Helioclimatopathology – the 40th Anniversary of Interdisciplinary Studies in Sciences of Space, Earth and Man

Pr. Alexander Trofimov, M.D.

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"...We`ll try to have a cosmic look at things"

K.E. Tsiolkovsky



"...We experience the new geoecological evolutional changes of biosphere, we come into noosphere but just become aware of variety, understand fragmentary and our incomplete representations about the world of cosmic radiation, penetrating biosphere"

V.I. Vernadskiy

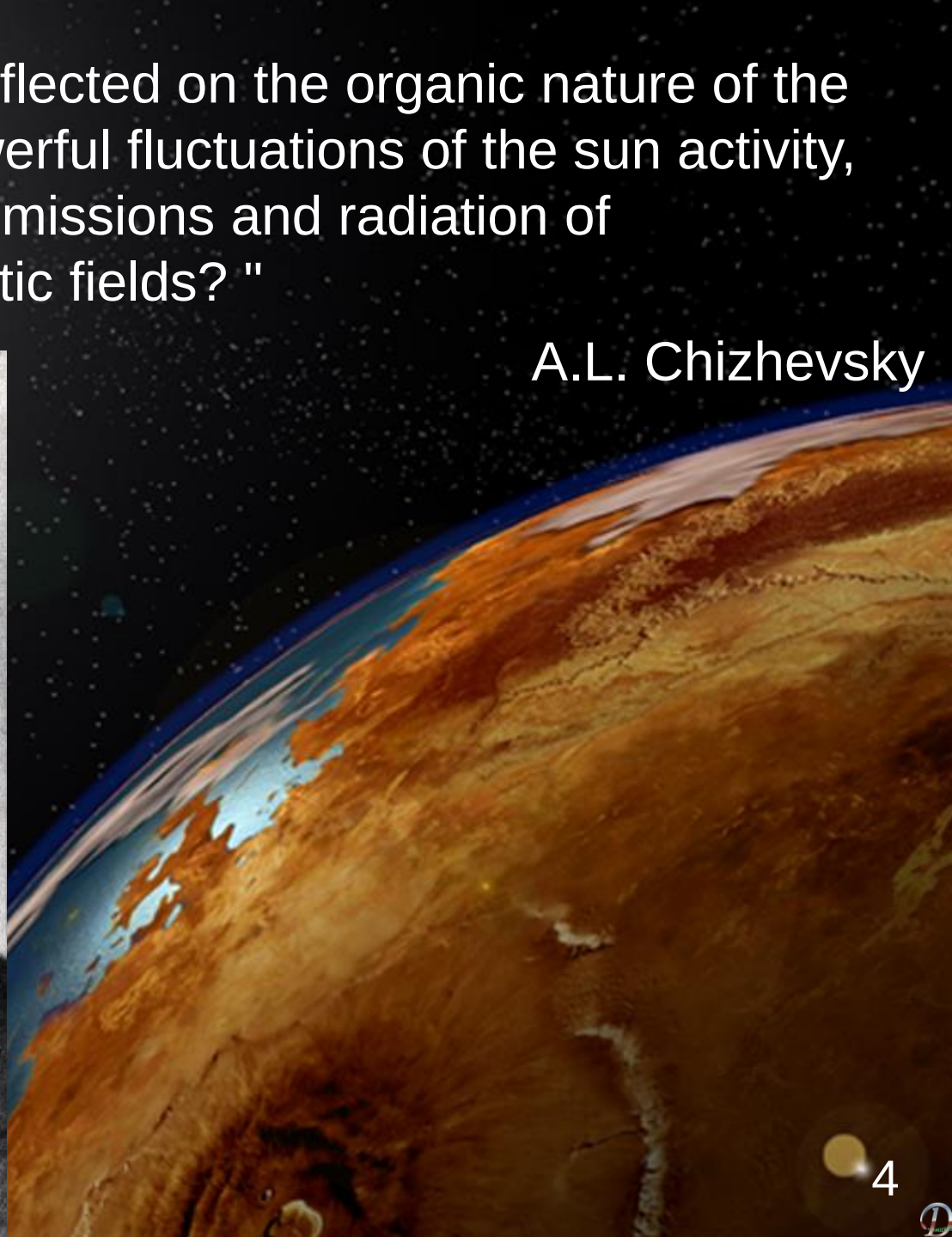


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"...How are reflected on the organic nature of the Earth the powerful fluctuations of the sun activity, solar matter emissions and radiation of electromagnetic fields? "

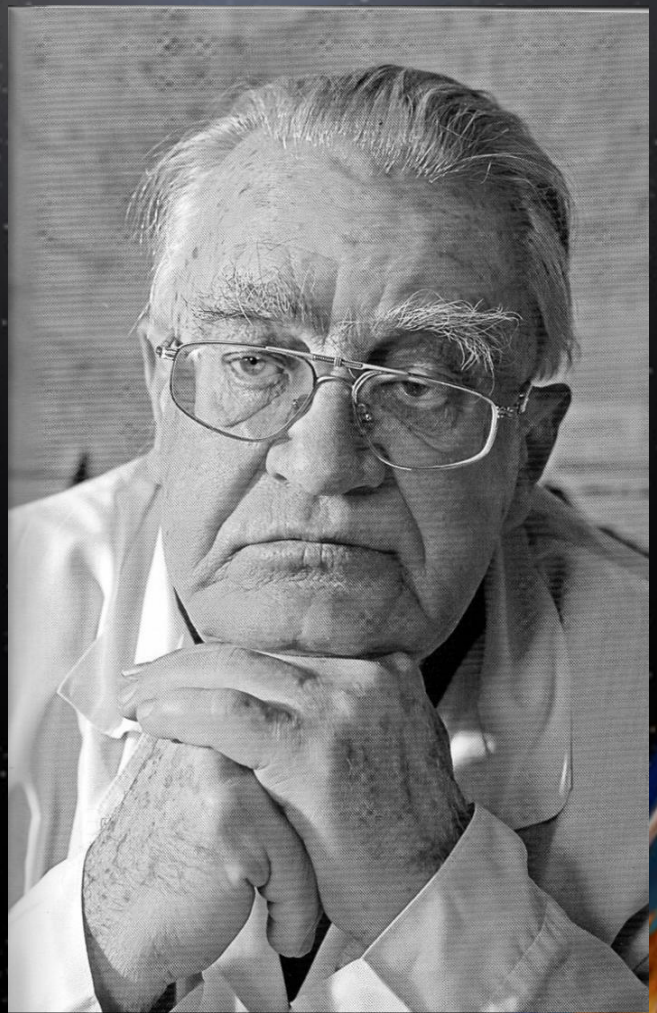
A.L. Chizhevsky

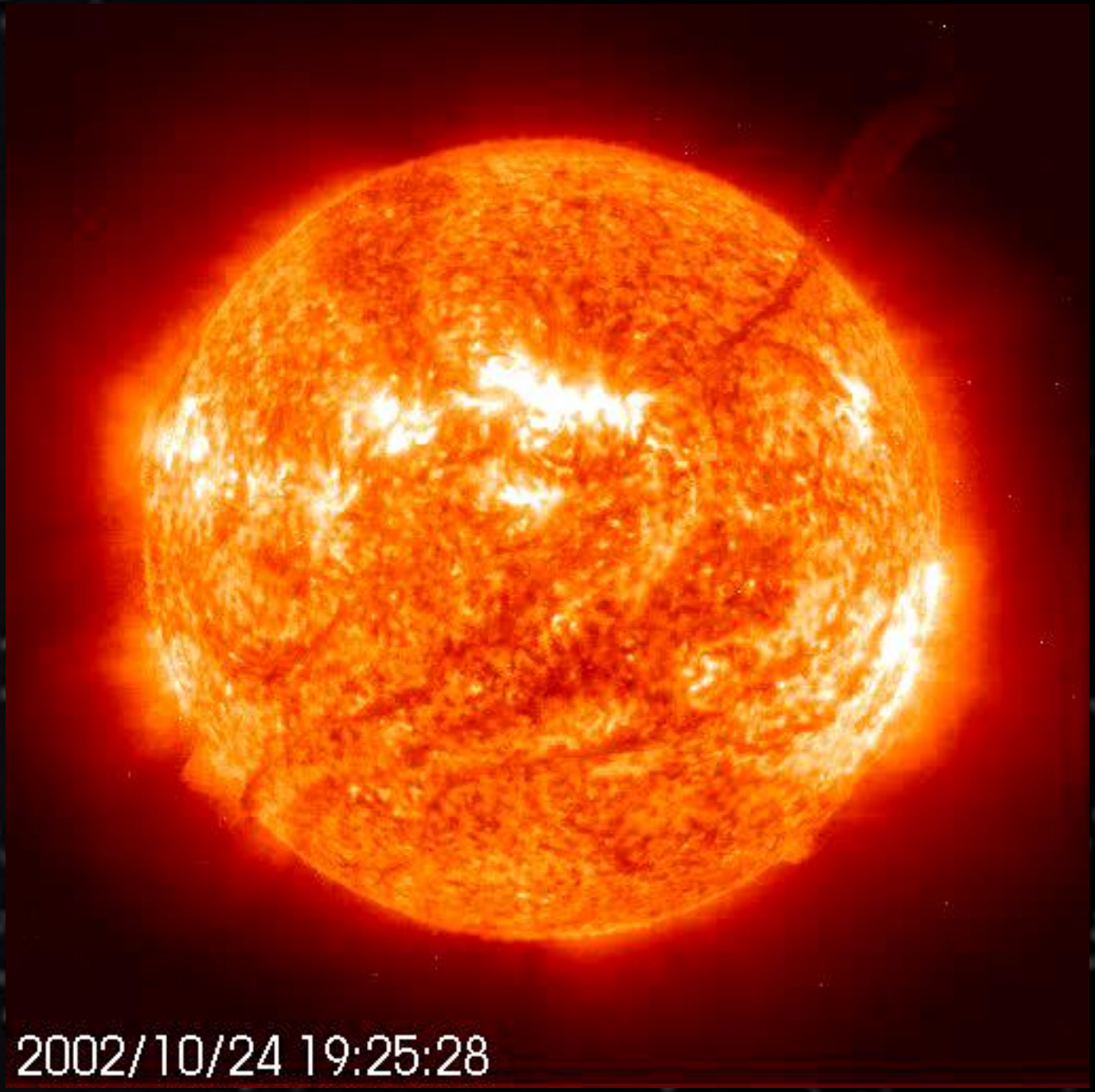




"...We attach great importance to cosmophysical role of water, in which life was formed and developed. It is connected with cosmoplanetary autotrophy,...from which survival of humanity depends in the epoch of global changes on the Earth."

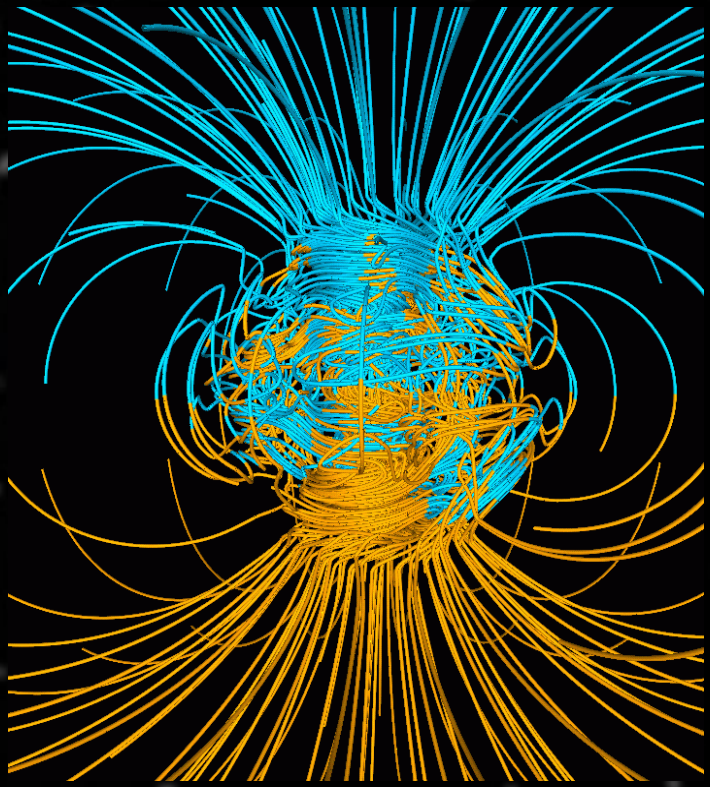
V.P. Kaznacheev




2002/10/24 19:25:28

A model of the Earth`s magnetosphere as acceptor of helioeffects

Magnitosphere of our rotating planet is the most important acceptor of heliophysical impacts on the biosphere of the Earth.



Secular excursions of the geomagnetic field

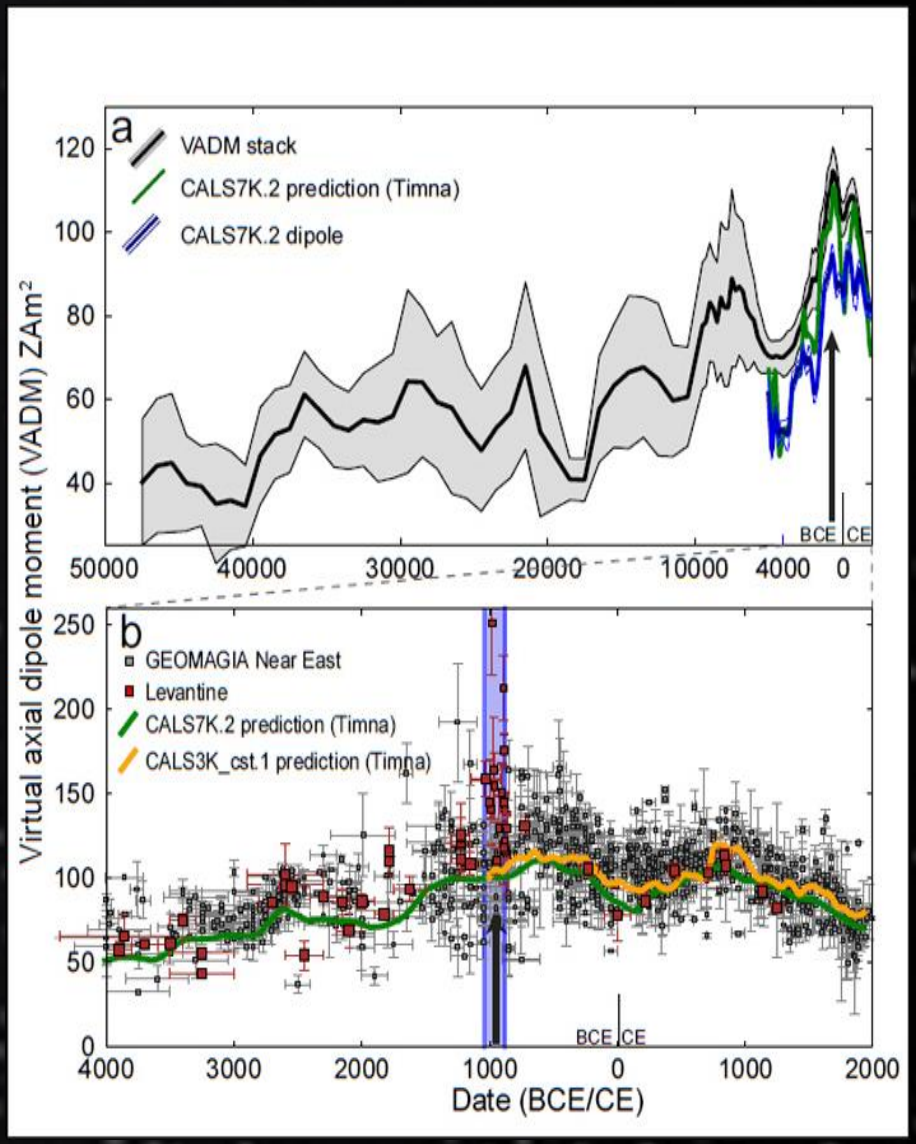


Fig. 1. Summary of previous studies. a) Gray line: average global VADM and the associated error estimates (2σ) obtained by stacking paleointensity data of the past 50 ky (Knudsen et al., 2008). Blue line is the dipole moment calculated by CALS7K.2 model (Korte and Constable, 2005a,b). Green line is the prediction of CALS7K.2 model (Korte and Constable, 2005a) for the location of Timna-30. Arrow marks the peak at ~3 ka. b) VADMs of the Near East obtained by filtering the GEOMAGIA database (Korhonen et al., 2008) according to age (past 6000 years), location (latitude between 20°N to 50°N, longitude between 10°E to 50°E), method (Thellier family), and standard deviation (b15%). Levantine data, including the geomagnetic spikes (Ben-Yosef et al., 2009), are colored in red. Location of the sites is shown in Fig. 2a. Green (orange) line is the prediction of CALS7K.2 model (Korte and Constable, 2005a) [CALS3K_cst.1 model (Korte et al., 2009)] for the location of Timna-30. The blue area and the arrow mark the spikes episode studied here.

By R. Shaar et al., 2011

Genetic mutations in new cosmogony

Excurses and inversions, mln years ago	Events in human evolution, mln years ago
0,033 – Mono Lake	0,03 - disappearance of the Neanderthal men
0,041 – Laschamp a	0,042 –FOXP2 gene mutation 0,037 – microcephalin gene mutation c
0,070 – Norwegian – Greenland Sea a	0,070 - division of ancestral population into three races (according to the mtDNA) d
0,120 – Blake a	0,1 – age of the common ancestor of a modern man (according to Y - chromosome) e
0,211 – Jamaica – Pringle Falls a	0,23 – age of the common ancestor of a modern man (according to the mtDNA) e
0,56 – 0,58 – Big Lost a 0,67 – Stage 17 a 0,78 – Matuyama – Brunhes 0,797 – Brunhes precursor a	660,000±140,000 – division of the lines of a man and the Neanderthal men (according to the mtDNA) f
0,78 - Matuyama – Brunhes h	0,8 – age of the human ancestor according to beta-globin g
1,95 – 1,79 – Olduvai i	1,8 – appearance of *Homo erectus* j
2,6 – Gauss – Matuyama k	2,4±0,3 –mutation that provides an increase in brain volume among representatives of line *Homo* l 2,8 –mutation inactivating the gene, that encodes manufacturing of sucrose at the cell surface

By N. Kuznetsova, V. Kuznetsov, 2012

Scientific centre of clinical and experimental medicine SB RAMS
International SRI of cosmic anthropoecology





Collective of laboratory of helioclimatopathology, SCCEM SB RAMS (created in 1975)

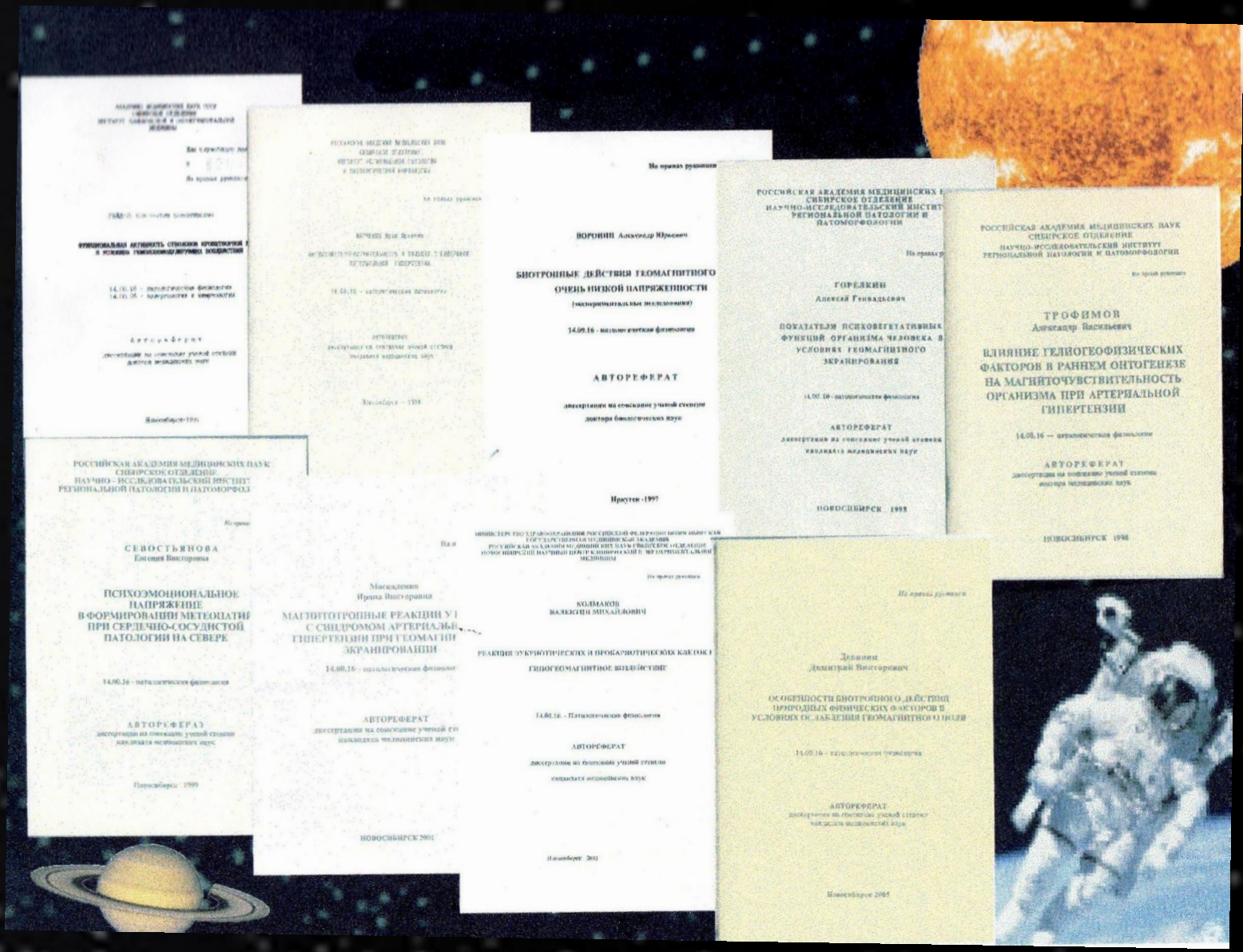
Collective of International SRI of Cosmic Anthropoecology (created in 1994)



Patents…


РОССИЙСКАЯ ФЕДЕРАЦИЯ
СВИДЕТЕЛЬСТВО
ПАТЕНТ
№ 2179868
№ 2236166
ДИПЛОМ

Abstracts of collaborators (PhD, MD)

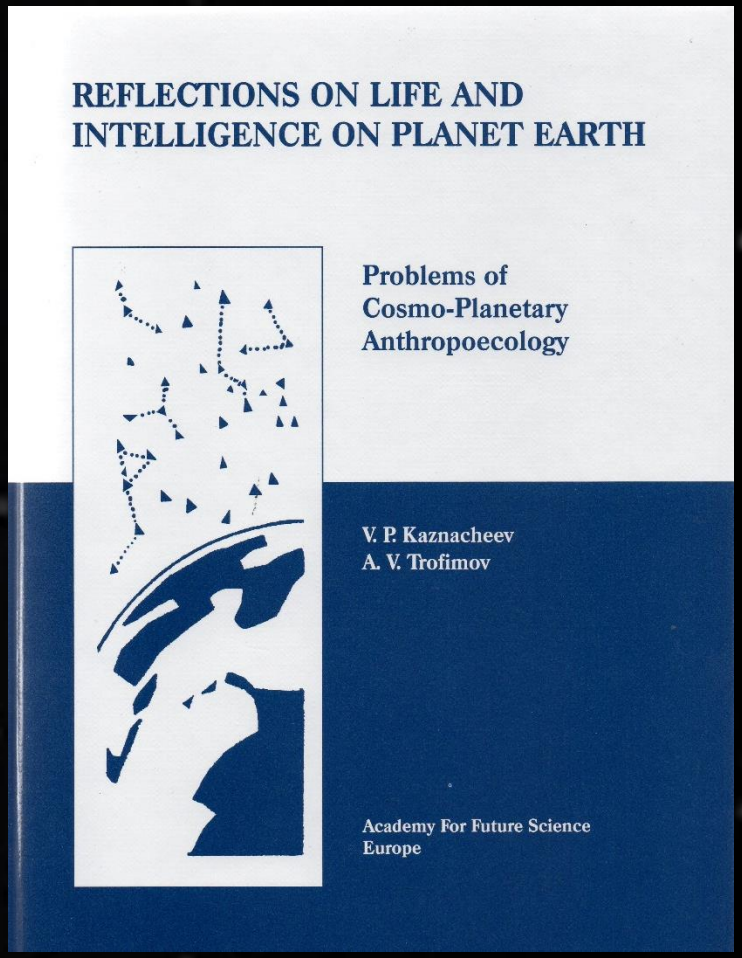


Guidelines, articles…

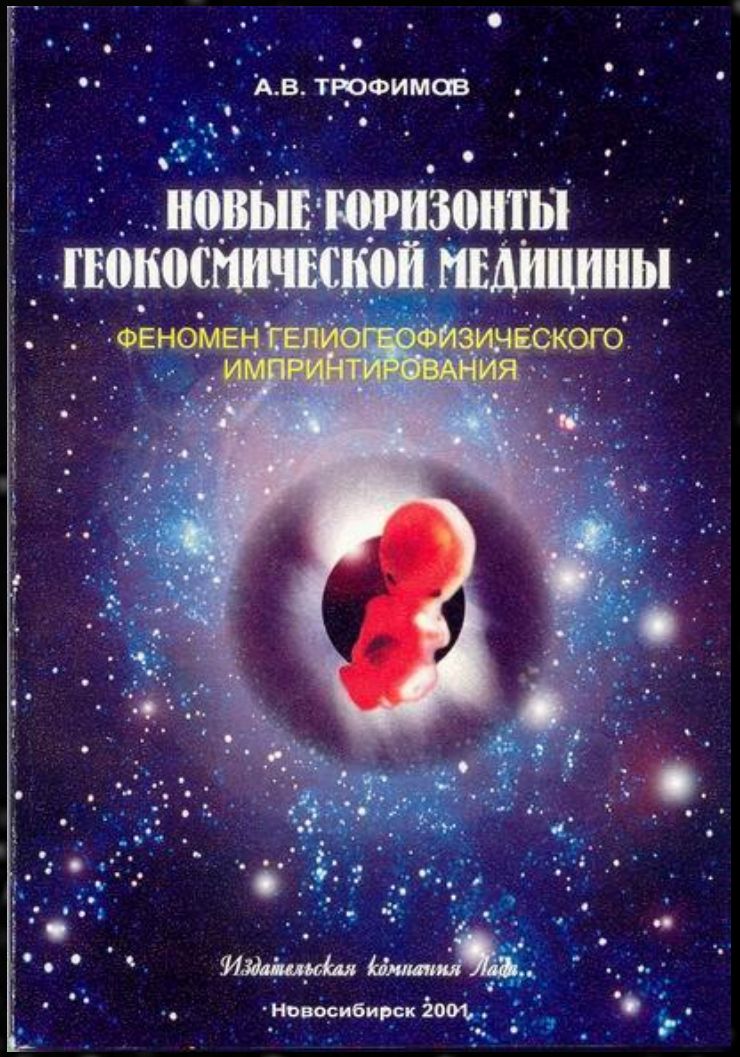


Monographs…

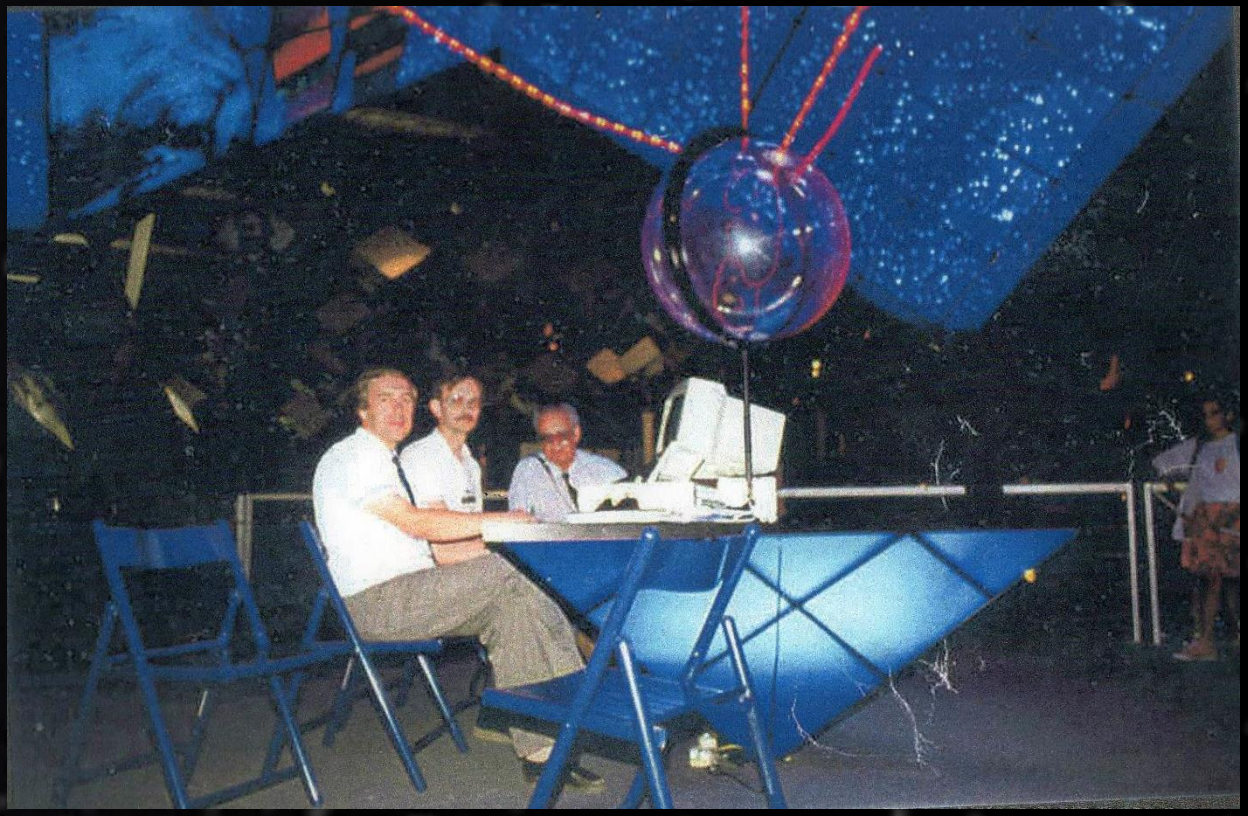

КЛИНИЧЕСКИЕ
Ю.Г. Мизун
В.И. Хаснулин
НАШЕ
В.П. Казначеев
Е.А. Спирин
А.В. ПРОФИМОВ
НОВЫЕ ГОРИЗОНТ
ГЕОКОСМИЧЕСКОЙ МЕД
ФЕНОМЕН ГЕЛИОГЕОФИЗИЧЕ
ОЧЕРКИ О ПРИРОДЕ
ЖИВОГО ВЕЩЕСТВА
И ИНТЕЛЛЕКТА
НА ПЛАНЕТЕ
ЗЕМЛЯ
МИКА
COSMIC
КОСМОС
и здоровье
БИОТРОПНЫЕ
СВОЙСТВА
ОСЛАБЛЕННОГО
ГЕОМАГНИТНОГО
ПОЛЯ


REFLECTIONS ON LIFE AND INTELLIGENCE ON PLANET EARTH
Problems of Cosmo-Planetary Anthropoecology
V. P. Kaznacheev
A. V. Trofimov
Academy For Future Science
Europe

A unique software: phenomenon of heliogeophysical imprinting.
New horizons of geocosmic medicine



Demonstration of computer program "Helios" on the World Exhibition Expo-92 (Sevilla, Spain)

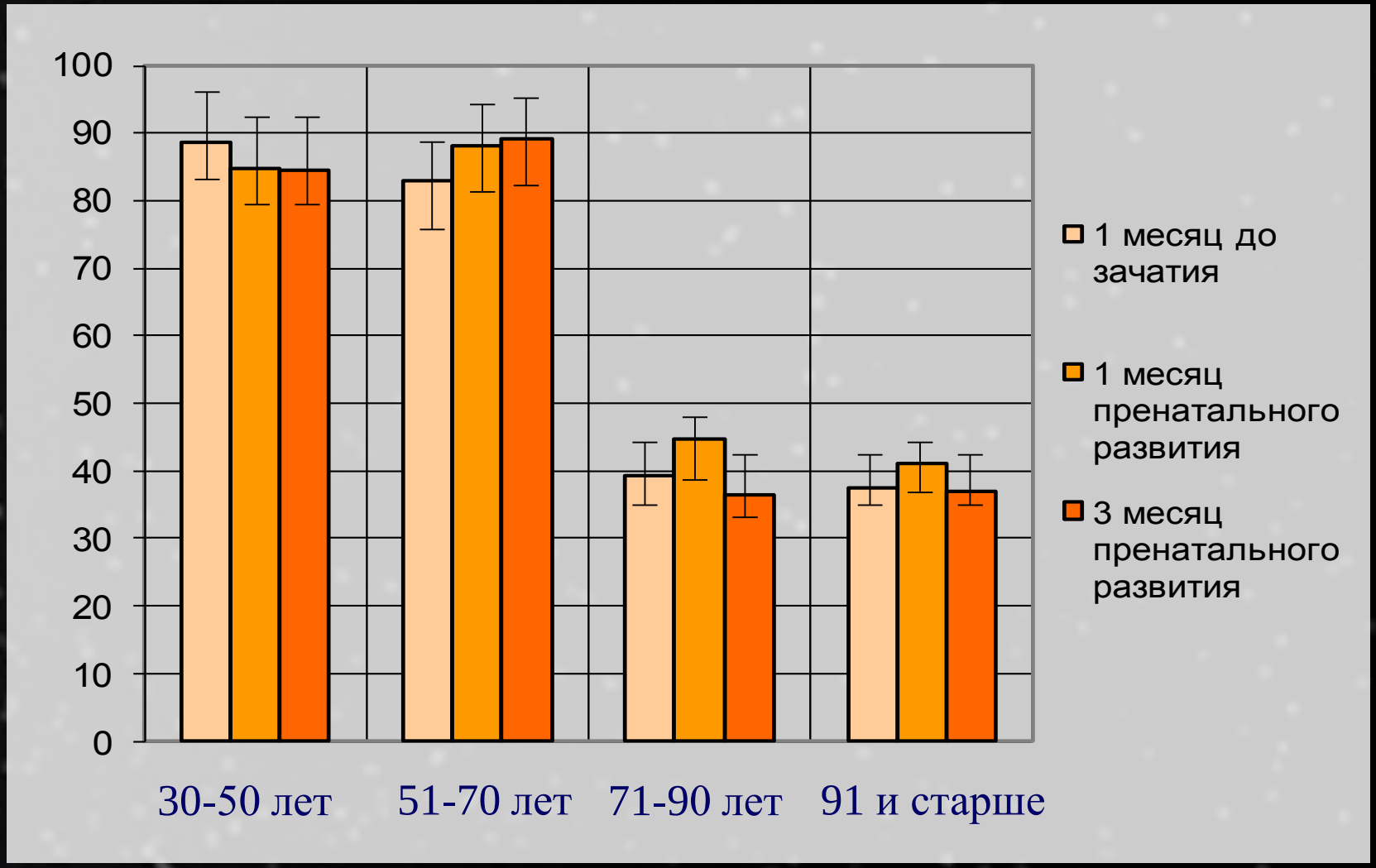


Computer conclusion on the program “Helios”

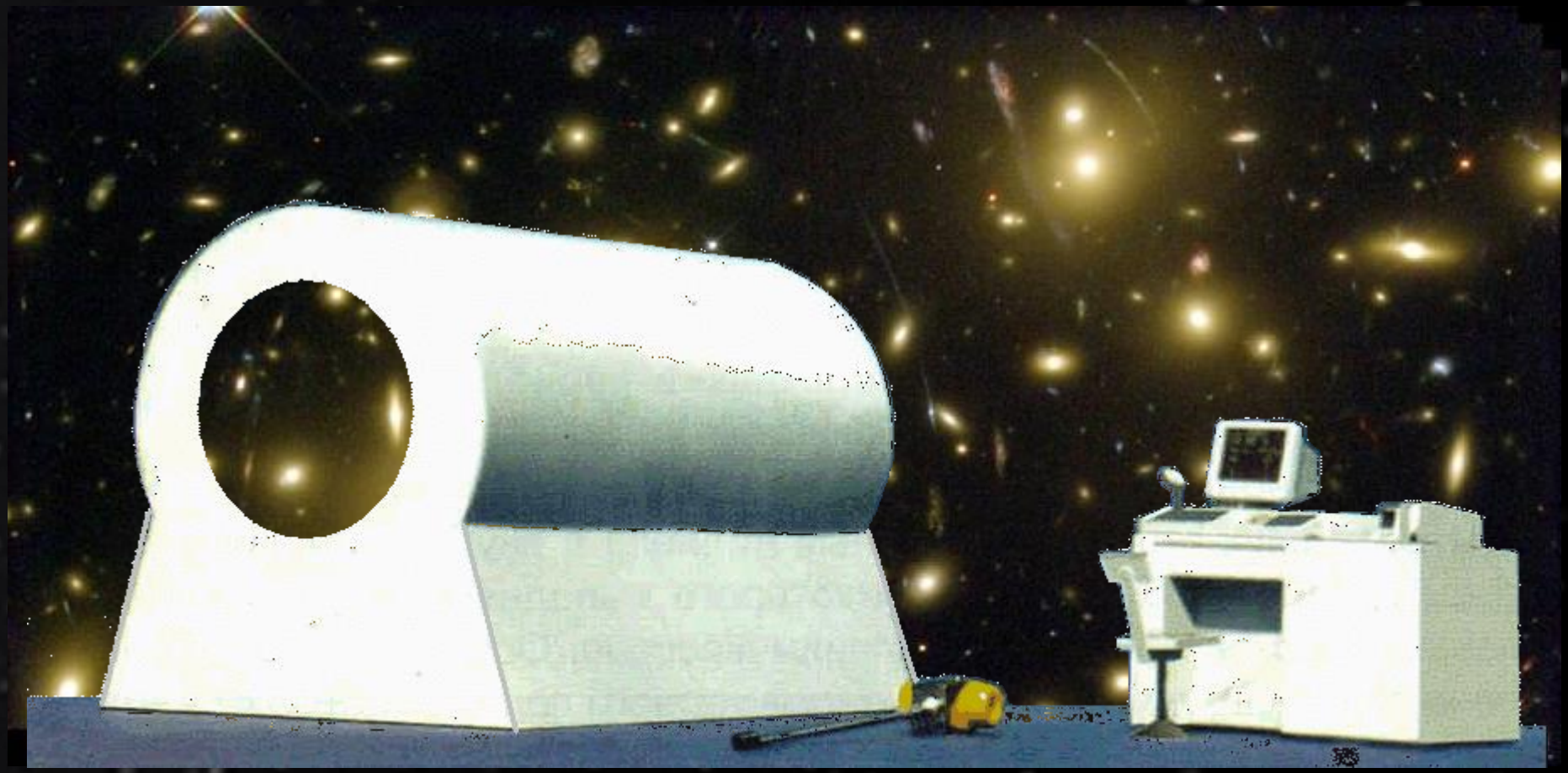
Full name:	Vatolin Grigory
The birthday date:	24.10.1974, Sunday
The counted date of the conception (CDC):	17.02.1974, Sunday
Newmoon:	14.10.1974, Thursday 10Days
Fullmoon:	31.08.1974, Thursday 25Days
	29.10.1974, Friday 5Days

PERIOD	Earth magnetic field	interplanetary magnetic field	solar radiation	Wolf's number	square of the sun spots	number of magnetic storms
week befor the CDC	6	0	2	2	-	0
1st week of prenatal develop.	4	1	2	3	-	0
2nd week of prenatal develop.	7	0	2	2	-	0
3rd week of prenatal develop.	6	0	2	1	-	0
4th week of prenatal develop.	6	1	2	3	-	0
5th week of prenatal develop.	7	0	2	2	-	2
6th week of prenatal develop.	7	0	2	2	-	0
7th week of prenatal develop.	7	0	2	2	-	0
8th week of prenatal develop.	5	0	2	4	-	0
3rd moon month	6	3	3	4	-	1
4th moon month	6	1	7	2	-	0
5th moon month	7	1	2	3	-	1
6th moon month	7	0	2	3	-	1
7th moon month	7	0	2	3	-	0
8th moon month	7	3	2	3	-	1
9th moon month	7	0	2	4	-	1
10th moon month	7	1	2	2	-	0
the birthday date	6	0	3	3	-	-
the 1st month after birthday	5	1	2	2	-	0

Prenatal heliophysical environment (according to program 'Helios") in persons of different age groups (Yu.Burda, A.Trofimov, 2008)



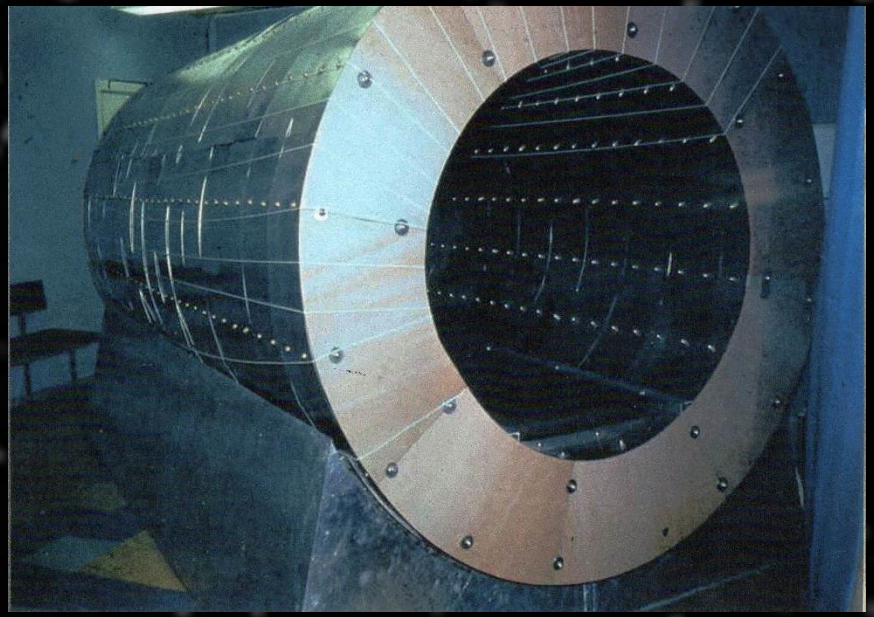
The model of "Cosmobiotron"



The unique equipment

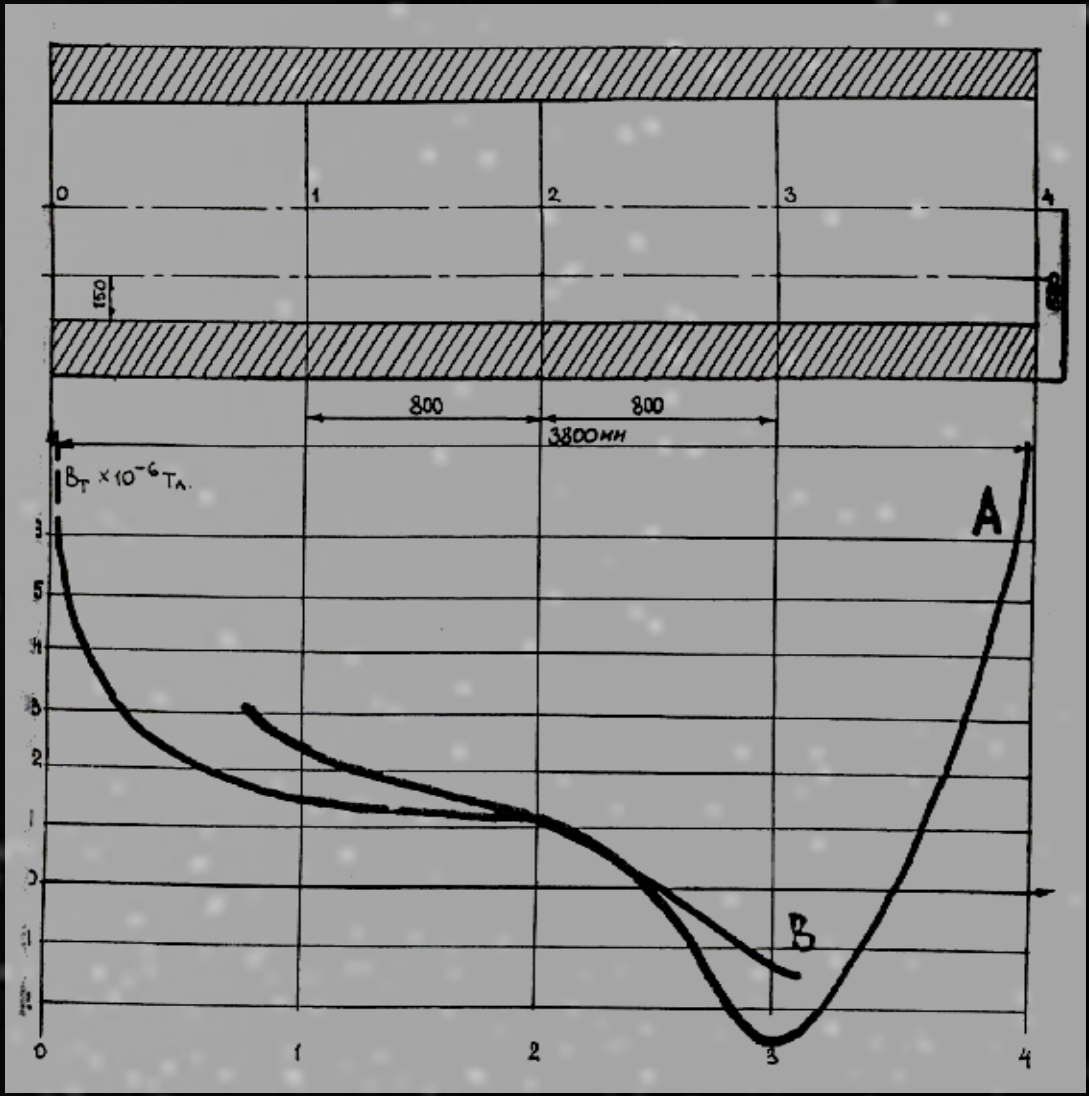


Experimental hypogeomagnetic installations



Hypogeomagnetic installation "Cosmobiotron"

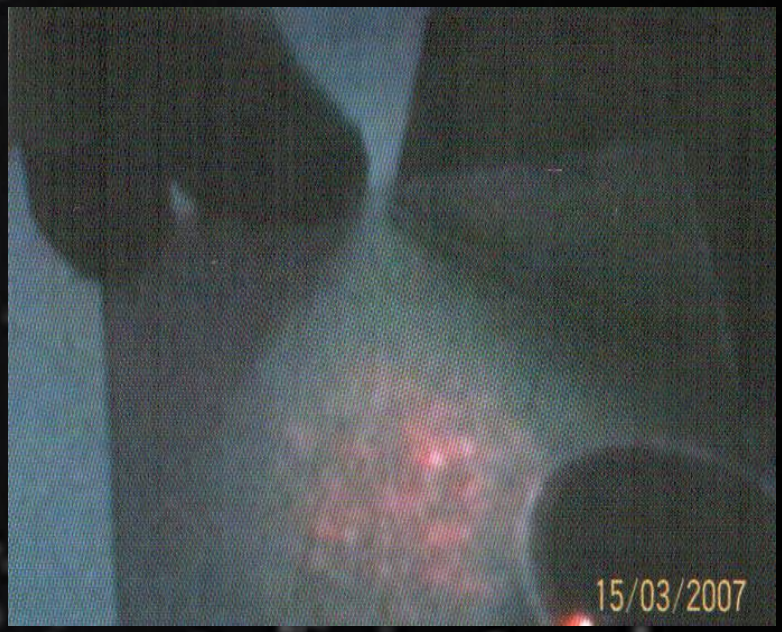
Levels of the geomagnetic field attenuation in "Cosmobiotron"

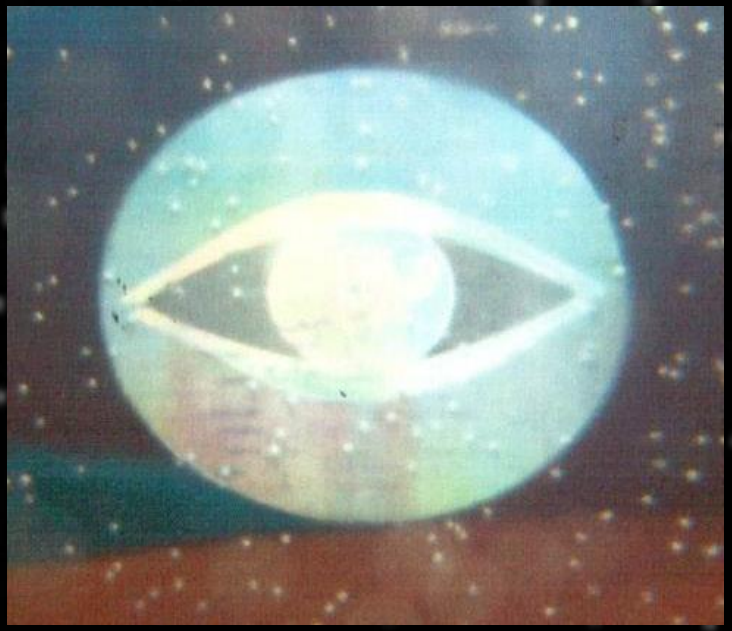


Compact screenning installation "TRODR" with light-holographic block



Translucent and reflective holograms (patent RF 2239860)





Fundamental results

Phenomenon of heliophysical gene expression (V. Kaznatcheev, A. Trofimov, 2004)

parameter / gene	1	2	3	4	5
	Prenatal period				
D4	28-1P 28_2P		28-1P 28_1,2,4,5,6,7,10P 28+1P		28_9P
TNF				28_1,2,5,7,9F 28+1F	
B1		28-1M 28_3,4,7,9M			

Impact of «Heliotransparency on geneticaly conditioned dynamics of the physiological parameters in the conditions of modeling preformation of a geomagnetic field (weakening of GMF, change of the corner of its slope) during prenatal ontogenesis.

1 – EEG,
2 – BPS,
3 – Gench's sample,
4 – hormones,
5 – GDV-parameters

P – patient

M – patient's mother

F – patient's father

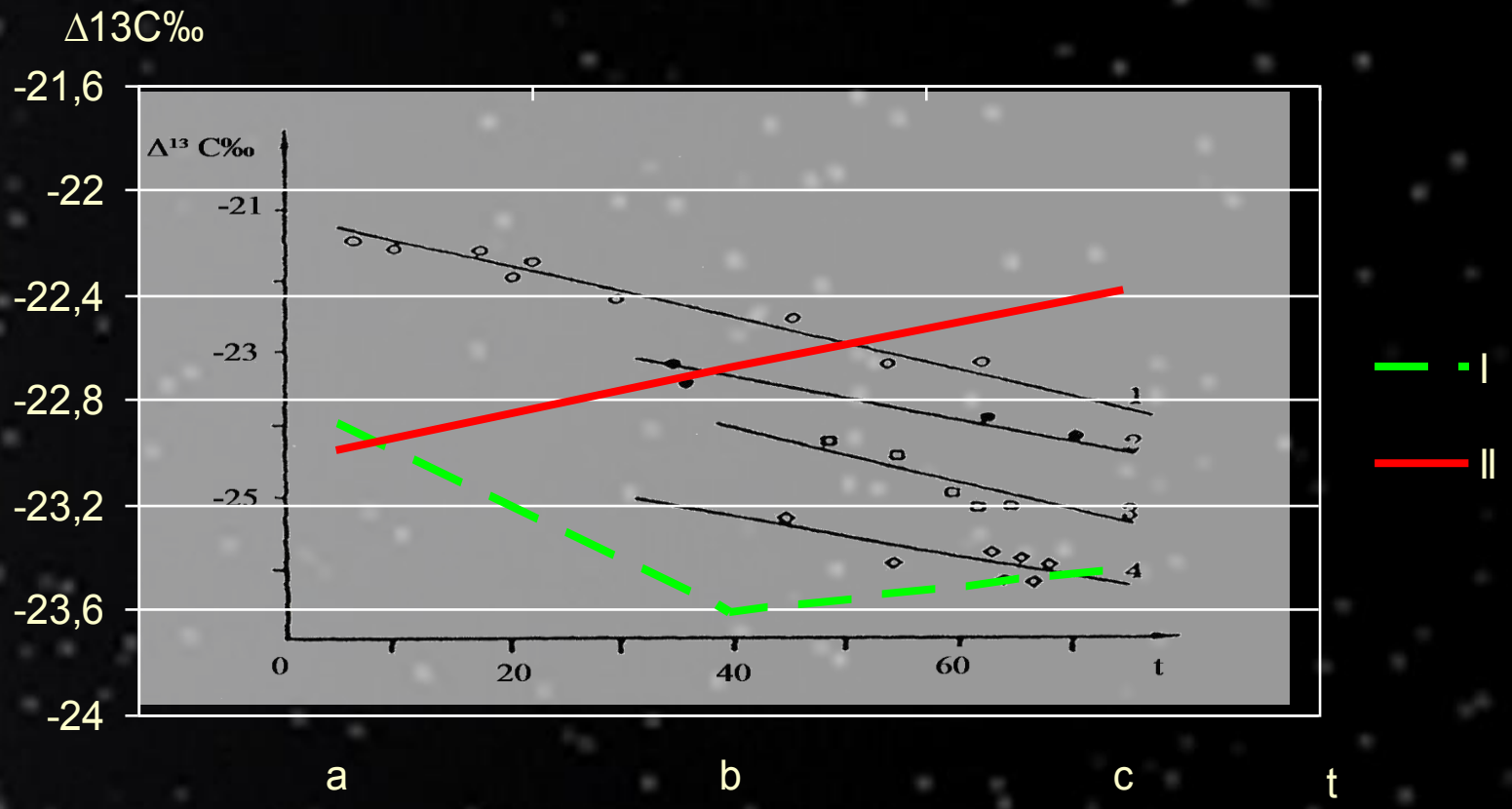
Dynamics of cosmic-physiological dependence after geomagnetic deprivation of volunteers (A.Trofimov, 2004)

N	Coupled parameters		Cosmic rays
1	gene B1	intellect	electrons
2	gene B1	memory	neutrons
3		digital test	neutrons
4	M-test (electroconductivity TR)	creative work	protons (Pr>1 keV), (Pr>10 keV)
5	M-test (electroconductivity TR)	memory	neutrons
6	operative memory	creative work	electrons
7	M-test (paulse, APs)		protons (Pr>1 keV), (Pr>10 keV)
8	reographic index		альфа частицы
9	lightabsorption		protons (Pr>1 keV), (Pr>30 MeV)
10	tolerance to phisical load		neutrons

Spectrum of EEG- parameters, depending from gene D4 at geomagnetic deprivation and presentation of the hologram (D.Devitsin, 2002)

Date	Kind of loading	Amplitude				Frequency			
		delta	teta	alpha	beta 1, 2	дельта	teta	альфа	beta 1, 2
12-13.11. 2002	control hologram	-	-	-	-	-	-	-	T3
	hologram B6	-	O2, Cz	-	-	Cz	-	-	-
	hologram B9	T4	F3, T3, Cz	-	T3	-	T3, O1, Cz	-	-
3-4.12.2002	control hologram ГК2	-	-	-	-	-	-	-	-
	hologram Г1-2	-	T3	Cz	T4	T3	T3, T4, O2, Cz	-	-

Dynamics of thermodynamic processes in the tissues of the volunteers at geomagnetic deprivation (V. Kaznatcheev, A. Trofimov, 2004)



Dynamics of relative isotope 13C* content (δ) in healthy tested persons before (a), in a month (b), in 4 months (c) of staying in conditions of transformed geomagnetic slope (I) or hypogeomagnetic environment (II) (according to V.A. Ponomarchuk, 2004)

$$* \delta\ (‰) = \frac{(13C/12C)n - (13C/12C)st}{(13C/12C)st}$$, where n – nails, st – standard;

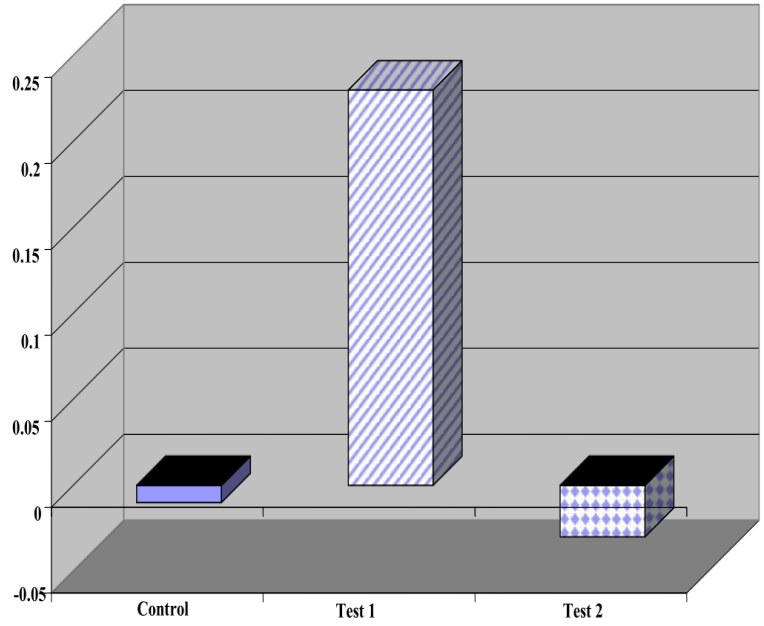
The ratio of stable carbon isotopes 13C/12C in the wool of the animals at using control and heliogeroprotective water (V. Panomarchuk, 2008)

The degree of change (from 19/09/2007 to 19/10/2007) of the relative content of the isotope 13C in the control and experimental (1 and 2) groups of rats.

Control	Experience 2	Experience 1	*R*
-0.49 ± 0.07	-0.31 ± 0.05	-0.59 ± 0.06	*P* < 0.01 between experience 1 and experience 2

The dynamics of the relative isotope content 13C (M ± m) in the control and experimental (1 and 2) groups in measurements of 19/09/2007 and 10/19/2007.

	19/09/2007	19/10/2007	R
Control	-23.01 ± 0.05	-23.11 ± 0.10	
Experience 2	-23.02 + 0.03	-22.85 ± 0.04	< 0.05
Experience 1	-22.92 ± 0.05	-23.0 ± 0.06	



Changes in the relative values of mean group content of isotope 13C in the control (n = 10) after a 30-day exposure of "hormone-active" holograms water-mediated impact-test 1 (n = 10), and direct remote influence-test 2 (n = 10).

Correlation dependence of the degree of change the relative content of isotope 13C (from September 19 to October 19 2007) on the daily parameters of protons and electrons sunlight for the period from October 10 to 19 2007.

	Pr >1 MeV	Pr >10 MeV	Pr > 100 MeV	E1 > 0.6 MeV	E1 > 2 MeV	Ne%	Rad
Control	0.58	0.55	0.50	0.52	0.57	0.57	-0.32
Experience 1	-0.33	-0.40	-0.40	-0.43	-0.39	-0.48	0.51
Experience 2	0.12	0.53	0.08	0.18	0.17	0.17	0.31

Pr: proton; El: The electrons of different energies; Ne%: neuron; Rad: solar noise.

Correlation dependence of the degree of change the relative content of isotope 13C (from September 19 to October 19 2007) from the daily parameters of protons and electrons sunlight for the period from October 19 to 28 2007.

	Pr >1 MeV	Pr >10 MeV	Pr > 100 MeV	E1 > 0.6 MeV	E1 > 2 MeV	Ne%	Rad
Control	0.50	-0.29	0.42	0.66*	0.57	0.61	0.44
Experience 1	-0.35	-0.58	-0.27	-0.46	-0.39	-0.23	-0.27
Experience 2	0.10	0.11	0.03	0.17	0.17	0.10	-0.06

Designations refer to Table 9.

Total solar eclipse on the 1th of August, 2008





Dynamics of functional dependence of the cardio-vascular system of the volunteers during solar eclipse and taking helioprotective water

Correlation dependences of physiological parameters of the five-minute values of the electrons, protons, neurons, and X-rays in the second group (Novosibirsk) in the 3rd metering:

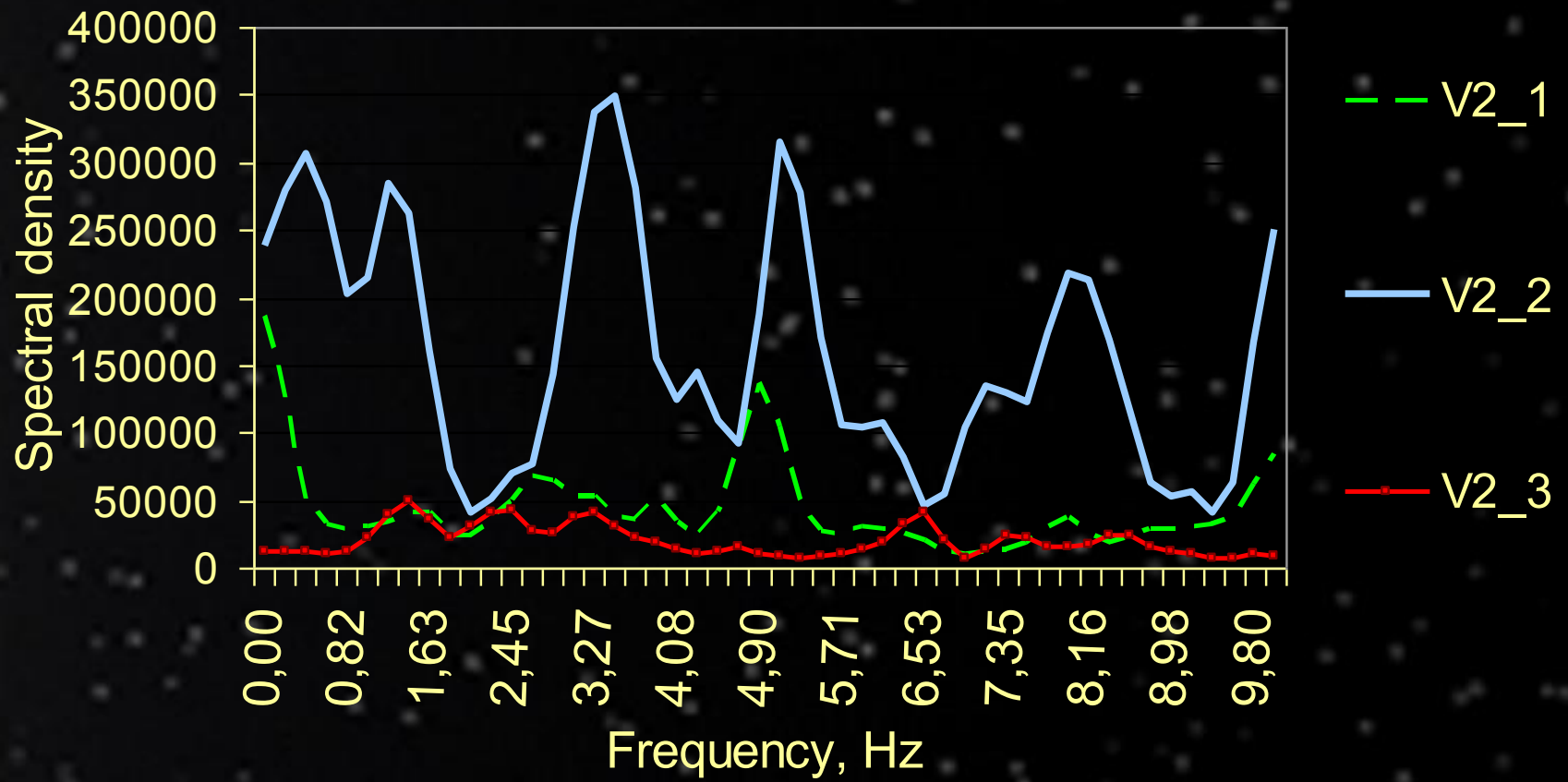
	Pr > 1 MeV	Pr > 10 MeV	Pr > 100 MeV	El > 0,6 MeV	El > 2 MeV	Ne	X-Rays
systolic pressure	0,23	0,23	0,31	0,23	0	0,23	-0,25
diastolic pressure	0,53	0,53	0,54*	0,53	0	0,53	-0,26
IM	-0,03	-0,03	0,08	-0,03	0	-0,03	-0,15
heart rate	0,13	0,13	0,29	0,13	0	0,13	-0,28

Correlation dependences of physiological parameters of the five-minute values of the electrons, protons, neurons, and X-rays in the second group (Novosibirsk) in the 4th metering:

	Pr > 1 MeV	Pr > 10 MeV	Pr > 100 MeV	El > 0,6 MeV	El > 2 MeV	Ne	X-Rays
systolic pressure	-0,16	-0,16	-0,12	-0,16	0,34	-0,06	0,17
diastolic pressure	**-0,39**	**-0,39**	**-0,64***	**-0,39**	-0,13	-0,11	-0,32
IM	0,53	0,53	0,29	0,53	-0,30	0,34	0,52
heart rate	0,42	0,42	-0,03	0,42	-0,34	0,32	0,31

- The significance of the correlation coefficient

Dynamics of parameters of gase-discharged visualization of the blood samples during solar eclipse



Spectral density of luminescence at computer gaze-discharge visualization of water samples before (V2_1), during (V2_2) and after (V2_3) the solar eclipse 29.03.06 (on data of D.V. Devitsin, Yuhnin E.A., 2006)

Dynamics of functional dependence of the cardio-vascular system of the volunteers during solar eclipse and taking helioprotective water



Constellation Orion up, Aug 11 2013

Correlation between physiological and heliophysical parameters (V. Gevorgyan, A. Trofimov, 2013)

Параметр	Пр>1 МэВ	Пр>10 МэВ	Пр>100 МэВ	Эл>0,8 МэВ	Эл>2 МэВ
САД	**0,49, P=0,04**	**0,52, P=0,02**	0,03	**0,49, P=0,04**	0,21
ДАД	0,30	0,38	-0,26	0,30	0,05
ЧСС	**0,66, P=0,003**	**0,65, P=0,004**	0,08	**0,66, P=0,003**	**0,57, P=0,01**
ИМ	0,37	0,35	0,12	0,37	0,24
Суб.мин.	-0,33	-0,37	0,23	-0,33	-0,17

before helioprotective water drinking

Параметр	Пр>1 МэВ	Пр>10 МэВ	Пр>100 МэВ	Эл>0,8 МэВ	Эл>2 МэВ
САД	0,21	0,28	0,17	0,21	-0,06
ДАД	0,26	0,27	-0,08	0,26	0,01
ЧСС	0,31	0,30	0,21	0,31	0,12
ИМ	0,16	0,23	0,27	0,16	-0,04
Суб.мин.	-0,17	-0,20	-0,01	-0,17	-0,01

after helioprotective water drinking

Параметр	Пр>1 МэВ	Пр>10 МэВ	Пр>100 МэВ	Эл>0,8 МэВ	Эл>2 МэВ
P	0,08	0,25	-0,24	0,04	0,30
R	-0,02	-0,18	0,01	-0,22	-0,06
L	0,03	0,31	0,07	0,01	-0,009
Дельта R-L	0,23	-0,007	-0,07	0,25	0,22

before Orion`s up

Параметр	Пр>1 МэВ	Пр>10 МэВ	Пр>100 МэВ	Эл>0,8 МэВ	Эл>2 МэВ
P	-0,23	-0,21	0,19	0,03	-0,23
R	0,21	0,04	-0,003	0,09	0,21
L	0,37	0,22	**0,70, P=0,0005**	0,43	0,37
Дельта R-L	0,37	0,22	**0,55, P=0,01**	**0,45, P=0,04**	0,37

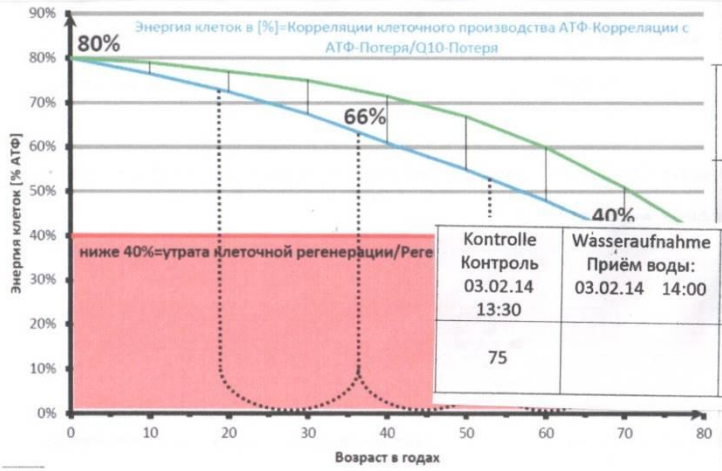
after Orion`s up



INAKARB, Germany, Roladsek 2013

The content of adenosin triphosphate in the tissues of the volunteers after taking of helioprotective water (E.Edinger, 2012)

Energetic (% ATP) dynamic at organism of volunteers (n=3) after helioprotective water using (by INAKARB, Rolandsek, Germany data,2013, according prof. Zagriadsky method, `1975)



„АТФ и возрастное распределение" - проф Загрядски, Международный союз, 1975 г.

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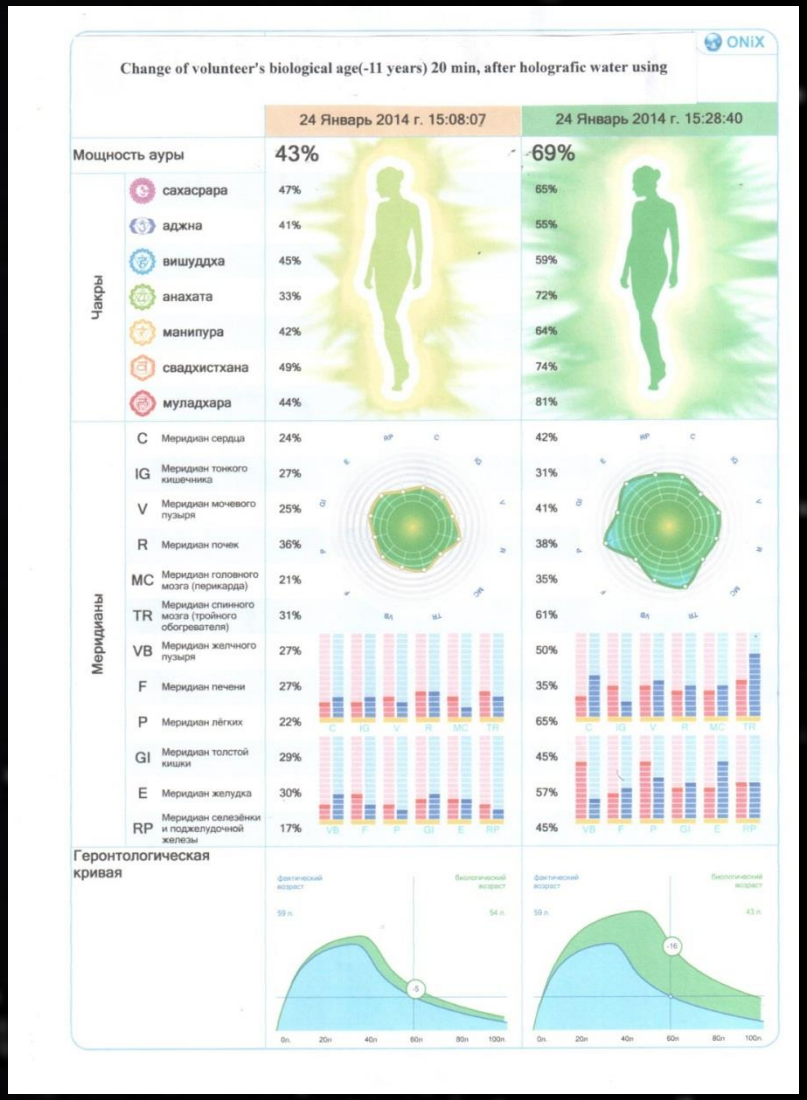
Kontrolle Контроль 03.02.14 13:00	Wasseraufnahme Приём воды: 03.02.14 13:35	03.02.14 13:50 (+15min)	03.02.14 16:40 (+3h)	Wasseraufnahme Приём воды: 04.02.14 12:45
102		102	131	

Kontrolle Контроль 03.02.14 13:30	Wasseraufnahme Приём воды: 03.02.14 14:00	03.02.14 14:20 (+20min)	03.02.14 15:30 (+1,5h)	Wasseraufnahme Приём воды: 04.02.14 10:00	04.02.14 11:00 (+1h nach der 2. Aufnahme) (+1h после 2-ого приёма))
75		54	52		103

Messungen **Измерения**	Kontrolle Контроль 29.11.13 11:50	Wasseraufnahme Приём воды: 29.11.13 13:05	29.11.13 13:35 (+30min)	29.11.13 18:05 (+5h)	Wasseraufnahme Приём воды: regelmäßig 2X150ml pro Tag регулярно 2X150мл в день	13.12.13 17:40 (+2 Woche nach der Aufnahme) (+2 недели после приёма)	17.12.13 10:20 (+2,5 Woche nach der Aufnahme) (+2 ,5 недели после приёма)
АТР, % **АТФ, %**	53		66	50		117	55



Dynamics of calculated parameters of organisms`s aging at test reception of helioprotective water by the volunteers



By V. Stasiv, S. Ivanchuk ,2014


ISRICA
МЕЖДУНАРОДНЫЙ НАУЧНО-ИССЛЕДОВАТЕЛЬСКИЙ ИНСТИТУТ
КОСМИЧЕСКОЙ АНТРОПОЭКОЛОГИИ (МНИИКА)
PROGRAM
of creating a network of geoecological
HELIO-GERO- protective recreational centers
according to the project “STOP-TIME”

Actuality and perspectives

According to the data of ISRICA and laboratory of helioclimatopathology, SCCEM SB RAMS (2005, 2007), high solar activity in the period of fetal human life reduces probability of his longevity and increases risks of development of helio-depended diseases.



Actuality and perspectives

An urgent question is arising: WHAT CAN BE OPPOSED TO THE EXCESS ENERGY OF THE SUN AND TELLURIC CURRENTS OF THE EARTH, HOW TO PROTECT PEOPLE WITH HIGH DEGREE OF DEPENDENCE ON SOLAR ACTIVITY DURING REST, TREATMENT AND WORK IN WORLD FAMOUS RESORTS, HOW TO USE THEIR UNIQUE NATURAL RESOURCES FOR GEOECOLOGICAL RECREATION AND PROLONGING LIFE?



The report is dedicated to the blessed memory of the founder of Syberian branch of Academy of medical sciences, ICEM SB RAMS and ISRICA, Chairman of its Academic Council, academician V.P. Kaznacheev.



(1924 – 2014)

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