

CORRECTION OF HUMAN REACTIONS ON MAGNETIC STORMS THROUGH TRIGGERING AREAS

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About influences of the magnetic field of Earth (MFE) on a man it is written much.

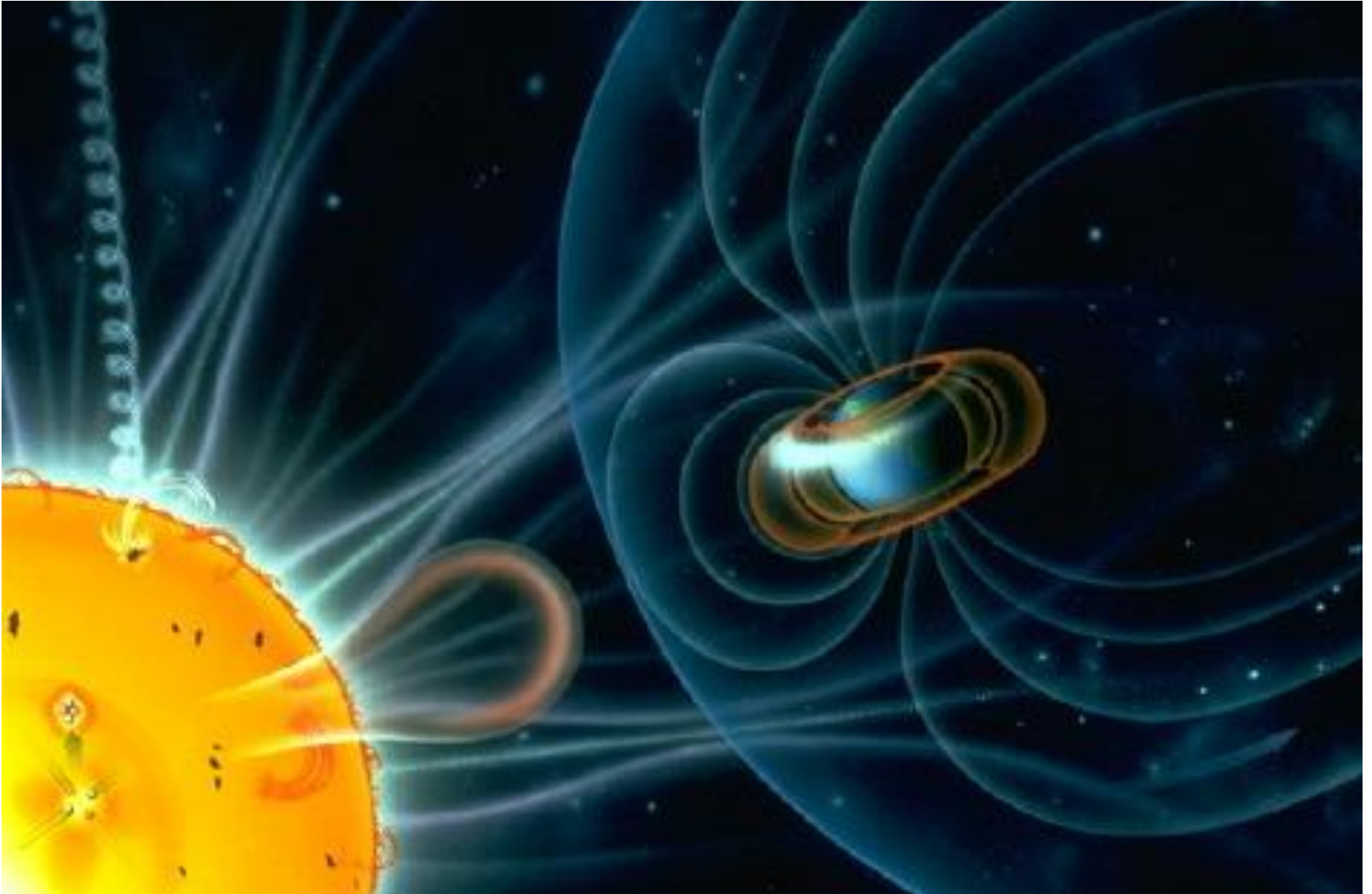
And a question is most interesting, why at the sharp changes of the MFE parameters arising up at magnetic storms and perturbations, physiological and functional descriptions of man change suddenly? Thus these descriptions show up variously at different people and often are not identical and at one man in different phases of development of organism.

It relies on the physical character of external influences - meteorological or geophysical, and from the degree of tension of physiological functions or pathological states of man.

Why this problem interesting. The different reactions of people are well-known on helio-geophysical changes. The factors of environment influence on the functional states, but on everybody to on differently - individually or by the special appearance.

It is known also, that these reactions develop up at finding of man both outside and into apartments. However, it is here needed to take into account that 2 types of geophysical factors - low-frequency atmospheric pressure fluctuation (LFAPF) and fluctuation of magnetic-field of Earth fluctuations behave to such influences.

Helio-geo connection



Origin magnetic storms

MFE influence together with LFAPF penetrates into workings places and can have influence on the human functional states.

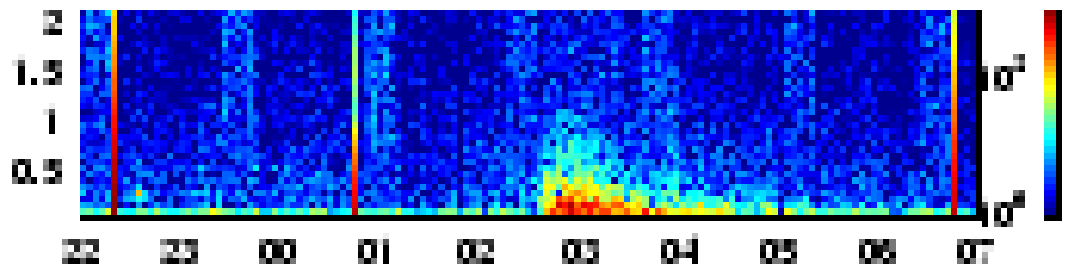
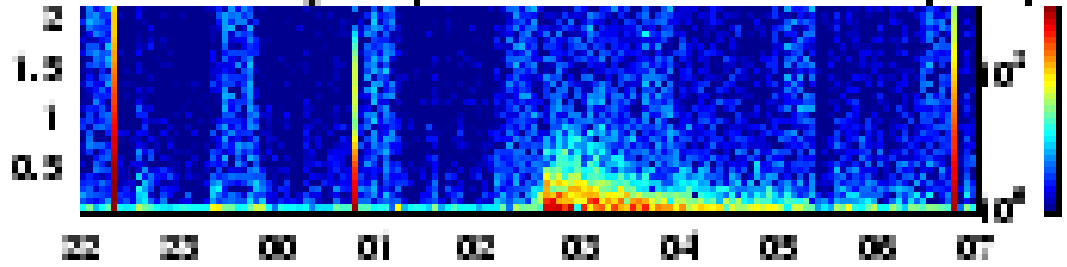
About influences of LFAP on a man we already talked before. The mechanism of possible influence is offered low-frequency (LF) components of MPE and his perturbations on a man.

Why chosen LF component of MPE?

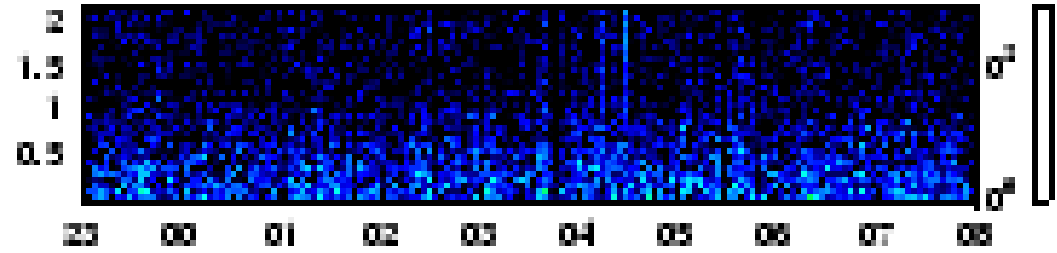
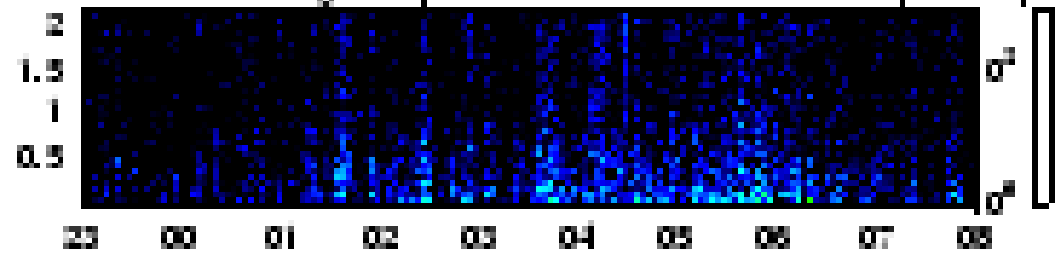
On the Antarctic station the «Academician Vernadskiy» was conducted monitoring of low-frequency atmospheric pressure fluctuation and MFE variations which estimated on local A-index. Spectrogramm of LF component of MFE (to 1 Hz) were selected also.

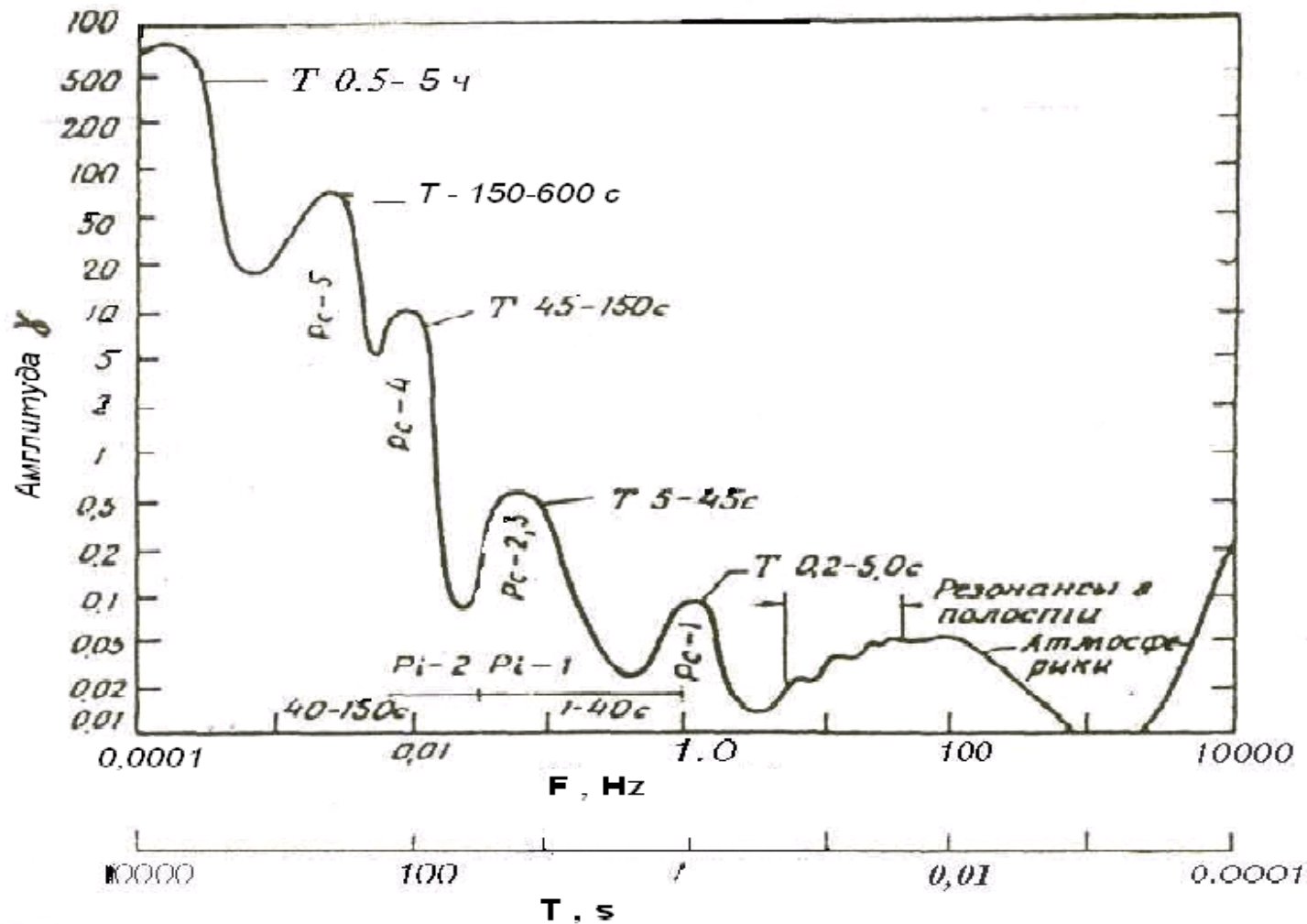
For determination of correlation communications used a cross-correlation analysis, and also “method epoch superposition”. Close correlation communications between variations of LF component of MFE and natural LFAPF ($r = 0,71$).

Kiruna magnetic pulsations 1999-04-08: X component pT

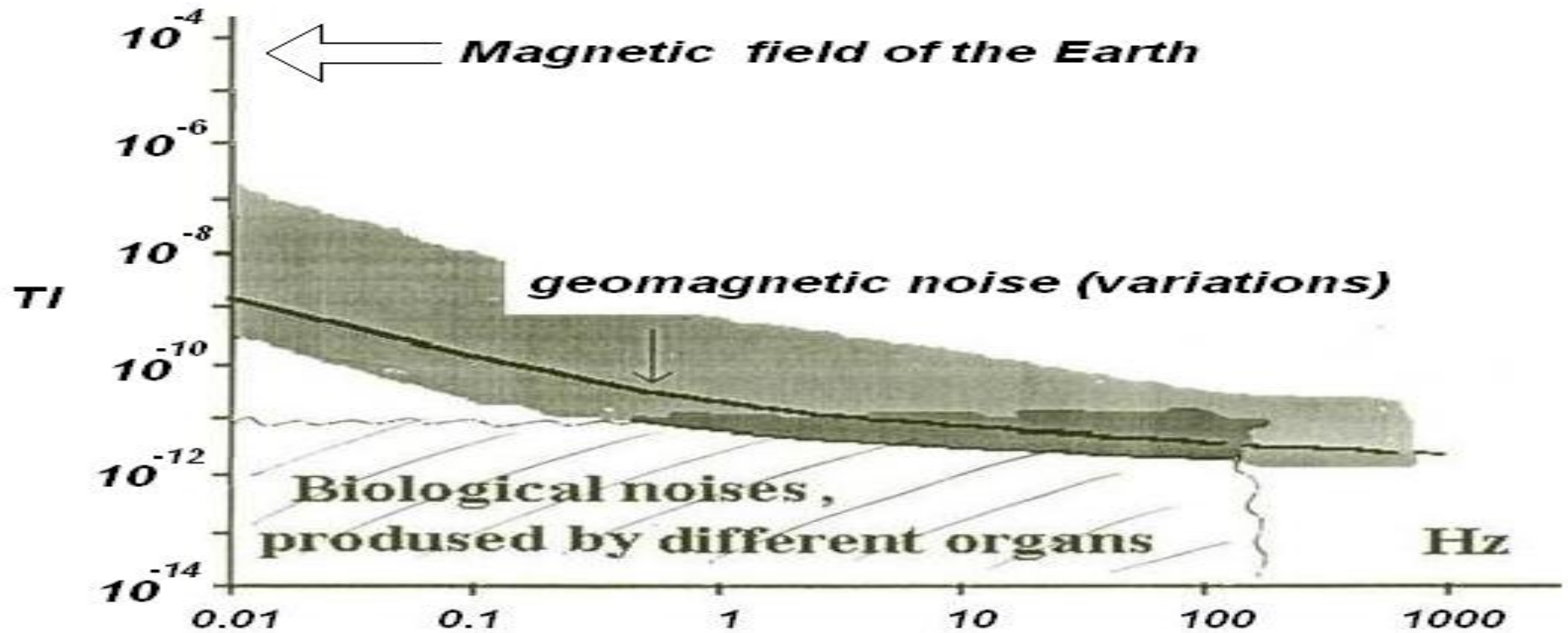


Kiruna magnetic pulsations 1999-12-14: X component pT





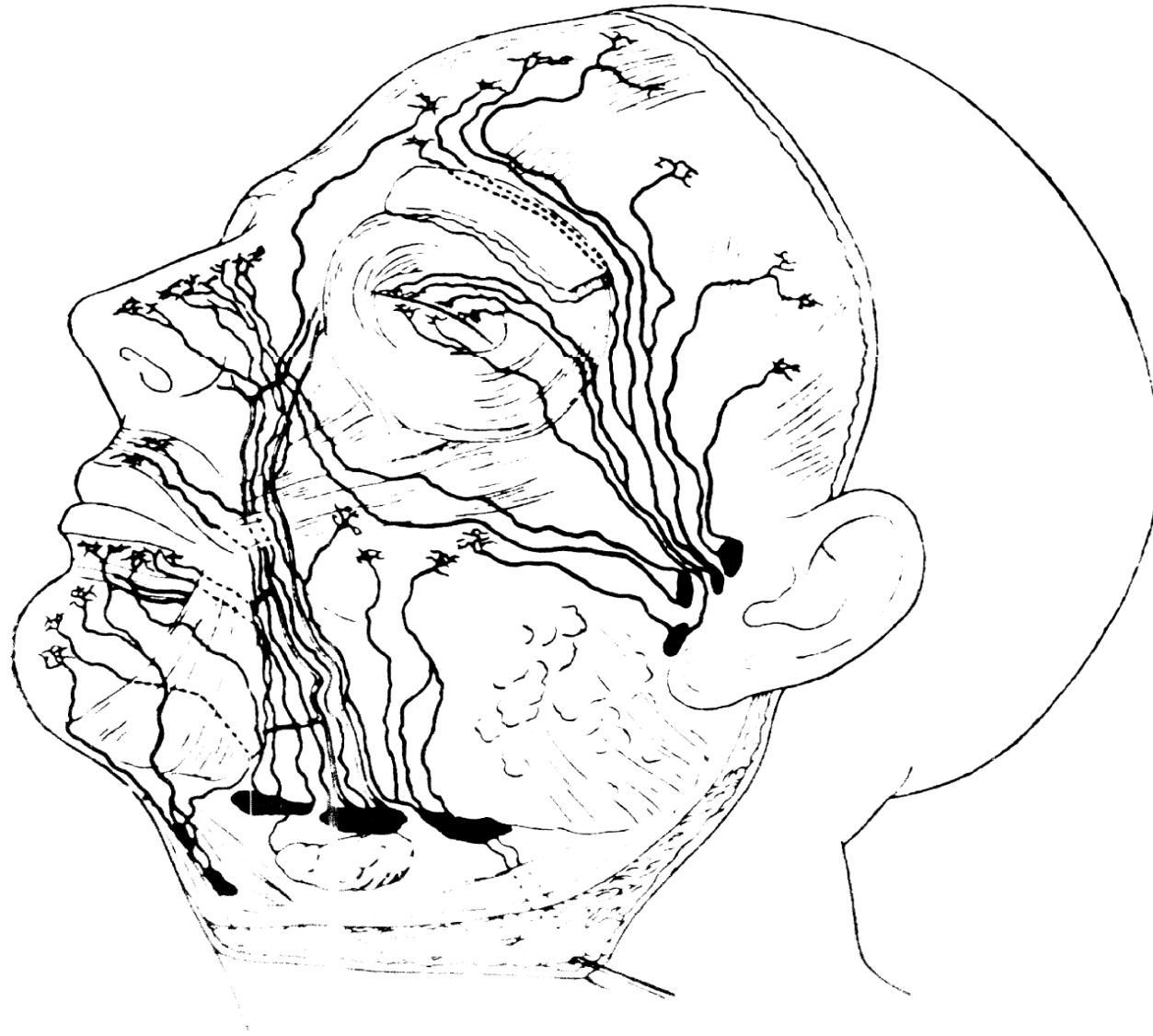
The spectrum of the MFE variations for frequencies is below 10 kHz (scales logarithmic). On an ordinate - amplitude of oscillations, nTl . Next to denotation of peaks (P_c , P_i) the values of their periods are indicated. Different amplitudes MPZ are especially great on low frequencies (to 1 Hz).



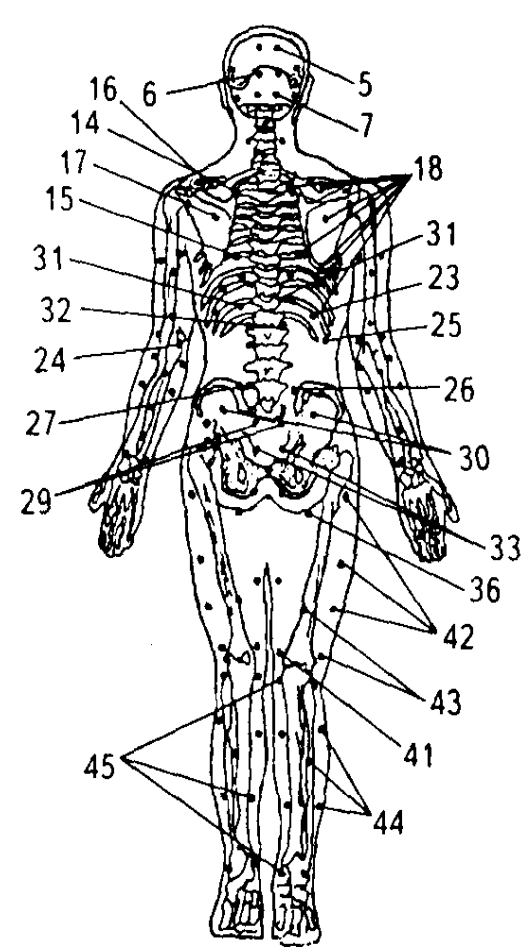
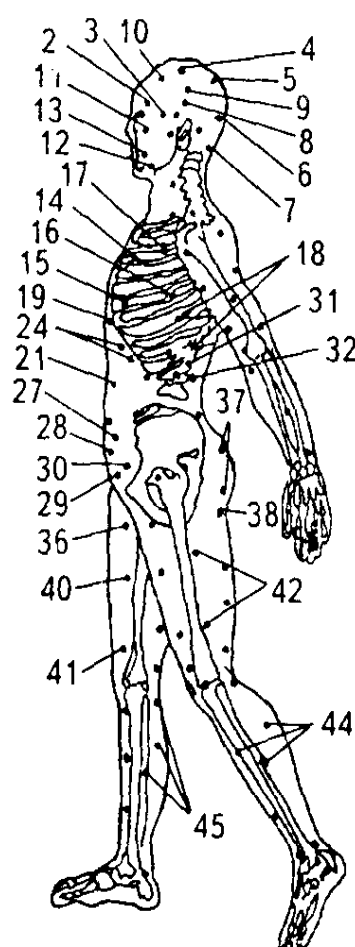
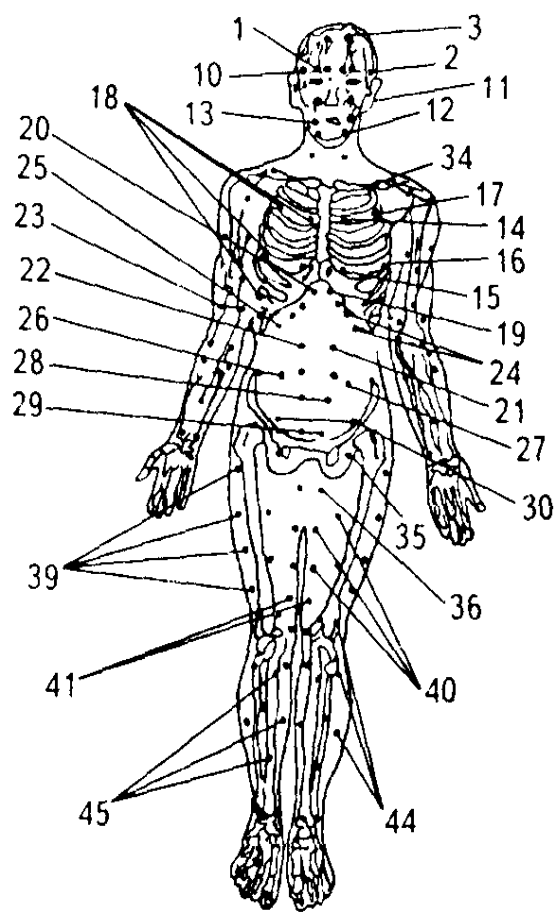
There are the selected bioeffective frequencies, causing sharp changes in functioning of organisms. A response on them can be both positive (in sense of transition of organism in the state more near to optimum) and negative. There are certain “frequency-amplitude windows” which a rectifying reaction of bioobject is into, and out of them - absents. Thus most informing is frequency of influence, and amplitude determines the mechanism of realization of response of organism only.

MFE structure and LF component of MFE we calculate by the special developed program. The program allows defining spectral descriptions of natural MFE, which register with frequency of 2 Hz. The parameters of MFE give us our colleagues in Institute of Earthly magnetism (IZMIRAN, Russia) and middleEuropean geophysical station in Hurbanovo (Slovakia).

We consider that low-frequency natural geomagnetic perturbation can cause the considerable changes of amplitude of electric potentials of skin (EPS), for example by ***induction***. They are the irritants of electric potentials of active areas of skin (AAS), that causes the possible resonance (or dominant) changes of absolute values of EPS and asymmetries of their distributing. It comports with low-frequency nature of modification of EPS in AAS.



AAS are the places of inclusion in the skin of nervous trunks and vascular bunches.



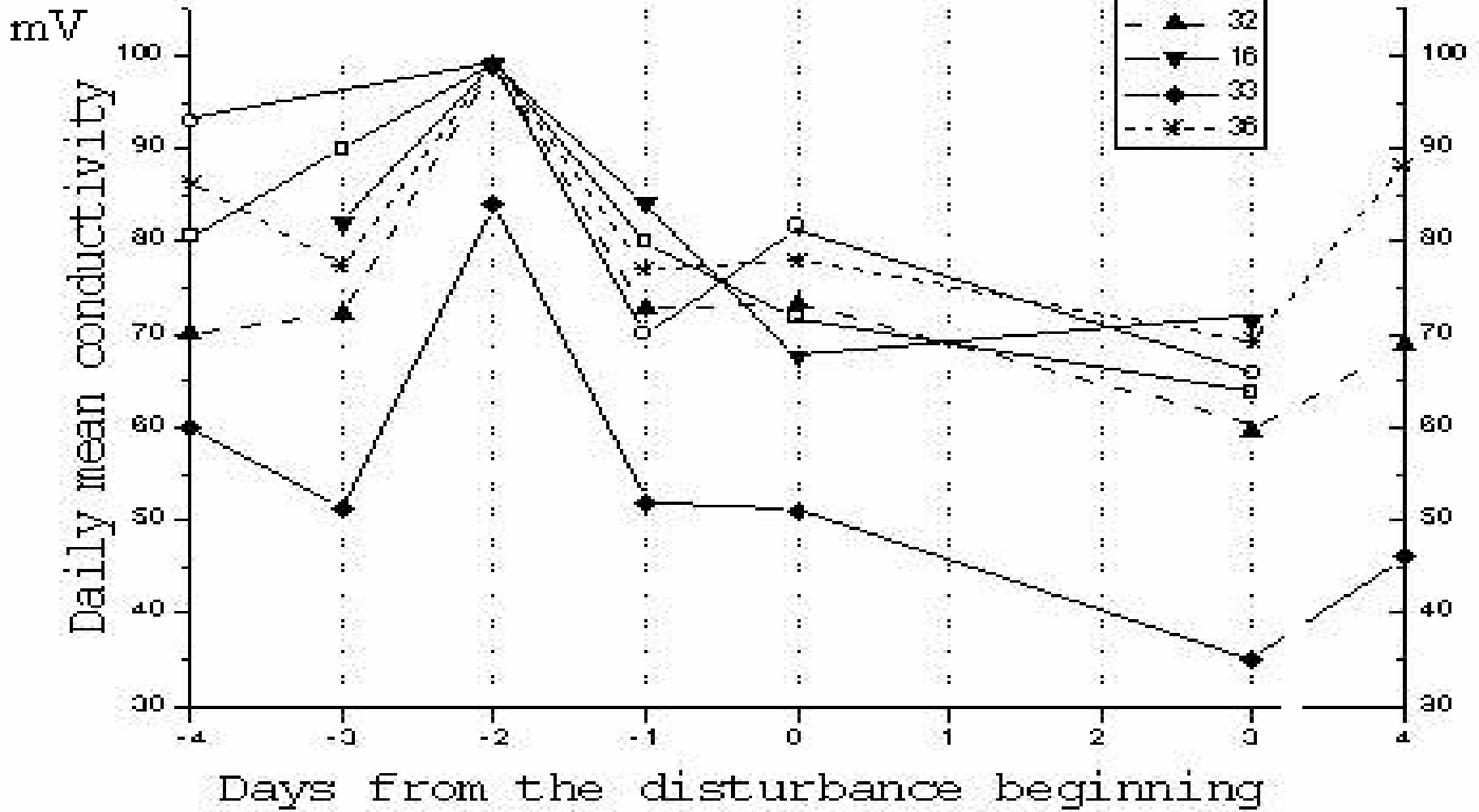
AAS have nerve and -humoral connections with all of internalss and parts of the

brain. Active areas of skin, connections with internalss, departments of cerebrum and peripheral nervous system (Podshibyakin,

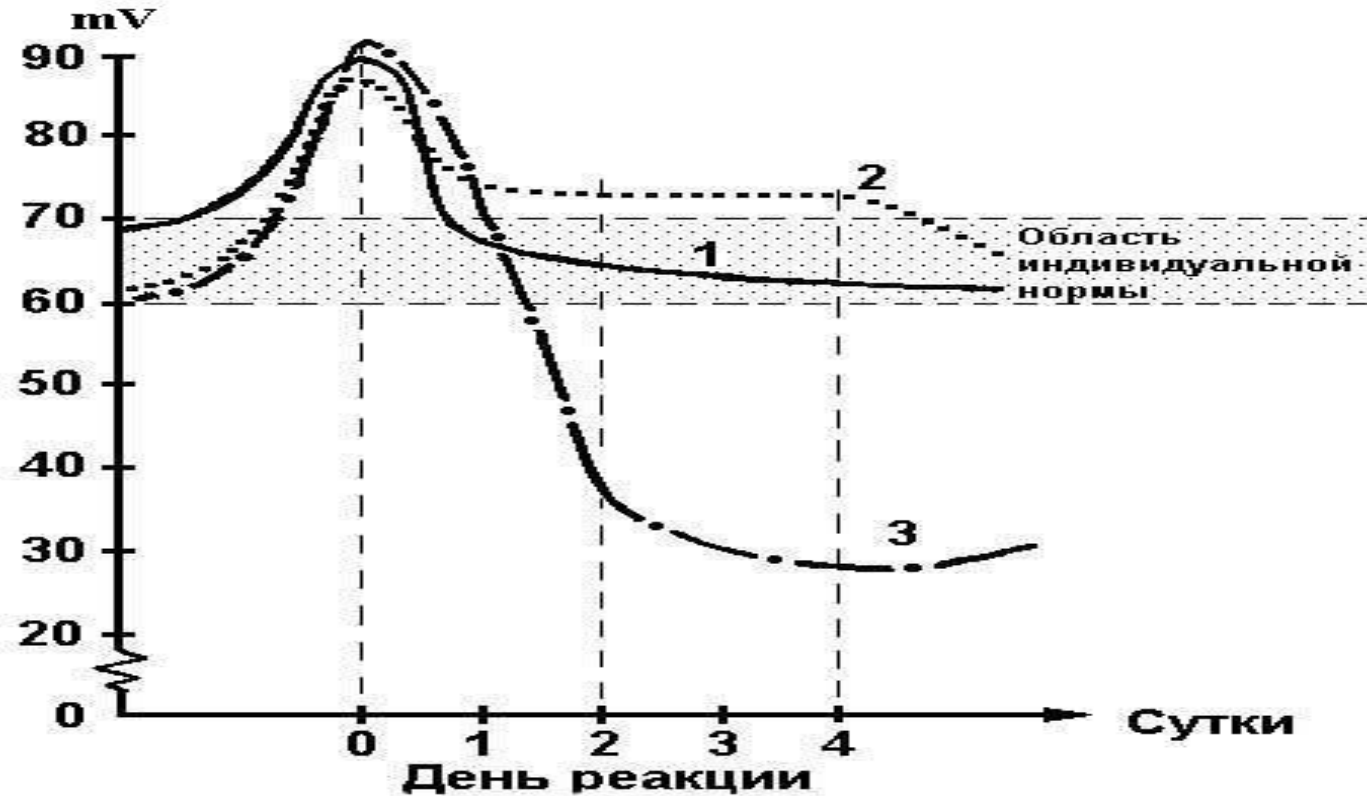
1960; Gorgo, 1989): 1 — frontal first; 2 — frontal second; 3 — frontal back; 4 — parietal front; 5 — parietal back; 6 — cervical overhead; 7 — cervical lower; 8 — temporal first; 9 — temporal second; 10 — temporal third; 11 — by eye-socket ; 12 — chin; 13 — perioral; 14—17 — AAS, related to the heart; 18 — with by lights; 19—22, 31 — with a stomach; 23 — with a gall-bladder; 24 — with a spleen; 25 — 13 with a liver; 26 — with an appendix; 27 — 13 with a sigmoid bowel; 28 — 13 by an urinary bladder; 29 — with an uterus (by a prostate); 30 — with ovaries; 32 — with buds; 33 — with a rectum; 34 – n.n. supraclavicularis; 35 n.lumboinguinalis; 36 n. spermaticus externus; 37 n. cutaneus femoralis posterior; 38 n. cluneum inferiores; 39 n. cutaneus femoris lateralis; 40 n. cutaneus femoris anterior; 41 n. ramus cutaneus nervus obturatorius; 42 n. cutaneus femoris lateralis; 43 n. cutaneus temoris posterior; 44 n.cutaneus surae lateralis; 45 is rami cutanei cruris n. of saphenus; 46 n. cutanei surae medialis

AAS exist and at animals. Biophysical properties of active areas of skin show up in the sharp changes of electric potentials and temperature at functional and pathological state of internalss and parts of brain. Exist program design and device of diagnostics of the functional and pathological states of internalss and parts of brain is developed on registration of EPS of skin. Close cross-correlation connections were exposed between values and asymmetry of EPS of head from the index of MFE ($r = 0,54$). There are examples of the real co-operations of indignations of MFE and EPS of AAS.

12 Okt 2006



The substantial changes of electric potentials in AAS for 2 days and in the day of magnetic storm are here visible.



Характерный вид изменений амплитуды СТЭП в активных зонах кожи при реакции на магнитную бурю

- 1-реакция практически здорового человека;
- 2- реакция человека при остром обострении;
- 3-реакция хронически больного человека.

Characteristic type of changes of EPS of AAS at the reaction on a magnetic storm (0 day). 1- at a healthy man; 2- at sharp intensification; 3 - reaction chronically of sick man.

There is thought about the EPK dominating at different external influences, diseases or functional tensions in those AAS, which are related to the proper internal organ, system or part of brain (Uhtomskiy, 1902; Gorgo, 1978).

We consider what dominating observing up at magnetic storms.

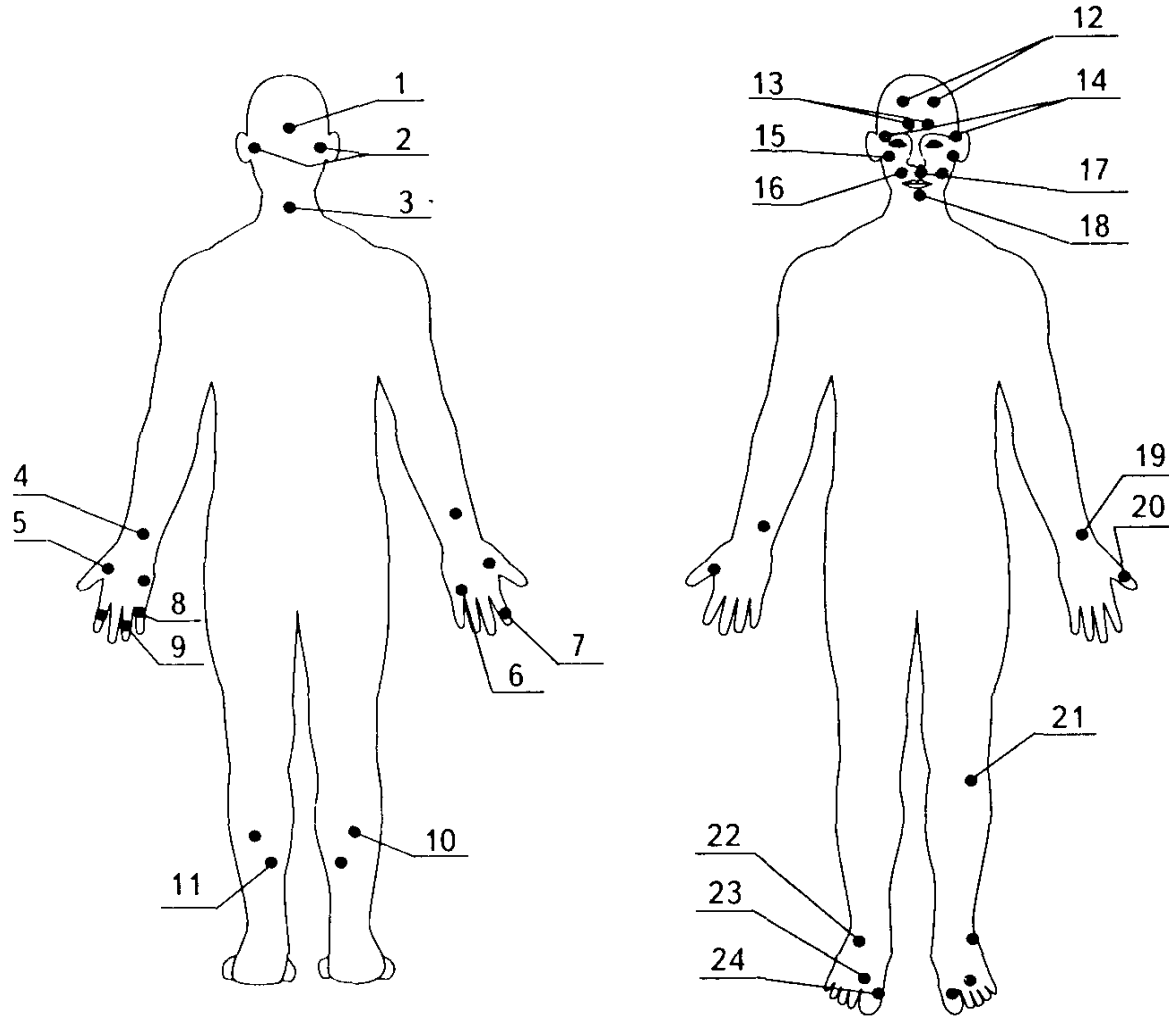
The values EPS are evened +30-50 mV. Low-frequency vibrations of the magnetic field at different BASES of skin can be characterized by inductance L_{ext} with a size from nH to a few ten mkH. From other side the low-frequency variations changes of EPS in the AAS can be given as own resonance frequencies of the simple swaying to the contour which usually consists of inductance and capacity. Co-operation between the own and external variable magnetic fields satisfies to the laws Faraday and Lorenz and rule Lentz, that are executed on a skin at the increase of the fluctuation MFE different orientation.

Law Lorenz; $\mathbf{F} \mathbf{l} = \mathbf{q} \mathbf{B} \mathbf{u}$ -module of Lorenz power;
 $\boldsymbol{\varepsilon} \mathbf{i} = - \Delta \Phi / \Delta t = \mathbf{l} \mathbf{i} * \mathbf{R}$ - law of electromagnetic induction of Faraday.

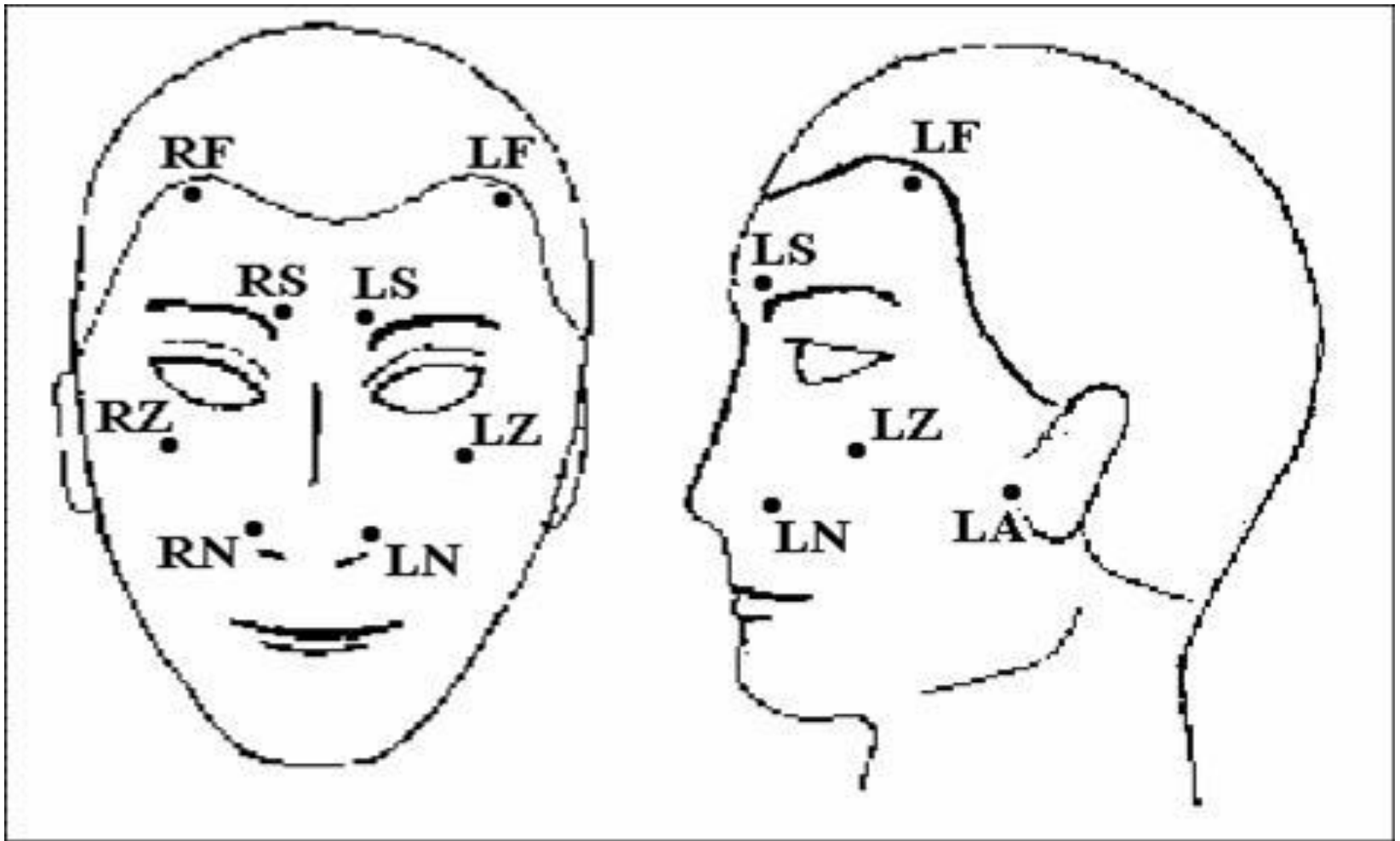
Such co-operation can increase or diminish electric potential in different areas, and foremost at AAS in which considerably greatly increase amplitudes EPS and which prove on a skin on dominating principle. Our computations show that such changes EPS can arrive at 26 mV. Such properties appear, how resonance vibrations nonlinear to the change of size of potential of areas with different values EPS are, existence of frequency windows of highly sensitive co-operation between ASS and exterior magnetic influencing. Thus there are difficult electromagnetic processes both on the surface of skin on the whole, and at interaction EPS in the AAS with the external magnetic field, that causes considerable change of EPS at AAS and can therefore serve by handling influences on the functional states of internal organs and areas of human brain. Such areas name «**triggering areas**».

At the increase of amplitude of MFE during magnetic storms the size of EPK is increased and it is an affecting signal internal and departments of parts of head and spinal brain. The increase of EPS in ASS causes an increase activity in an organ, related to this ASS. A pathological process and his symptomatology is thus intensification or there is an over exertion of functions of this organ. It is diagnosed the methods of functional diagnostics.

Knowing these changes (during registration of EPS) or feeling them as a factor of *meteodepending* it can correct FS of man independently or by the external methods of physical rehabilitation or medicine or biophysical methods. Here the methods of massage are very good through trigger areas. These areas on the location coincide on 90 % with the site of AAS, and, in them also takes a place changes of EPS at the increase of amplitude of MFE during his indignations (magnetic storms). In the features of methods of massage and physical rehabilitation of trigger areas is examine my colleague and co-author - Lyabakh Maryna.



Location of trigger areas, more frequent all used for auto- correction of *meteodepending* on workplaces. (The Chinese and international names are resulted) (Gorgo, 1999):
 1- Nao-hu (T 17); 2- Ci-May, 2- (TR 18); 3- Ya-men (T 15); 4- Vay-guan (TR 5); 5- He-gy (GJ 4); 6- Hou-si (JG 3); 7- Shan-yan (GJ 1); 8- Shao-tsze (IG 1); 9- Gaun-chun (TR 1); 10- Tszyao-sin(R 8); 11- Fu-lyu (R8); 12- Tou-vey (E(8)); 13 - Tsuan-chgu (V2) and others.



Location of trigger areas, more frequent all used for massage and correction of headache. (Liabakh, Gorgo, 2013):

There are questions about possibility of managing influences on functional states of man or spontaneously at casual influences of factors of environment through casual, but forecast influences of magnetic storms, or directionally through the changes (increase or indemnification) of amplitude of EPK in dominant ASS. We are engaged in them on the **department of the physical rehabilitation NTUU «KPI»**.



Дякую за увагу

I thank for attention.