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Belousov L.V. Extremely low radiations and collective processes in the living systems // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 3-21.

The conditions that allow to use the extremely low radiations (ELR) for detection of collective excited states of molecular substrates in the living systems were reviewed. The sufficient for these purposes there are following properties of ELR: non-additivity; concentration on the some frequencies and the presence of significant harmonics; the presence of the degradation ELR; delayed luminescence after illumination. The data about ELR obtained in experiments with eggs and germs of fishes, amphibians and birds and also with monolayer cell culture.

Key words: extremely low radiations, collective excited states, coherence.

Voikov V.L., Chalkin S.F., Nilov S.M. Damp Air Extremely Low Illumination Induced by Extremely Low Intensity UV-photons // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 22-39.

It was revealed that the photoelectric multiplier that sensitive in UV-range (PEM-142) can increase the count of photon by visible-range photomultiplier (PEM-101) that placed on 5 sm from each other. This influence depends on damp and composition of air in the measure chamber. It was supposed that the phenomenon of excitation of air, that was revealed due to constructive peculiarities of photon count device, can take place in living and non-living nature.

Key words: extremely low irradiation, free-radical processes, water.

Binhi V.N. Parametric resonance in magnetobiology: critical analysis of of Arber's, Chiabrera's, Lednev's, Zhadin's, Blackman's and Binhi's ideas // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 40-50.

Ratio of non-thermal biological effects of weak electromagnetic fields – conceptions of parametric resonance were analyzed. The priorities of original results were revealed.

Key words: electromagnetic fields, parametric resonance, interference of ionic states, biological effects.

Martynyuk V.S., Tseyslyer Yu.V. The change of spectral characteristics of met-hemoglobin in conditions of its interaction with chloroform under action of extremely low frequency magnetic field // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 51-57.

The influence of extremely low frequency magnetic field on met-hemoglobins spectral characteristics on its complex formation with chloroform was researched. It was revealed that influence of hydrophobic ligand results in change of polarity around gem and change accessibility to molecules of water, and the extremely low frequency magnetic field strengthens this process.

Key words: met-hemoglobin, extremely low frequency magnetic field, hydrophobic forces.

Temuryants N.A., Minko V.A. The infradian rhythmicity of behavior parameters in the "an open field" test rats with low level of motorial activity under EMR of ELF influence // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 58-64.

The infradian rhythmicity futures of vertical and horizontal components in the "open field test" under electromagnetic radiation (EMR) of extremely low frequency (ELF) influence at rats

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with low and middle motorial activity and low emotionality were study. The EMR of ELF changes amplitude-phase characteristics, long of specters and their structure. The results of EMR of ELF action to animals with various individual features is approach of behavior infradian rhythmicity parameters. EMR of ELF influence causes hypersynchronization of time organization at rats with low motorial activity.

Key words: infradian rhythmicity, individual feathens, EMR of ELF, the "open field test".

Shishko E.Y., Malugina V.I. **Change infradian rhythmic of activity stress – realizing systems of rats at hypokinetic stress** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 65-71.

Summary: in the given work influence of stress reaction on infradian rhythmic sympathetic adrenal system and hypothalamic-pituitary- systems of rats are investigated. At hypokinetic stress change infradian rhythmic, which testifies to development desynchronize.

Key words: hypokinetic stress, infradian rhythmic, sympathetic adrenal system, desynchronizes.

Temuryants N.A., Chuyan E.N., Verko N.P. **Naloxone modulation gidrolytic activity of phagocytes on action hypokinesia and EMF EHF** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 72-76.

The work was devoted to study the gidrolytic phagocytes activity of in action of naloxone, EMF EHF and hypokinesia. Limitation of movement activity and action of naloxone high oscillations gidrolytic activity. Combined action of hypokinesia and EMF EHF limitation gidrolytic activity.

Key words: EMF EHF, naloxone, neutrophils, hypokinesia, gidrolytic activity phagocytes.

Chujan E.N., Makhonina M.M., Tarkov V.E. **Change of a functional state of the synthetic kettle of lymphocytes in a rat blood on isolated and combined with a hypokinesia activity effect of low-intensity EMF of VHF** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 77-82.

Using luminescent microspectral analysis the investigation of a functional state of the synthetic apparatus of lymphocytes of a rat blood on isolated and combined with a hypokinesia activity effect of electromagnetic field (EMF) of extremely high frequencies (EHF) was carried out. Effect of EMF of EHF on intact animal the functional activity of the synthetic kettle of lymphocytes concerning values in control bunch is enhanced, that testifies to rising a level of an immune resistance of an organism. Under influence of a nine-diurnal hypokinesia the drop of a parameter of synthetic activity of lymphocytes was observed, that testifies to depression of synthetic processes in cells. The effect of EMF of EHF on animal in hypokinesia, produces correction of change of functional activity of lymphocytes, which results in increase of a parameter of synthetic activity concerning the given parameter for animal in restricted state of mobility, which does not take place under activity EMF of EHF.

Key words: low-intensity EMF of EHF, hypokinesia, lymphocytes, synthetic activity, fluorescent analysis

Mishenko S.V., Mishenko V.P., Taryanik K.A. **The polarized light influence the procoagulative and fibrinolytic brain hemispheres features in rats** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 83-87.

It is determined in experiments in rats the brain hemispheres (right and left) significant procoagulative and fibrinolytic features in intact animals. At the rats' right head half pile-light

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irradiation on the one and on the other hand the procoagulative brain hemispheres activity increased on both sides and the fibrinolytic one-reduced. Similar changes were observed at the piler-light action to the right head half. In both cases the procoagulative and fibrinolytic features hemispheres asymmetry grew between the right and the left brain halves.

The procoagulative and fibrinolytic brain hemispheres activity increasing mechanism in response to the piler-light action is discussed.

Key words: piler-light, procoagulative and fibrinolytic brain tissues activity, asymmetry.

Grigoriev P.E., Martynyuk V.S., Temuryants N.A. The biological significance of the different indices of cosmic weather in the different phases of solar cycle // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 88-92.

The synchronization of the physiological processes by the heliogeophysical variations is provided by that channel of action of the “cosmic weather” on the environment (ionospheric or magnetospheric), which activity is dominated during the experiment. It is expressed in the minimal phase differences between the rhythms of physiological processes and the indices of the “cosmic weather” of the corresponding class – solar (Wolf numbers, 10.7 cm Solar flux) or magnetic activity (Ap, Kp, IMF polarity).

Key words: cosmic weather, biorhythms, synchronization.

Zenchenko T.A., Konradov A.A., Zenchenko K.I. The correlation of dynamics of amplitude of “near zone effect” with geogeliophysical indices // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 93-104.

An array of daily values of amplitude of “nearest zone effect” (NZE, or degree of manifestation of self-organization processes in statistical population (radioactive decay) was obtained using histogram method for data analysis (Shnoll method).

It was revealed significant statistical correlation between the dynamics of amplitude of “nearest zone effect” and indices of solar and geomagnetic activity, so that the peaks of NZE amplitude coincide with the moments of the highest rate of changes of absolute value of interplanetary magnetic field and geomagnetic field intensities.

Key words: geomagnetic activity, solar activity, near zone effect.

Vladimirsky B.M., Konradov A.A. Complex problems of solar-biospheric connections // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 105-115.

The analysis of new works on influence of cosmic factors on Earth was reviewed. Main questions: influence of Moon on physical-chemical systems, Hokelen’s “planetary effect”, daily variations in physical-chemical systems.

Key words: solar-biospheric connections, cosmophysical correlations, macroscopic fluctuations.

Stepanyuk I.A. Features of reactions of biological and physico-chemical systems to external factors // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 116-122.

The reports considers the dangers of obtaining artifacts while making an overall analysis of experimental data on reactions of biological and physico-chemical systems to variations in external, mostly electromagnetic factors in the cosmos-biosphere system. The dangers are caused by not taking into account the information, or lack thereof, on a number of specific features: nonlinearity

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of the coupling function in the statistical regime, dynamic features of the systems reacting independently and in various combinations, as well as the conditions of conducting the experiments, in particular, inconsistency in discreteness of obtaining information and spectral characteristics of the involved factors.

Key words: artifacts, non-linearity, static function of connection, dynamic function of connection, discretisation, illusion of discretisation.

Pavlenko V.B. The Role of Subcortex Aminergic Structures in Organization of Voluntary Behavioral Act // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 123-130.

The study is devoted to elucidation of the mechanisms of preparation for, realization of and estimation of the results of targeted behavioral acts in humans and animals, which include self-initiated movements conditioned by the time parameters. Characteristics of behavioral acts to a great extent depend on the individual peculiarities of the activity of the monoaminergic cerebral systems.

Key words: voluntary movement, conditioning, aminergic neurons, evoked potentials, personality traits.

Kolotilova O.I., Pavlenko V.B., Koreniuk I.I., Kylichenko A.M., Fokina J.O. Interrelation between the activity of neurons of aminergic brain systems and EEG rhythms in cat // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 131-137.

In the article there is analysed the interrelation between the activity of neurons of aminergic brain systems and EEG rhythms in cat.

Key words: noradrenergic, serotonergic systems, locus coeruleus, nucleus raphe, EEG rhythms, neuronal activity.

Tiunin V.L., Madyar S.A., Kovalevskaya E.E., Pavlenko V.B. Correction of unfavourable influences of intensive computer work using Madyar's color tables // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 138-145.

It was shown that intensive computer work within an hour leads to unfavorable changes of EEG pattern – probationers' potentials. Application of Madyar's color tables assists to recover their psychophysiological status.

Key words: personal computer, visual color stimulation, psychophysiological status

Tribrat A.G., Makarova L.B., Pavlenko V.B. Strategies of directed auto-correction of psycho-physiological state through use of biological feedback by EEG // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 146-153.

The article observes the strategies of relaxation by 35 subjects during EEG biofeedback sessions. The most optimal strategy appeared to be the so called "mental relaxation", resulting in best alpha- and theta-rhythms amplitudes ratio.

Key words: biological feedback by EEG, relaxation strategies.

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Cherniy S.V., Makhin S.A. Anxiety level effect on the components of event-related EEG-potentials // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 154-160.

The article reviews the interconnection between anxiety level and the components of event-related EEG-potentials (ERP), and states the possible formation mechanisms of ERP patterns in people with high anxiety.

Key words: anxiety, event-related potentials.

Korenyuk I.I., Gamma T.V., Baevsky M.Yu., Podmareva I.R. Influence of bemitile on physiological reaction of rats // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 161-166.

Summary: With the help of the test of " an open field " after an injection bemitile features of influence of this substance in various dozes on physiological reaction of animals are shown rats. On the basis of the received results the conclusion that bemitile renders oppressing effect on behavioural reaction of rats is made.

Key words: an open field, impellent activity, bemitile.

Ravaeva M.J., Korenjuk I.I., Kur'janov O.V., Chupahina T.A. Studying of psychotropic activity N-[N-(1,2:3,4-di-O-izopropiliden- α -D-galactopyranuronoil)]-glycil-glycine // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V.I. Vernadskogo. Series «Biology, chemistry». – 2005. – V.18 (57). – № 1 – P. 167-173.

In the test «open field» action N-[N-(1,2:3,4-di-O-izopropiliden- α -D-galactopyranuronoil)]-glycil-glycine on behavioural parameters of activity of rats is investigated. It is established, that glycopeptides in a doze of 50 mg/kg has brake an effect on nervous system, investigation of that may be reduction stress animals.. The comparative analysis of action glycopeptides, his carbohydrate basis and a radical has shown, that the most expressed effect was observed at action glycopeptide.

Key words: open field, glycopeptide, glycine, inhibition.