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# «Metrological Support of Innovative Technologies» ICMSIT-II 2021

«On the possible causal relationship of the COVID-19 viral disease with electromagnetic pollution of the environment and the main directions of its weakening»

S N Darovskikh, P M Shonazarov

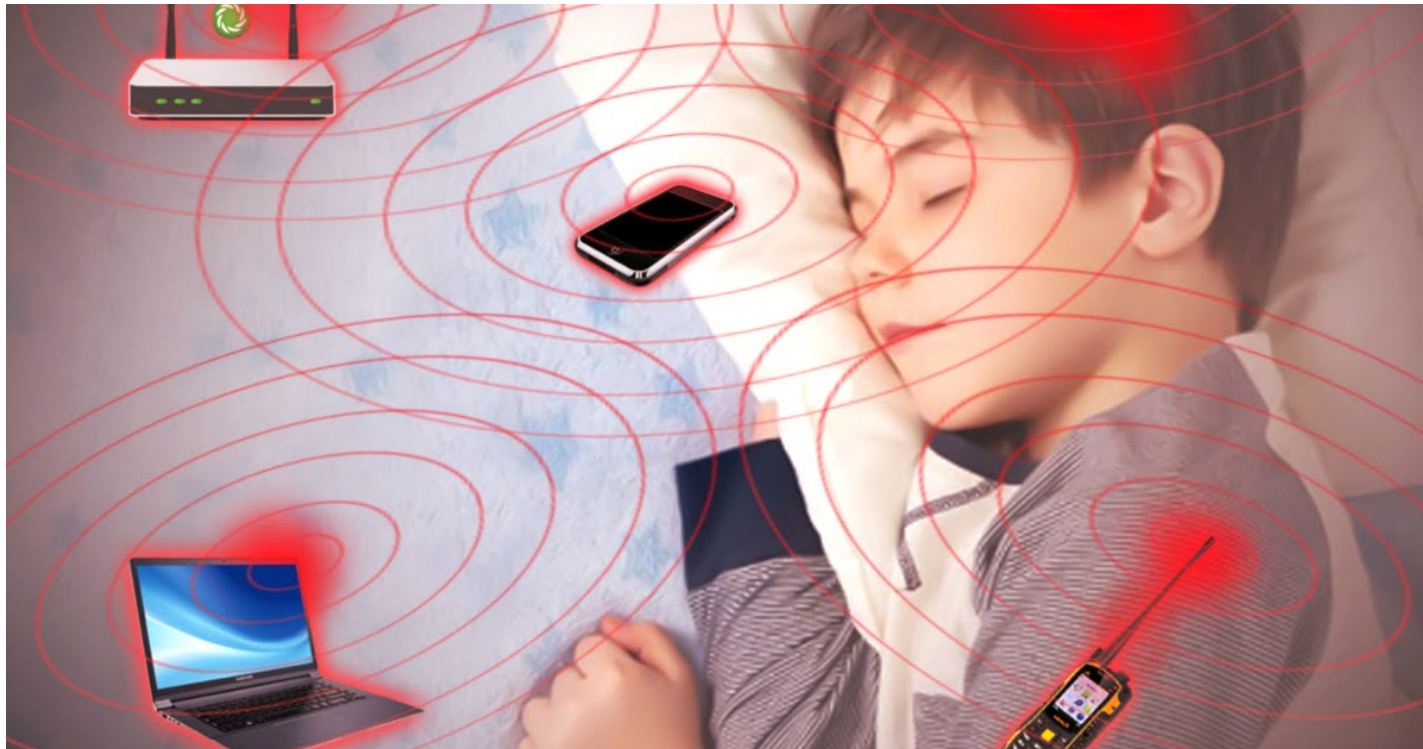


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# Purpose of the study

The purpose of the study is a systematic analysis of the processes associated with the emergence of the COVID-19 viral disease, it was concluded that the most likely reason for its appearance and spread throughout the world is the global impact of wireless local area networks Wi-Fi on the Earth's biosphere. Recommendations are formulated for weakening their negative impact on the human body.



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# Research method

The necessity of using in the treatment of human diseases of viral and (or) inflammatory etiology of radiophysical technology based on modeling the microwave radiation of the Sun is substantiated. This makes it possible to activate inhibited enzyme complexes for the restoration of the free energy potential in cellular structures under hypoxic conditions, which is necessary for the synthesis of biostructures not only for antiviral, but also for antibacterial protection, regardless of the virus strain or one or another pathogenic microorganism.

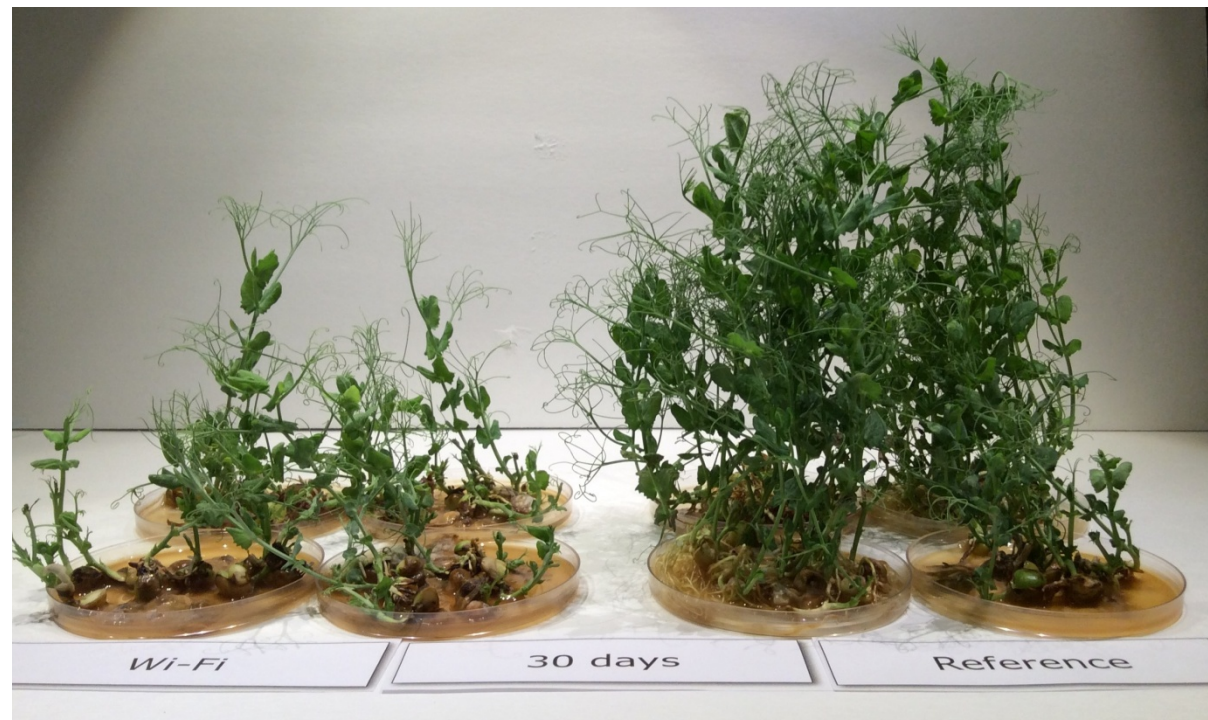


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# Results

The proofs of the expediency of using the developed hardware and software tools for modeling the solar microwave radiation to provide antiviral protection are presented. Their main focus is related to the control of the radiation of these networks in various places of their use, the formation of new regulatory requirements for the used operating frequency range and the development of scientifically based recommendations for ensuring the safety of their use.



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# Possible causal relationship of the COVID-19 viral disease with electromagnetic pollution of the environment

Most human coronaviruses, such as acute respiratory illness (ARVI), cause mild symptoms of colds or gastroenteritis ("food poisoning"). However, since 2002, the clinical situation with the coronavirus has changed dramatically. And this is due to the emergence of severe acute respiratory syndrome (SARS), which is accompanied by rapidly developing pneumonia, respiratory and renal failure. Then, in 2015, there was an outbreak of Middle East Respiratory Syndrome (MERS). Finally, in 2019, the new coronavirus SARS-CoV-2 emerged. The clinic of the above-mentioned coronavirus infections is somewhat similar to the extremely severe variant of ARVI. But there are also their previously unknown manifestations.

Another problem of recent decades is associated with the growing electromagnetic pollution of the environment and its negative impact on the human body. Recently, a significant contribution to the electromagnetic pollution of the environment has been made by the wireless local area network technology with devices based on IEEE 802.11 standards, called: "Wi-Fi technology" [1]. Sources of electromagnetic pollution of the environment are base stations with radiation power of transmitting devices from 10 W, located in the territories. In home and office environments, this technology provides for the use of transmitting devices with a power of 100 mW - in the frequency range 2.40-2.48 GHz and 200 mW - in the frequency range 5.15-5.35 GHz and 5.65-5.85 GHz.

It's hard to imagine a world without Wi-Fi today. Almost all electronics have Wi-Fi modules, for example, monoblocks, phones, cameras, TVs, etc. In the modern world, Wi-Fi technologies are developing very rapidly (Fig. 1) [2]. The prospect of digitalization of many aspects of the life of the state and society as a whole is directly related to their application.

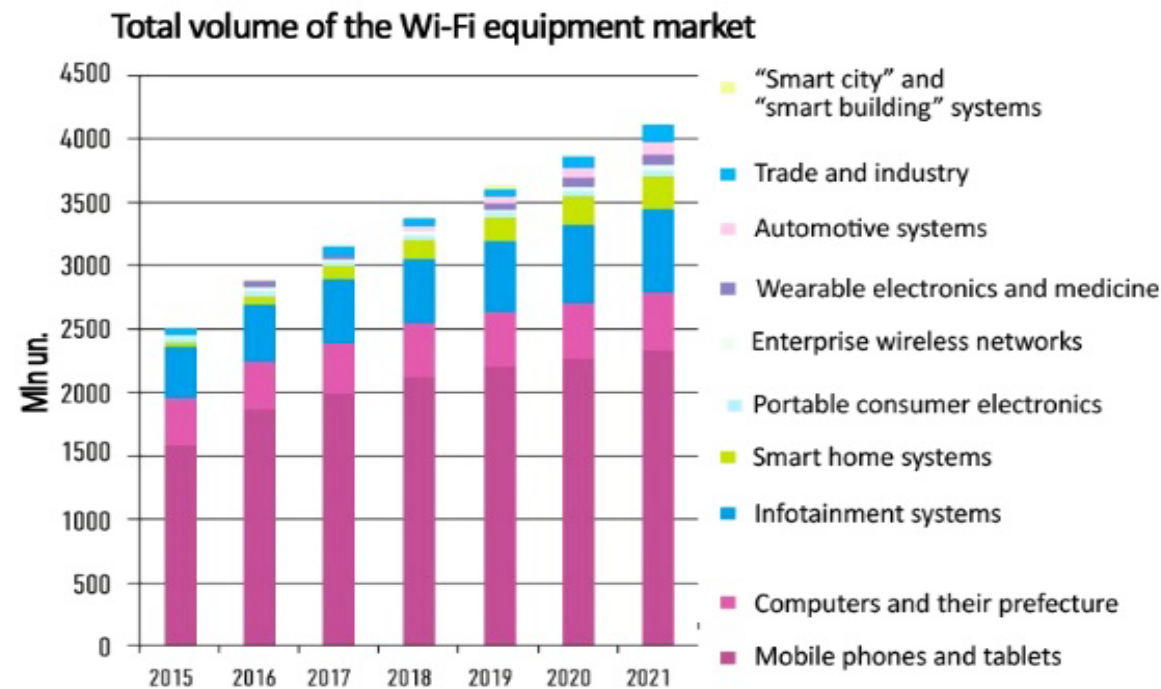


Figure 1. The total volume of the world market for Wi-Fi equipment



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# The main directions of weakening the impact on the human body of wireless local area networks

- Create a monitoring system to assess the real radiation intensity of transmitting devices in places not only densely populated by the population, but also in areas adjacent to settlements. Currently, such control is not provided.
- It is necessary to intensify scientific research aimed at identifying the reasons for the activation of viral infection and the development of technologies to mitigate the negative impact on the body of electromagnetic radiation from wireless networks. Currently, research is relevant not to protect against electromagnetic radiation, but to counter it. Such research is extremely important for people with various types of chronic diseases.
- To exclude the interference of the most significant for organism's natural microwave radiation of the Sun reaching the Earth's surface, introduce a ban on the use of the wavelength range from 1 cm to 10 cm by global technologies of wireless communication nature.
- Until the main reason for the increase in coronavirus infection is clarified, limit the use of Wi-Fi technology in crowded places as much as possible: public transport, industrial premises, schools, child care facilities, hospitals, office premises, etc. Pay more attention to the use of wired local networks. Implementation of the recommendations to reduce the working time, especially for children, in wireless local area networks is an important preventive measure to weaken their negative impact on the human body.



# On the technology of counteracting electromagnetic pollution of the environment - a potential basis for the prevention and treatment of human viral diseases

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The general mechanism for enhancing the resistant properties of bacterial microflora and viral activity is associated with hypoxic phenomena in the human body. They are mainly due to unfavorable environmental factors of the life of organisms. Very indicative is only one fact, which was reported by the Meteonovosti portal [8]: the sun in Moscow during the winter (2019-2020) shone only 72 hours. With a seasonal norm of 123 hours of sunshine, residents of the capital received only 59% of the norm. Deficiency of "solar" vitamin D is directly related to a decrease in the effectiveness of the body's antioxidant defense, leading to an increase in hypoxic manifestations in the body.

Recent events have shown that electromagnetic pollution of the environment has also begun to play an important role in this. Changes in bacterial and viral activity are especially important for people with various types of chronic diseases. Substitution of anaerobic energy exchange in cellular structures underlies the inactivation of their enzymatic complexes. This leads to an untimely immune response (cellular, humoral) when inflammation occurs. Under the same conditions, when the virus enters the human body, antiviral protection is also not effective for the timely formation of intracellular interferon to block the multiplication of the virus and extracellular, mainly, immunoglobulin M for its destruction.

The practice of treating the Covid-19 viral disease in the absence of a vaccine has shown low effectiveness of the treatment carried out with the help of well-known medications. Recommendations for the use of a particular drug are constantly changing. The most recommended treatment procedures are associated with the abundant use of water, the use of antipyretic and analgesic medications, if necessary. With this approach to the treatment of the Covid-19 viral disease, a favorable outcome (without complications) is inherent only in organisms with a high potential for free energy, which ensures a timely immune response to a viral "attack". Formed after a disease in the body, antibodies in the form of immunoglobulin G corresponding to the virus make it possible for a certain period of time to protect the body from repeated disease by it



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# Device for reducing the resistant properties of microorganisms

One of these technologies is associated with the medical use of a device for simulating the solar microwave radiation reaching the Earth's surface [9]. Its application makes it possible to restore in the body in conditions of electromagnetic pollution of the environment the natural mechanisms of regulation, which underlie the evolution of living nature. The developed device (Fig. 2), protected by the RF patent under the name: "Device for reducing the resistant properties of microorganisms" [10], implements the known knowledge about the structure of low-frequency variations, the parameters of amplitude pulsations and the type of polarization of the solar microwave radiation in the frequency range 4.0-4.3 GHz with a maximum intensity not exceeding  $100 \mu\text{W} / \text{cm}^2$ . This device makes it possible to simulate bursts of solar microwave radiation in the range of values from several seconds to tens of minutes, both with linear and chaotic polarization. The amplitude spectrum of such radiation can vary in width, shape, and intensity.



Figure 2. Device for simulating solar microwave radiation (AIMT-1) in the frequency range (4.0-4.3) GHz



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# Solution methods

- Experimental studies using the developed device prove that the change in biophysical and biochemical properties of opportunistic microflora under the influence of microwave radiation generated by the device helps to reduce the resistance of microorganisms to antimicrobial drugs [12].
- Application of the developed device for various kinds of disorders of homeostatic functions of the body promotes disaggregation of erythrocytes, accelerated restoration of oxygen transport function of blood, aerobic energy exchange, protective functions in peritoneal cells of the monocytic and neutrophilic series [13, 14].
- Physiotherapy [15-19], based on the use of hardware simulating the solar microwave radiation in the frequency range 4.0 ... 4.3 GHz with a power flux density not exceeding  $100 \mu\text{W} / \text{cm}^2$ , is not associated with the phase of the disease. The effectiveness of microwave therapy is the higher, the earlier it is included in the treatment of the disease. It is reliably manifested in a decrease in the activity of inflammation, a (30-40) % reduction in drug consumption and an accelerated (by a quarter) normalization of homeostatic functions.



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# Conclusions

The temporal consistency of the processes of globalization of the use of wireless local area network Wi-Fi and the amplification of viral activity around the world gives reason to assert with a high probability that the new viral disease Covid-19 is directly related to electromagnetic pollution of the environment, the main source of which is radiation from wireless LAN transmitting devices networks.

The conclusion about the possible causal relationship of the Covid-19 viral disease with the massive spread of wireless local area network Wi-Fi technology underlies the feasibility of developing and carrying out appropriate organizational measures to mitigate the negative impact on organisms of electromagnetic pollution of the environment with modern wireless local area networks. Their main focus is related to the control of the radiation of these networks in various places of their use, the formation of new regulatory requirements for the used operating frequency range and the development of scientifically based recommendations to ensure the safety of their use.

Another important point discussed in the article is that medical technologies are needed to treat viral and inflammatory diseases, taking into account the modern real factor of changing the properties of the environment - this is its electromagnetic pollution. As practice shows, it is becoming more and more difficult to solve the problem of restoring disturbed homeostasis with drugs alone. This determines the advisability of using radiophysical nature-like technologies for the prevention and treatment of human diseases on the basis of autonomous or in combination with drugs, developed hardware and software tools for simulating the solar microwave radiation reaching the Earth's surface.

A new approach to the treatment of viral and inflammatory human diseases requires medical science to understand that the real possibilities of medical methods of treating human diseases have reached potential limits. It is necessary to actively introduce into medical practice nature-like technologies that implement evolutionarily significant regulatory mechanisms for organisms [20]



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**SUAI** State University  
of Aerospace Instrumentation



# Contacts

S N Darovskikh, P M Shonazarov

Infocommunication technologies South State Ural University

E-mail: [shonazarov1991@gmail.com](mailto:shonazarov1991@gmail.com)

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