

On the possibility of combating covid-19 by the method of resonant vibrations.

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The SARS-CoV-19 coronavirus pandemic poses a threat to all of mankind, and this threat is currently constantly growing. Recently, many mutations of the virus have appeared that are more aggressive and harmful than its original strains. At the same time, they are constantly and very quickly updated.

Vaccination does not solve all problems. It can provide individual protection for a person, but it does not allow the virus to be destroyed in the environment, even with the development of herd immunity in $\frac{2}{3}$ of the world's population (about 4...5 billion people). This immunity has a limited duration, which requires re-vaccination. New mutations of viruses also require new vaccinations. Therefore, constant development of new vaccines is required, which is mainly of carried out in the catching up, with new strains in outstripping of them. This leads to local periods of lack of immune protection in people, the fight against which is possible only by introducing restrictions that are unfavorable both for residents and for the economy of all countries of the world.

This process becomes endless and requires the involvement of new intellectual, labor and material and technical resources, which are diverted from other important areas of the development of human life and activities.

Disinfection with chemicals and ultraviolet light can destroy of virus, but they also have their drawbacks and limitations in their application. For example Disinfection with ultraviolet light (quartzing) kills everything of total cells. Including cells of our body have damage. Therefore, at the time of its holding, everyone must leave the premises. Including the person, with is carrier of COVID-19 viruses. When he returns to this room, quartzing will be useless. A similar problem arises when using chemical disinfection. Therefore, the destruction of COVID-19 must be constantly.

Hence, it is necessary to search for new more effective ways, which is an important and urgent scientific and practical task posed in this work. It is based on the phenomenon of resonance, leading to an abrupt increase in the amplitude A of forced vibrations of a system, when the frequency ω of the external influence of vibrations on them approaches any of their natural vibrations ω_0 . The phenomenon of resonance is widely used in engineering for the mechanical destruction of materials and structures created from them. Vibrational resonance effects on bacteria and viruses are also possible. Modern nanotechnology makes it possible to create such devices in the form of medallions or microchips of mobile phones. Extensive research is needed in this area.

Biography

Valentyn Nastasenko, Kherson State Maritime Academy Ukraine, faculties' Engineering and electronics, the department of transport technologies and mechanical engineering. Dr. technical sciences, Professor. A sphere of scientific interests includes quantum physics, the theory of gravitation, fundamentals of the material world and the birth of the Universe, the author of more than 70 scientific works in these spheres.