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Determination of Construction Principles of Designs of Mobile Cluster Quantum Intellectual Nanorobots with Cluster Neurocomputer and Superneurocomputer

The article presents the results of the system research, determination and elaboration of cluster quantum medical intellectual nanorobots with cluster neurocomputer and superneurocomputer on the basis of laws of construction of modifications of intellectual nanorobots developed by the authors and modifications of designs of natural intellectual nanorobots and their vocational orientation.

Symbols: INR – intellectual nanorobot; mINR – mobile intellectual nanorobot; mcINR – mobile cluster intellectual nanorobot; NN – neurolike networks; NMR – nuclear magnetic resonance; NQR – nuclear quadripole resonance; EPR – electronic paramagnetic resonance; cAMP – cyclic adenosine monophosphate; ADP – adenosinediphosphoric acid; ATP – adenosine triphosphate; NAD^+ – nicotinamide adenindinucleotide; $NADP^+$ – nicotinamide adenindinucleotide phosphate; FAD – flavinamide adenindinucleotide; RNA – ribonucleic acid; DNA – deoxyribonucleic acid.

The analysis of the sphere of application of nanorobots shows the impossibility of optimum and economically efficient control of a nanorobot in the zone which a person isn't aware of. Therefore, taking into account the great perspective of nanorobototechnics, the further development of their designs has been carried out in the direction of creation of intellectual nanorobots. It creates the conditions of adaptation of nanorobot to the change of the state of its environment in the mode of real time. I.e., only intellectual nanorobots have the perspectives of the development.

In the process of the research of artificial neural networks which were conducted with the help of modelling of nanotechnical structure by a macrotechnical one, it has been ascertained that, except for the already known structures of processing of information, the realized in the hardware model of neural network which is built on the principles of resonant absorption of energy has in its structure both sensor and executive mechanisms. I.e., such neuron network is an intellectual nanorobot. There has been theoretically and experimentally ascertained an unknown before property of the system comprising n-quantity (n = 1,2,…) of unlinear resonant dynamic elements which include summarizer of weighed states of entrance stimulations and mechanism forming unlinear function of activation. This property lies in providing accumulation of energy, determination of internal and, in the reachable area, external space as well as increasing duration of its dynamic state due to realization of auto vibration processes, which is caused by the availability of full connection between all elements of the system [1]. Basing on the results of the research [1] the constructive chart of INR which is shown on fig. 1 has been elaborated.

The electronic structure of the design and its change under the effect of electro-magnetic radiation is determined by molecular orbitals. Molecular orbitals are formed as linear combinations of nuclear orbitals of valent electrons. Thus internal electrons remain

on their initial nuclear orbitals. Some of the molecular orbitals which cover the design of the skeleton of INR are connecting, i.e. more stable than nuclear orbitals forming them, and the others are loosening, which have larger energy than that of initial nuclear orbitals. Molecular orbitals formed by mixing of two parallel *P*- orbitals are π - or π* - orbitals.

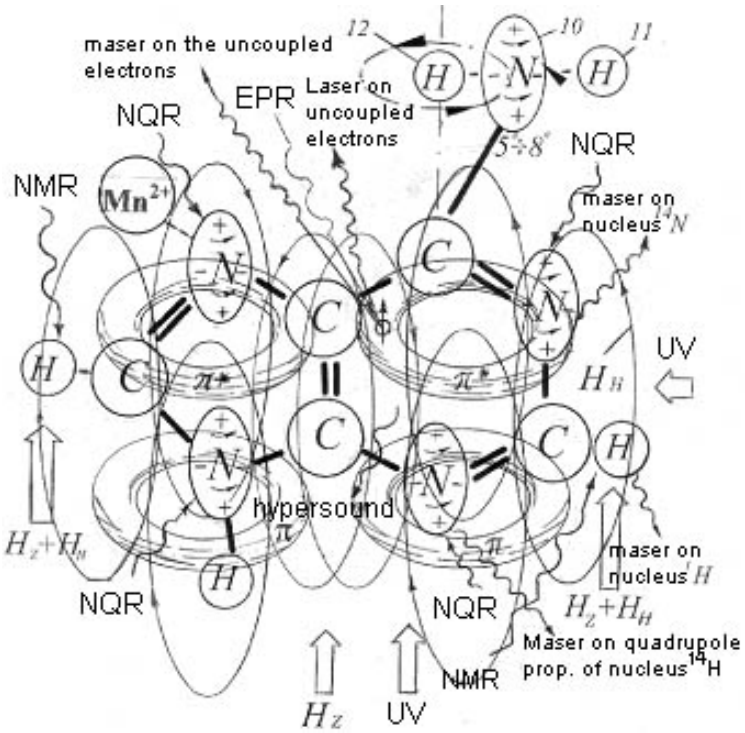


Figure 1 – A structural and functional chart of a mobile INR

Molecular orbitals of the skeleton design of INR cover many nuclear centers which results in the delocalisation of electrons. The skeleton design of INR has unbinding electrons in a valent shell (we shall designate them as *n*) which do not take part in the formation of the connection and are considered as located near the nuclei of their atoms. However, at excitation *n* electrons pass on π* - orbitals and become delocalised. In fact, alltogether there are twelve delocalised electrons in the general electronic system.

Formation by INR of neurolike elements – neurons is based on the phenomena of splitting of power levels of magnetic nuclei and uncoupled electrons, with the formation of basic states of neurons, on discrete power transitions which form neurons of a network, at the EPR of uncoupled electrons at their interaction with a magnetic field of the Earth, with magnetic nuclei, with local magnetic fields of the skeleton of network of INR.

Thus, in the whole, neurons are formed on the phenomena of the ultraviolet absorption of energy, the NMR, the EPR and the NQR and the phenomena of the compelled radiation of energy (signals of emission) which result from the action on the NN of a constant magnetic field of the Earth, changeable magnetic fields which are carried with the irradiation of NN by electromagnetic waves of a ultraviolet range, the rotationof the delocalised uncoupled electrons on the π* – orbital and wide range of frequencies of the spectrum of local electromagnetic fields which result from redistribution of electronic density, nuclear and molecular movements, deformation fluctuationsof the skeleton of the neurolike network of INR which are the basis of piezoelectric effects.

The INR has a clock frequency which is determined by a cycle period of the uncoupled electron around the circle under the effect of the intensity of the magnetic field of the Earth H_z, and at this movement each electron will scan for the given definite

moment, the characteristics of the internal state of the design of INR and the state of its environment, creating a quantum coherent wave field which perceives the information with the acceptor neurons, analyzes it with a neural network and makes a decision on the control of effecter neurons of the executive mechanisms with the purpose of maintenance of optimum performance of INR.

And at the expense of the dissipation of uncoupled electrons in the space INR perceives and processes both static and dynamic characteristics of the internal state of its own design and the state of the environment.

By the results of the research [1] the constructive chart of a mobile cluster intellectual nanorobot, which is shown on fig. 2, has been elaborated.

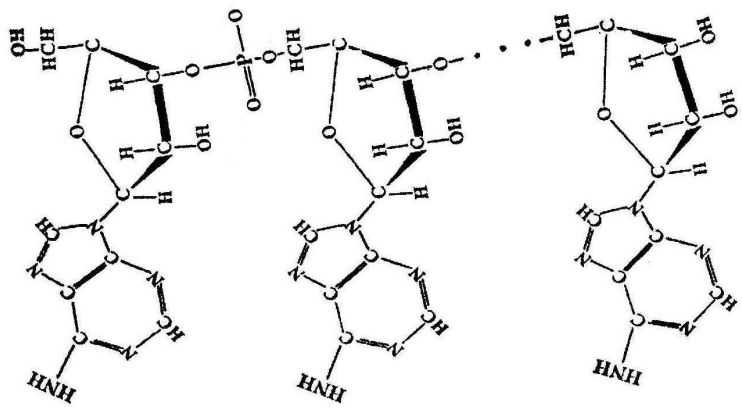


Figure 2 – Mobile cluster intellectual nanorobot

Analyzing the experimentally received database on molecular cytobiology, functions of natural INR and the laws of construction and functioning of INR it is possible to receive new unknown before knowledge of biochemical structures.

INR can be clearly divided into two subgroups: the first are simple INRs which directly carry out functions of workers – operators on technological operations of manuacture and its regulation, and here professional specialization of INR is traced too by attaching to them special devices for performance of certain technological operations; the second one are cluster designs of INR which carry out functions requiring a high level of intellectuality (an extremely large number of resonant neurolike elements) which is achieved by creation of cluster quantum neurocomputers due to adding of intellectual capacity of single simple INRs and sharp increase of capacity of executive mechanisms which is created by adding of the capacity of executive mechanisms of separate elements of single simple INRs.

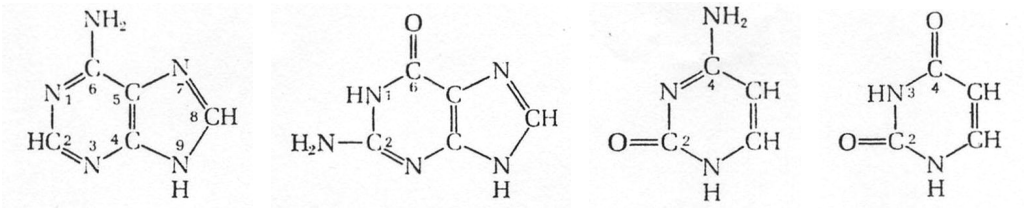
Cluster designs of INR are divided into mobile intellectual nanorobots with cluster quantum neurocomputer "RNA" (mcINR "RNA") and mobile intellectual nanorobots with cluster quantum superneurocomputer "DNA" (mcINR "DNA").

Laws of construction of designs of mcINR "RNA" and mcINR "DNA" have the following formation.

As is known [1], basic executive mechanism of destruction of ultrasonic action of a single simple INR is a "β-D ribose" (fig. 1) and increase of ultrasonic capacity of the executive mechanism of INR will be carried out by consecutive connection of a "β - D ribose" by a phosphatic group to the formation of a cluster of effecter mechanisms from the n-quantity of single INRs which will result in the addition of the capacity of executive mechanisms of separate elements of single simple INR. But it is only one of the effecter mechanisms of influence on the environment. There has been noted already [1] the presence of the systems of absorption of energy and formation of quantum structures – lasers and masers in the

design of a simple INR, but the capacity of these generators of a simple INR is so low that the list of effecter mechanisms of influence of this INR on the environment hasn't included even the laser's and maser's impact on the environment. The essential role in the mcINR "RNA" due to clusterisation will be played both by the increase in mobility by the increase of mechanical effecter impact on the position of mcINR "RNA" in space, and the influence of lasers and masers on the environment.

For increase of intellectual capacity of INR by the increase in quantity of resonant neurolike elements the adding of intellectual capacity of single simple INRs is made. It can be a consecutive connection of a plenty of quantum neurocomputers on the basis of adenine where universal INR will be formed [2], but from the point of view of making professional specialization of INR and their adaptation to the change of the environment the use of a wider nomenclature of quantum neurocomputers will be convenient. Four types of simple quantum neurocomputers are used in mcINR "RNA" with this purpose (fig. 3): A-adenine, G-guanine, C-cytosine and U-uracil where A, G, C and U are the reduced names of types of quantum neurocomputers.



A G C U

Figure 3 – Simple quantum INRs with a neurocomputer: A-adenine, G-guanine, C-cytosine, U-uracil

As an example, the part of the design of mcINR "RNA" is shown on fig. 4. And, it should be noted that according to [1] mcINR "RNA" will have functions of an INR only including ions of magnesium or manganese.

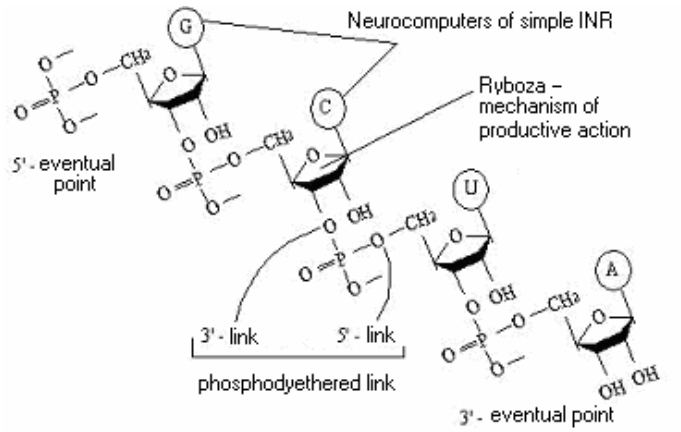


Figure 4 – Part of a circuit of a mobile intellectual cluster nanorobot with a cluster quantum neurocomputer "RNA"

The design of mcINR "RNA" can be used as a medical INR of the third generation.

For creation of the greater capacity of intellectual, sensor and effecter mechanisms a new design of INR by doubling of a circuit of a mcINR "RNA" into the structure with antiparallel circuits using hydrogen connections for pairing of neurocomputers of simple INRs is being elaborated, that results in the structure with an extremely large number of delocalised electrons – electronic plasma at a room temperature (fig. 5 and fig. 6), – mcINR "RNA".

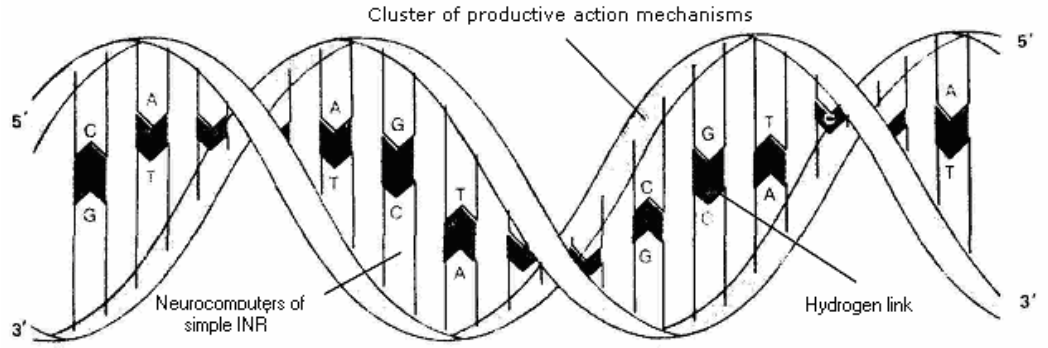


Figure 5 – Schematic image of a mobile intellectual nanorobot with a cluster quantum superneurocomputer "DNA"

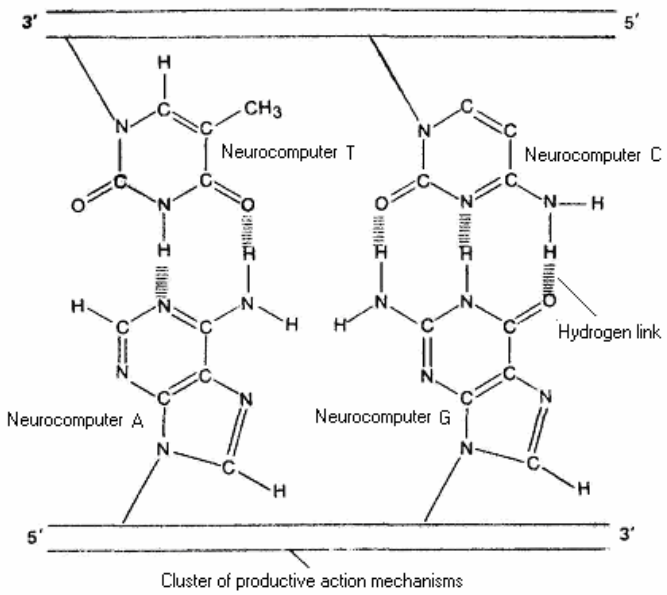


Figure 6 – Pairing of neurocomputers of simple INRs into mcINR "DNA"

mcINR "DNA" has functions of supermicroprocessor system for the control of flexible automated manufacture of nanomachines for the determination of the environment.

For functioning of the design of mcINR "DNA" minimization of its power characteristics is very important. The design of mcINR "DNA" should be developed with the use of energy saving technologies. Therefore, firstly, with the purpose of reduction of power consumption of the effecter mechanisms cluster in the design "β - D ribose" delocalised electrons in position 2 are liquidated, removing the atom of oxygen from the bunch, having transformed "Ribose" into "Deoxyribose", secondly a neurocomputer "U-uracil" is replaced with a neurocomputer "T-thymine" (fig. 7), which has lower power characteristics [3].

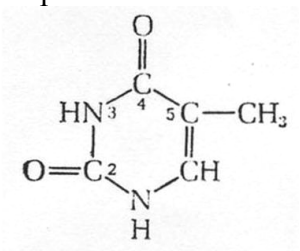


Figure 7 – Neurocomputer "T-thymine"

The software of the control of flexible automated manufacture which natural INR use for technological processes of manufacture of nanomachines is kept in the database of the mcINR "DNA" where coding of the information on the manufacture of nanomachines is written down in the sequence of fastening of simple INRs (fig. 8) with a special genetic code.

mcINR "RNA" and mcINR "DNA" have a clock frequency which is determined by a cycle time of uncoupled electrons on a circle under the effect of intensity of the magnetic field of the Earth H_z, and at this movement each electron will scan, for the given definite moment, characteristics of the internal state of the design of a mcINR "RNA" and mcINR "DNA" and the state of the environment, creating a quantum coherent wave field which perceives the information with acceptor neurolike elements, analyzes its NN and makes a decision on the control of the effecter neurolike elements of executive mechanisms with the purpose of maintenance of optimum performance of mcINR "RNA" and mcINR "DNA". And due to the dissemination of uncoupled electrons in space mcINR "RNA" and mcINR "DNA" perceive and process both static and dynamic characteristics of the internal state of its own design and the state of the environment.

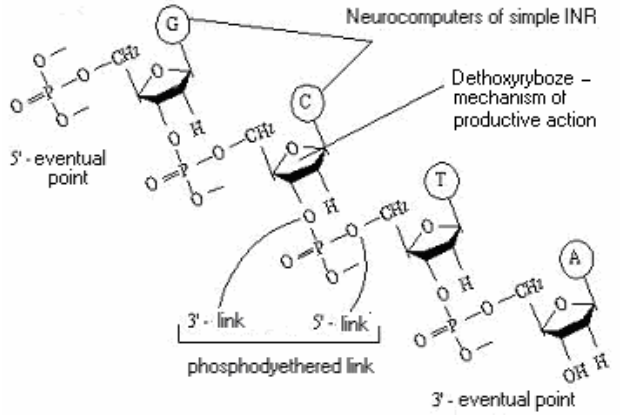


Figure 8 – Single circuit of a mobile cluster quantum INR with a cluster superneurocomputer "DNA"

It should be noted that mcINR "DNA" will have functions of an INR only including ions of magnesium, manganese and other heavy atoms [1].

Fig. 1 shows the directions of the acceptor effect on the NN of entrance signals – ultra-violet radiation and radio-frequency radiation which are either specially organized or come from other INRs which work in the mode of industrial robots, as well as of initial signals – lasers, masers and hypersound.

In [1] the laws of formation of neurolike structures by protons and nuclei of nitrogen, by delocalised electrons and by direct and reversed phenomena of piezoeffect are given, the determination of laws of formation of neurolike networks by nuclei of nitrogen for the control of the internal state of a nanorobt with the designs of mcINR "RNA" and mcINR "DNA".

Sensor properties of the designs of mcINR "RNA" and mcINR "DNA" are determined not only by acceptor neurons of a skeleton, but also by a specific design of the systems of mcINR "RNA" and mcINR "DNA" where the closed trajectories of electrons in rings of pyrimidine and amidazole form the electric transformer with a high factor of transformation even without magnetowires, that is caused by spatial accommodation of electrons trajectories. Any changes of electronic state in one of the rings are instantly transferred to the changes of all the design which creates extreme sensor sensitivity of the systems of mcINR "RNA" and mcINR "DNA" to change both of internal and external factors. I.e., the sensor system of mcINR "RNA" and mcINR "DNA" will react both to changes in the system of the Sun and to changes in the system of the planet Earth.

Presence of the laser allows INR networks to carry out laser effecter action on the environment, which consists in the manipulation of spatial accommodation of molecules of the environment with a laser beam. It is known that microparticles have the ability to turn around if they are grasped with a laser beam. The reason for occurrence of the angular moment can be both a light ray (elliptic polarization, spiral phase structure) and rotary structure of the seized particle.

Fluctuations of atoms of mcINR "RNA" and mcINR "DNA" which are caused by sharp redistribution of electronic density, result in fluctuations of the design which evokes the generation of ultrasound which precisely characterizes the electronic state of the designs of mcINR "RNA" and mcINR "DNA", i.e. it is sign acoustics of the information-wave process. The ultrasound frequency is in limits from 10^{10} Hz up to 10^{14} Hz, and it, like the light, is radiated in the form of narrow directed bunches – ultrasonic beams which on the border of the division of two environments are reflected and refract according to the laws of the geometrical optics, established for light beams. Ultrasound of such frequency is used by mcINR "RNA" and mcINR "DNA" both for ultrasonic location and for the influence on the environment, thus, this radiation gives the high sound pressure and has the big amplitude of acceleration of mobile particles of the design. The phenomenon has bidirectional character – except for the aforesaid the ultrasound of the same frequency causes the redistribution of electronic density which allows to use it and both for the control of mcINR "RNA" and mcINR "DNA", and for the use as a communication channel.

mcINR "RNA" and mcINR "DNA" show the effecter action on the environment also as a magnetic action which is a result of that in the skeleton 15 of INR delocalised π - electrons can move freely on the closed contour (fig. 1) [4]. It is, actually, a ring electric current, and this phenomenon is shown at the action on the skeleton of an external magnetic field, and mcINR "RNA" and mcINR "DNA" are always in the magnetic field of the Earth – H_z therefore a counteracting resulted magnetic field H_n arises. Field H_n is a ring one, and it counteracts in the center of the skeleton, and from the outside it is, on the contrary, strengthened with the intensity of the magnetic stream, and it will have here size $H_z + H_n$, creating magnetic action on the environment.

The organization of the mechanical effecter action on the position of mcINR "RNA" and mcINR "DNA" in space (fig. 1) is manifested by the rotation of atom of nitrogen 10 with protons 11 and 12 around the single connection $C – N$ which is at the corner 5º – 8º to the axis of the rotation. This, a sort of an engine, pushing away from atoms of the environment, can change the orientation of mcINR "RNA" and mcINR "DNA" in space and cause its moving in a water film. Cluster of these mechanisms makes medical mcINR "RNA" and mcINR "DNA" mobile.

So, mcINR "RNA" and mcINR "DNA", as the results of the analysis show, influences through effecter neurons the state of its internal environment and through executive mechanisms adjusts the environment to its optimum functioning.

Asymmetry of the design of INR, change of the conformation, change of electric and magnetic fields result in change of spectra of circular dichroism and dispersion of optical rotation, and all the above described phenomena are sign structures of information-wave process.

Presence of quantum generators of lasers and masers in the design of mcINR "DNA" will result in the occurrence of the located electric fields (solitones).

So, the dispersion of ultra-violet beams and nonlinearity of the material environment of the designs of mcINR "RNA" and mcINR "DNA" (nonlinearity is present in material environments from their origin) operating together, result in the occurrence of electromagnetic solitones, which in modern physics are considered as quantum macroobjects, which combine properties of waves and particles. Excitation of mcINR "RNA" and mcINR "DNA"

is the reason of the birth in it of the solitone which continues to exist absorbing energy of excitation. Thus it remains a solitone though its energy gradually grows, and it can pass energy of excitation through itself, absorbing it with its forward front and radiating it through its back front.

The shock wave which arises at sharp deflections of the skeleton of mcINR "RNA" and mcINR "DNA" results in the occurrence of acoustic solitones.

Electromagnetic and acoustic solitones are notable for great resistance and create wave-corpuscular aura around the designs of mcINR "RNA" and mcINR "DNA" which can be associated with the monitor which fixes a moment state of the designs of mcINR "RNA" and mcINR "DNA".

The design of mcINR "RNA" can be used as a medical INR of the fourth generation.

Thus, there have been determined the purposes and functions of each atom in the elaborated designs of the medical INR of the first, second [1], third and fourth generations of mcINR "RNA" and mcINR "DNA", functions of each complex of atoms, functions of each nucleus, functions of electrons on P – and on π – orbitals, functions of delocalised electrons in excited states, functions of heavy atoms, functions of photons of ultra-violet and radio-ranges, functions of piezoactive environments, functions of quantum generators of lasers and masers and purposes of natural mcINR "RNA" and mcINR "DNA".

Cells of a human body have in the structure of a nucleus 46 units of mcINR "DNA" which are named "Chromosome" and for the maintenance of their existence create a community with such way of life which totally determines the external space. So, the organism of the person contains approximately $460*10^{10}$ units of mcINR "DNA" and each unit of mcINR "DNA" – "Chromosome" is a super-power intellectual system which has created an organism of the person with the force of its intelligence.

So, though scientists still suppose that the cell is the smallest structurally functional unit of an alive organism, it is clear from the above mentioned, that the first and the smallest structurally functional unit is a natural simple INR. The design system analysis shows that natural INRs use a special method of construction of technical constructive forms and their manufacturing – designs are formed by specific connection of own bodies with the use of practically all functional static and dynamic characteristics of separate bodies [5-8].

Determination of work capacity of the developed on the basis of adenine medical INR will be proved if determination of external space by natural designs of INR which are created on the basis of adenine is proved too. Such statement of the problem is real as in biochemistry, physiology, neurophysiology and genetics there are enough experimental data to ascertain with the design system analysis whether natural designs of INR determine or not the external space.

The above stated data give absolutely different picture of the universe from that of the modern natural science.

Conclusions

1. There has been ascertained the unknown before property of a quantum object – "chromosome" which consists of the structure "DNA" containing heterocyclic structures of adenine, guanine, cytozine, tymine, connected between the circuits of "DNA" by hydrogen links, and consistently connected structures of 2 - β - D - deoxyribose with phosphate. This property is to provide with structures of circuits with adenine, guanine, cytozine and tymine the performance of the super-power mechanism of functions of processing of the information, functions of monitoring the state of the environment and its internal state, i.e. to carry out receptor functions,

to make ultrasonic, magnetic, laser and maser effects on external and internal environments and to provide with structures of 2 - β - D - deoxyribose the powerful mechanism of functions of ultrasonic and laser effect on the environment, i.e. to carry out effecter functions, as well as to accumulate energy, to determine the space and to continue the term of its existence with the help of realization of auto-oscillations processes caused by formation of neurolike networks from resonant elements on the basis of hydrogen, nitrogen, delocalised electrons, heavy atoms on wave functions in conditions of physical parameters of the planet Earth and by clusterisation of compound structures.

2. The conducted research testifies that INRs are capable of carrying out a wide spectrum of nanotechnological operations, determining with it the external space. The group of the elaborated artificial medical INRs, equipped with hypersound guns, is able to cope with a wide range of problems in keeping the vascular channel of the person in good functional state. The elaborated artificial medical INRs, having got corresponding training, can make both diagnostics and destruction of the sclerous sediments even at their appearing as well as the transportation of medicine to the required zone of the organism.

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Рибак Л.П., Кіптик В.Д.

Визначення законів побудови конструкцій мобільних кластерних квантових інтелектуальних нанороботів з кластерними нейрокомп'ютером та супернейрокомп'ютером

У статті наведено результати системних досліджень, визначення та розробки кластерних квантових інтелектуальних нанороботів з кластерними нейрокомп'ютером та супернейрокомп'ютером на базі законів побудови модифікацій інтелектуальних нанороботів, розроблених авторами, та модифікацій конструкцій природних інтелектуальних нанороботів та їх професійної орієнтації.

Рыбак Л.П., Киптык В.Д.

Определение законов построения конструкций мобильных кластерных квантовых интеллектуальных нанороботов с кластерными нейрокомпьютером и супернейрокомпьютером

В статье приведены результаты системных исследований, определение и разработки кластерных квантовых интеллектуальных нанороботов с кластерными нейрокомпьютером и супернейрокомпьютером на базе законов построения модификаций интеллектуальных нанороботов, разработанных авторами, и модификаций конструкций естественных интеллектуальных нанороботов и их профессиональной ориентации.

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