not allowed to go outside without their phones, and yet the phone is at the top of the list of harmful effects on human health. The degree of biological effect of electromagnetic fields does not depend on the duration of its exposure. Under the influence of the electromagnetic field, a person may experience fatigue, weakness, changes in blood pressure and pulse, and pain in the heart.

Many years of research of scientists have revealed that it is possible for a living organism to undergo magnetic field changes. 1. Agnitohydrodynamic braking of blood. Under the influence of a magnetic field, induction currents appear in biological fluids and stop blood flow. 2. The electric impulse moving through the nerve fiber under the influence of the magnetic field is affected by Ampere's force and the fiber bends. In this case, self-induction current is created and stops according to Lenz's law. 3. Molecules also have a magnetic moment in the nerve fiber, and the magnetic moment of some molecules is much larger. Their magnetic field is affected by a mechanical torque and orients it in a certain direction. Changes in biologically active molecules can affect the kinetics of biochemical reactions and biomembrane permeability. All living organisms are affected by the electromagnetic field from the sun and space

Scientific observations show that approximately 70% of cases of myocardial infarction, hypertensive crisis and stroke occur during the days of solar storms. During periods of strong solar activity, irreversible pathologies of the brain can be observed, because the brain is essentially a complex electromagnetic, biochemical and mechanical device. It is noted that the number of suicides is 4-5 times higher on the second day after observed solar flares.

Many people begin to complain about their health not during magnetic storms themselves, but 1-2 days before them, that is, during solar flares.

However, some people - about 50% of the population - can easily adapt to successive magnetic storms and ignore it because the changes in their health are short-lived [7].

Doctor's advice Although scientists have not yet studied enough how magnetic field fluctuations affect the body, doctors advise people who cannot tolerate a rise in pressure during magnetic storm days to take safety measures and follow simple rules. It is known that on such days, blood pressure increases in hypertensive patients, and vice versa, decreases in hypotensive patients.

Therefore, in order to get rid of such inconveniences, hypertensive patients are recommended to drink more fluids and eat less salty products. Because salts increase blood pressure by keeping a large amount of fluid in the body. Hypotonics are prescribed electrococc or lemon tinctures.

Weather-sensitive people should have a good rest during magnetic storms, avoid excessive stress, refrain from sports activities and exhausting trips.

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