

DERBIKOV, I.V.; AGUL'NIK, I.M.; BEN'KO, Ye.I.; YEKHANIN, Ye.V.; GRISHIN, M.P.;
YUSHIN, V.I.

Tectonics of the Mesozoic and Cenozoic mantle of the Western Siberian
Lowland. Trudy SNIGGIMS no.11:63-155 '60. (MIRA 14:5)
(Siberia, Western--Geology, Structural)

BEN'KO, Ye.I.; DERBIKOV, I.V.

Question of oil and gas prospects. Trudy SNIIGGEMS no.11:156-170
'60. (MIRA 14:5)
(Siberia, Western--Petroleum geology)

BEN'KO, Ye. I., Cand Geol-Min Sci -- "Tectonics of the Mesocenozoic deposits in the territory between the Ob and Irtysh Rivers of the Western Siberian lowland." Novosibirsk, 1961. (Acad Sci USSR. Sib ~~Sci~~ of the Joint Acad Council on Geol-Min, Geophys, and Geog Sciences. Inst of Geol and Geophys) (KL, 8-61. 233)

KOVALEVSKIY, G.L.; BEN'KO, Ye.I.

The technique of detecting zones marked by the tapering out of lower Mesozoic deposits as possible petroleum and gas traps (exemplified by the Bol'sherech'ye area in the West Siberian Lowland). Geol. i geofiz. no.9:22-29 '61. (MIRA 14:11)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya, Novosibirsk.
(Petroleum geology) (Bol'sherech'ye region--Seismic prospecting)

BEN'KO, Ye.I.; YEKHANIN, Ye.V.; ZHADNOVA, V.P.; MITALEV, I.A.

Periodicity in tectonic movements. Geol. nefii. i gaza 9 no.7:
33-35 Je '65. (MIRA 18:12)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii,
geofiziki i mineral'nogo syr'ya, Novosibirsk.

SECRET

CONFIDENTIAL

TOP SECRET

BENKŐ-CZABALAY, L.

FOLDTANI KOZLONY, BULLETIN OF THE HUNGARIAN GEOLOGICAL SOCIETY. (Magyar Foldtani Tarsulat) Budapest.

Traces of fauna in the clay layers of the Eger brickyard. p. 344

Vol. 88, No. 3, July/Sept. 1958

Monthly List of the East European Acquisitions (EEAI), LC, Vol. 8, No. 3, March 1959
Unclass.

BELKOV, B.

BELKOV, B. Raising swine for breeding. p.25.

Vol. 11, no. 10, Oct. 1966

KOOPERATIVNO ZEMELJE

AGRICULTURE

Sofia, Bulgaria

SO: East European Accession, Vol. 6, No. 3, March 1957

KUNEV, Mitiu; BENKOV, Benko

Influence of green pea silage feeding on breeding pigs.
Izv Zhivotn nauki 1 no.1:47-52 '64.

1. Institute of Animal Husbandry, Kolarovgrad.

GEORGIEV, Isai; BENKOV, Benko

Industrial crossbreeding of east Balkan sows with the Berkshire and the Derman mixed breed boars. Izv Zhivotn nauki 1 no.3.15-22 '64.

1. Zootechnical Faculty of the G. Dimitrov Higher Agricultural Institute, Sofia, Corresponding Member of the Bulgarian Academy of Sciences, and Member of the Board of Editors, "Izvestia na Akademiata na nelskostopanskite nauki - Zhivotnovudni nauki" (for Georgiev). 2. Institute of Animal Husbandry, Kolarovgrad (for Benkov).

BENKOVA, D.

The rootless alga Wolffia arrhiza L. in southern Slovakia.

P. 460, (Biologia) Vol. 12, no. 6, 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EFAI) Vol. 6, No. 11 November 1957

BEKOVA, M.

Benkova, M. "Contribution to the Question of Constructing the Architecture of the Soviet Type." Zapiski Kazanskogo Gos. Universiteta, Seriya, Gumanitarnye Nauki, 1958, No. 1, pp. 50-65.

BENKOVA, N. P.

"Eleven-Year Cycle of Geomagnetic Activity," Dokl. AN SSSR, 33, No.6, 1941.

Inst. Terrestrial Magnetism, Min. Admin. Hydrometeorological Service

BENIKOVA N.P.

"Magnetic Activity During 1946-47"

SO: Sun No 51,14 Jan 1952.

BENKOWA, N.P.

"The Diurnal Behavior of Magnotic Activity,"

SO: Sun 51, 14 Jan 1952.

BENKOVA, N. P.

"Geographic Distribution of the Daily Variation of Magnetic Activity", Doklady NIIZM
(Reports of the NIIZM) No 3, 1948 (1-6).

SO: U-3039, 11 Mar 1953

BEN'KOVA, N. P.

Ben'kova, N. P. and Fedorova, I. N., "Magnetic Activity During 1944 and 1945",
Trudy NIIKM No 2, 1948 (110-116).

SO; U-3039, 11 Mar 1953

BEN' KOVA, N.P.

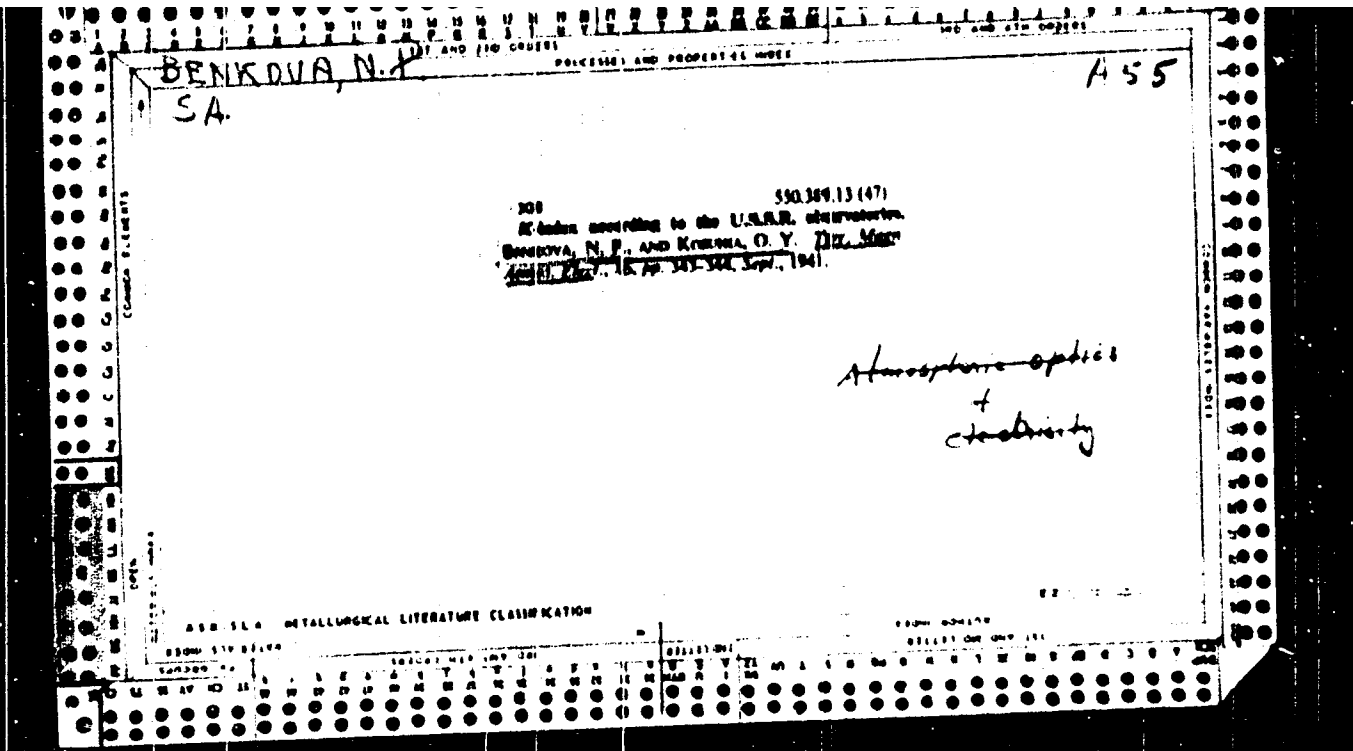
Daily and seasonal distribution of index K. Trudy NIIIZM no.11:
119-121 '55. (MLRA 9:8)
(Magnetism, Terrestrial)

~~BEN'KOVA, N. P.~~

"Electric Current in Magnetic Storms."

The International Association of Geomagnetism and Aeronomy; Abstracts of the Reports at the XI General Assembly of the International Union of Geodesy and Geophysics) Moscow, Izd-vo AN SSSR, 1957. 46 p.

Abstract: The regular components of world magnetic and polar storms were studied in world-wide observations from 1932-1933. The potentials of these fields were computed and a system of polar storm currents was reconstructed. An increase in conductivity with depth was determined and a break in it established at 900-1200 km, where Gutenberg and Repetti discovered a discontinuity for P-waves.



80796

SOV/169-59-6-6462

9.9/00

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, p 152 (USSR)

AUTHOR: Ber'kova, N.P.

TITLE: The Statistics of the E-Layer According to Observations of USSR Ionosphere Stations

PERIODICAL: Dokl. 7-y Nauchn. konferentsii posvyashch. 40-letiyu Velikoy Oktyabr'sk. sots. revolyutsii, Nr 2, Tomsk. Tomskiy un-t., 1957, pp 79 - 80

ABSTRACT: It is shown that the probability of the appearance of the E_s (pE_s) layer depends on the type of equipment used for the vertical sounding of the ionosphere and on the method of interpretation. The investigation of the regularities of E_s and E_s^2 revealed no essential differences. The distribution of E_s over the frequencies has a maximum on approximately 3 Mc. Of the total number of E_s measurements, the shielding E_s amounts to no more than a few percent. The diurnal course of pE_s with maxima during the day and night hours and the seasonal course with a maximum during summer are obtained by observations at USSR

Card 1/2

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The Statistics of the E-Layer According to Observations of USSE Ionosphere Stations

ionosphere stations. It was established that there is a tendency to a pE_s decrease at the Arctic stations with an increase in the solar activity during the 11-year cycle. For the middle latitudes, an obvious dependence of pE_s on the 11-year cycle was not found. The author draws the conclusion that individual E_s clouds exist, having an extension of several hundred kilometers.

T. S. Kerblay

4

Card 2/2

80795

SOV/169-59-6-6451

9.9100

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, pp 150 - 151
(USSR)

AUTHORS: Ben'kova, N.P., Potapova, N.I.

TITLE: The Variability of the Ionosphere Parameters

PERIODICAL: Dokl. 7-y Nauchn. konferentsii, posvyashch. 40-letiyu Velikoy
Oktyabr'sk. sots. revolyutsii. Nr 2, Tomsk, Tomskiy un-t., 1957,
p 82

ABSTRACT: The statistical analysis of the fluctuations of the hourly
values of f_oF2 (Δf_oF2) has shown that the distribution of
 Δf_oF2 obeys ~~to~~ a normal law during days with a quiet iono-
sphere; the dispersion has a diurnal and a seasonal course
and depends on the solar activity. It was established that
 Δf_oF2 varies in the course of 5 - 10 min by not more than
0.2 Mc and $\Delta h'F2$ does not exceed 20 km. The spatial variabi-
lity of Δf_oF2 is characterized by the correlation coefficient

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The Variability of the Ionosphere Parameters

SOV/169-59-6-6451

(ρ) between the synchronous values of the parameters measured at stations located at different distances. The value of ρ decreases down to 0.5 when moving away by 5° - 7° in latitude and by 20° in longitude.

T.S. Kerblay



Card 2/2

Ben'kova, N. P.

25-7-23/51

AUTHOR: Ben'kova, N.P., Doctor of Physico-Mathematical Sciences

TITLE: At the "Alert" Signal (Po signalu "Alert")

PERIODICAL: Nauka i Zhizn', 1957, # 7, p 31 (USSR)

ABSTRACT: In connection with the IGY the Scientific Research Institute of the Earth's Magnetism, the Ionosphere and the Spreading of Radio Waves (NIZMIR) located near Moscow was designated to coordinate the evaluation of observations made by the various scientific establishments in those fields within the USSR, China, Mongolia, and Eastern Europe. To give good results, the investigation of magnetic and ionospheric disturbances have to be conducted simultaneously by all observatories in all parts of the world. Four world centers were appointed to supervise this coordination. NIZMIR is one of them, the others are located in Baltimore (USA), Pontoise (France), and Tokyo. When the data from all subordinate observation stations are collected and scientists have ascertained when the most powerful magnetic disturbance can be expected, the main prognostic center in Baltimore will flash the word "Alert" around the globe to all observation stations participating in the IGY to stand by.

Card 1/2

At the "Alert" Signal

25-7-23/51

ASSOCIATION: Scientific Research Institute on the Earth's Magnetism, the Ionosphere and the Spreading of Radio Waves (Nauchno-issledovatel'skiy institut zemnogo magnetizma, ionosfery i rasprostreneniya radiovoln - NIZMIR)

AVAILABLE: Library of Congress

Card 2/2

BEN'KOVA, N. P.

37-11-7/18

AUTHOR: Ben'kova, N. P.
TITLE: Daily and Seasonal Distribution of the K Index (K voprosu o sutochnom i sezonnom raspredelenii indeksa K)
PERIODICAL: Trudy Nauchno-issledovatel'skogo instituta zemnogo magnetizma, 1957, Nr 11(21), pp. 119-121 (USSR)
ABSTRACT: Weak and strong perturbations in the magnetic field are discussed, and the introduction of better indices for the character and degree of perturbation is suggested. There are 1 figure, 1 table, and 2 references, one of which is USSR, the other English.
AVAILABLE: Library of Congress

1/1

BEN'KOVA, N. P.

AUTHOR: Ben'kova, N. P.

37-12 -3/12

TITLE: Twenty-seven-day Recurrence of Exceptionally Strong Magnetic Storms (27-dnevnyaya povtoryayemost' iskl'yuchitel'no sil'nykh magnitnykh bur')

PERIODICAL: Trudy Nauchno-issledovatel'skogo instituta zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln, 1957, Nr 12 (22), pp. 71-72 (USSR)

ABSTRACT: The recurrence of magnetic storms is of great value in short-term magneto-ionospheric predictions. It was earlier believed that the possibility of a recurring strong storm decreased with an increase in the intensity of the storm. However, recently collected information indicates that exceptionally strong magnetic storms develop a cluster of storms belonging to the same synodic period and to the same active area of the sun. In extra strong storms of 500-900 gamma amplitudes, 86 per cent are of the recurrent type; in more moderate storms this percentage is much smaller. Distribution of the strongest storms and their position in a group are given in two tables. The majority of storms is timed to the second stage in the sun's rotation. There are 2 tables and 3 references, of which 2 are Russian.

AVAILABLE: Library of Congress
Card 1/1

BEN'KOVA, N. P.

37-12-8/12

AUTHOR: Ben'kova, N. P.

TITLE: The Daily Run of Short-Periodic Perturbations of the Electromagnetic Field of the Earth (K voprosu o sutochnom khode korotkoperiodicheskikh vozmushcheniy elektromagnitnogo polya zemli)

PERIODICAL: Trudy Nauchno-issledovatel'skogo instituta zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln, 1957, Nr 12 (22), pp. 209-213 (USSR)

ABSTRACT: The article discusses short periodic variations of the earth's magnetic field, such as sinusoidal pulsations or irregular impulses with different amplitudes, and evaluates the results achieved by V. A. Troitskaya and R. A. Zevakina. In particular, the author rejects the theory that pulsations are purely local phenomena and expresses the opinion that electromagnetic perturbations occur simultaneously all over the world. The action of magnetic fields should always be examined with the short periodic variations of telluric currents. The article also explains why certain observations may have seemed to be local: inadequacy of the resolving

Card 1/2

PHASE I BOOK EXPLOITATION

712

BEN'KOVA N. P.

Ben'kova, Natal'ya Pavlovna

Mezhdunarodnyy geofizicheskiy god i issledovaniya verkhnikh sloyev
atmosfery (International Geophysical Year and Studies of Upper
Atmospheric Strata) Moscow, Svyaz'izdat, 1958. 47 p. (Series:
Lektsii po tekhnike svyazi) 11,600 copies printed.

Sponsoring Agency: USSR . Ministerstvo svyazi. Tekhnicheskoye
upravleniye.

Responsible Ed.: Popov, A.N.; Ed.: Voronova, A.I.; Tech. Ed.:
Shefer, G.I.

PURPOSE: This booklet is intended for the scientist and technician
interested in the program and activities of the International
Geophysical Year.

COVERAGE: The booklet, published by the Technical Administration
of the Ministry of Communications of the USSR, surveys and

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International Geophysical Year and Studies (Cont.) 712

presents briefly the problems studied during the International Geophysical Year, and discusses the practical importance of many of the observations carried out. Research and observation are directed at the ionosphere, at atmospheric disturbances, the Earth's variable magnetic field, telluric currents, the phenomena occurring on the Sun, and the auroras. In the Soviet Union these phenomena are studied at 16 different cities scattered throughout the country. The organization mainly responsible in supervising these geophysical observations is the Scientific Research Institute on Terrestrial Magnetism, the Ionosphere and Radiowave Propagation (NIZMIR), of the USSR Ministry of Communications. The longest chapter in the book is devoted to radio investigation of the upper layers of the atmosphere, and discusses vertical sounding and measurement of radiowave absorption in the ionosphere, the measurement of ionospheric winds, and the observation of atmospheric disturbances. Illustrations in the chapter include flow diagrams of an ionospheric station and a setup for registering ionospheric winds, diagrams of the summer, winter and night distribution of ionization in the upper layers of

Card 2/4

International Geophysical Year and Studies (Cont.) 712

the atmosphere, photographs of registrations of high frequency characteristics recorded at Moscow and Mirnyy, a photo of a vertical sounding control panel at an ionospheric station, and a view of an antenna setup at Mirnyy. The author points out that studies of the upper layers of the atmosphere will provide extensive material for improving forecasting techniques, especially in forecasting magnetic ionospheric storms, and will increase our understanding of short-wave propagation phenomena. The book contains 18 illustrations (diagrams and photographs), and a supplement which gives a calendar of regular world days and world meteorological intervals. There are 12 Soviet references.

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AVAILABLE: Library of Congress	

MM/ksv
10-14-58

Card 4/4

GINDIN, Ya.Z.; LBYKIN, G.A.; LOZINSKIY, A.M.; MASIVICH, A.G.; AL'PERT, Ya.L.;
CHUDESHENKO, N.F.; SHAPIRO, B.S.; GAIKIN, A.M.; GORLOV, O.G.; KOTOVA,
A.P.; KOSOV, I.I.; PETROV, A.V.; SEROV, A.D.; CHERNOV, V.N.;
YAKOVLEV, V.I.; MIKHAYLOV, A.A., otvetstvennyy red.; BUKHAROVA, N.P.,
doktor fiz.-mat. nauk, otvetstvennyy red.; SILKIN, B.I., red.;
PODOL'SKIY, A.D., red.; PHUSAKOVA, T.A., tekhn. red.

[Preliminary results of the scientific research on the first
Soviet artificial earth satellites and rockets; collection of
articles in the 11th section of the IGY program (rockets and
satellites)] Predvaritel'nye itogi nauchnykh issledovaniy s
pomoshch'iu pervykh sovetskikh iskusstvennykh sputnikov zemli
i raket; sbornik statei (XI razdel programmy MGG - rakety i
sputniki). Moskva, Izd-vo Akad. nauk SSSR, No.1. 1958. 148 p.
(MIRA 11:10)

1. Russia (1923- U.S.S.R.) Mezhdunarodnyy komitet po
provedeniyu Mezhdunarodnogo geofizicheskogo goda. 2. Chlen-kor-
respondent AN SSSR (for Michaylov).

(Atmosphere, Upper-Rocket observations)
(Artificial satellites)

AL'PERT, Ya.L.; BEN'KOVA, N.P.,¹ otv.red.; GESSEN, L.V., red.isd-vs;
POLYAKOVA, T.V., tekhn.red.

[Propagation of radio waves and the ionosphere] Rasprostranenie
radiovoln i ionosfera. Moskva, Izd-vo Akad.nauk SSSR, 1960.
480 p. (MIRA 14:1)
(Ionospheric radio wave propagation)

DEK'KOVA, N.P.

Ionosphere. Meshdunar. geofiz. god no.8:21-23 '60.

(MIRA 13:6)

(Ionospheric research)

YAMAZAKI, H. I., FUKUYAMA, L. A., MURAKAMI, H. Y.

Diurnal Variations of Blackout Appearances. ((I-2-5))

report submitted for the Intl. Geophys. Year in Cosmic Rays and Earth Storms (GISES)
Kyoto, Japan 4-15 Sept 1961.

S/904/61/000/000/011/011
D21E/D308

AUTHORS: Ben'kova, N. P., and Potapova, N. I.

TITLE: An effect of atomic explosions on the ionosphere

SOURCE: Doklady Nauchnogo simpoziuma po ionosfere, Rostov-na-Donu, 21-22 aprelya 1960 g. V razdel programy MGG (ionosfera). Rostov on the Don, Izd-vo Rostov. univ., 1961, 127-132

TEXT: Results taken from the World Data Center were used to investigate ionospheric disturbances of non-solar origin during the 1958 nuclear tests over the Pacific and Atlantic Oceans. It was found that the explosion set off on August 1, 1958, had an effect on the ionosphere. It gave rise to an increase

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An effect of...

S/904/61/000/000/011/011
D218/D308

of August 12, 1958, were investigated in a similar way. Here, the effects were somewhat different. Thus, at a distance of 1500 km from the epicenter there was a considerable increase in

Card 2/3

An effect of...

S/904/61/000/000/011/011
D218/D308

electromagnetic energy. There are 3 figures and 3 tables.

ASSOCIATION: Institut zemnogo magnetizma, ionosfory i
rasprostraneniya radiovoln AN SSSR (Institute
of Terrestrial Magnetism, Ionosphere and

Card 3/3

21667
S/570/61/000/019/007/008
B107/B104

9,9100

AUTHORS: Ben'kova, N. P., and Konnova, R. V.

TITLE: Relation between ionization of the F2 layer, solar activity, and the sine of the solar angle

SOURCE: Akademiya nauk SSSR. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln. Trudy, no. 19 (29), 1961, 113-115

TEXT: The amplitude of the daily variation of median values of the cutoff frequency for the F2 layer is defined by the equation $\Delta foF2 = foF2_{max} - foF2_{min}$, the ratio K, by $K = foF2_{max} / foF2_{min}$. In a paper (Ref. 1: Astr. zhur., 37, no. 1, 135 (1960)), A. I. Likhachev used observation results of the Tomsk station to show the dependence of the above quantities on the sine of the solar angle to be such: $\Delta foF2 = B \cdot \sin Z$; $K = A \cdot \sin Z$. There is a certain rule between the constants A and B, and solar activity. The present paper gives an evaluation of observations by the stations Yuzhno-Sakhalinsk, Alma-Ata, Rostov-na-Donu, Simferopol'. Its aim was to find out whether Likhachev's method was suited for long-range forecasts of foF2. The equations are preferably set up in two terms:
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Relation between ionization of the...
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S/570/61/000/019/007/008
B107/B104

$K = a + A \cdot \sin Z; \Delta foF2 = b + B \cdot \sin Z$. A and B change linearly with the relative number W of sunspots. a and b also increase somewhat as W increases. Table 1 gives the graphically determined values for measurements of the Yuzhno-Sakhalinsk station. Deviation is low in observations made by the stations Alma-Ata, Simferopol', and Yuzhno-Sakhalinsk, somewhat greater with Rostov-na-Donu. The reason might be that up to 1958 a hand-operated ion probe was used in Rostov which did not allow exact measurements of the daily foF2 due to the limited frequency range. Result: The linear relation between foF2 and $\sin Z$, found by Likhachev, holds for middle latitudes, at least for 40 - 50° north latitude; the formula is preferably set up in two terms. The coefficients are proportional to the solar activity. Checking and physical interpretation of this rule with the aid of data obtained by stations at different latitudes would be of great interest. The relation is hardly suitable for the practical calculation of the daily foF2 variation. There are 2 figures, 1 table, and 1 Soviet reference.

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B107/B147

Relation between ionization of the...

Table 1. Yuzhno-Sakhalinsk station measurements.

Table 1

Год	w	B	b	A	a
1954	7	0,37	0,60	0,74	0,20
1955	40	0,64	0,19	0,04	0,28
1956	155	1,33	0,35	1,42	0,43
1957	217	1,04	0,38	1,56	0,45
1958	241	1,92	0,37	1,68	0,44
1955	220	1,71	0,35	1,62	0,41

X

Card 3/3

S/169/61/000/009/038/056
D228/D304

AUTHOR: Ben'kova, N. P.
TITLE: Ionospheric research in the USSR
PERIODICAL: Referativnyy zhurnal. Geofizika, no. 9, 1961, 8,
abstract 9G85 (Geomagnetizm i aeronomiya, v. 1, no. 1,
1961, 4 - 20)

TEXT: Ionospheric research fulfilled in the Soviet Union in 1957 - 1959 is briefly reviewed. The principal directions of the work were as follows: (1) Regular observations at a network of ionospheric stations; (2) investigations of the ionosphere with the help of artificial satellites; (3) investigations of the quiescent ionosphere; (4) ionospheric disturbances and the ionosphere of the high latitudes; (5) winds and pouring movements in the ionosphere; (6) the ionospheric propagation of radiowaves; (7) ionospheric forecasts; (8) development of new research methods and the designing of equipment; and (9) meteoric radio-investigations of the ionosphere. There is a bibliography with 140 references. ✓
[Abstracter's note: Complete translation.]

Card 1/1

S/169/61/000/008/043/053
A006/A101

AUTHORS: Ben'kova, N.P., Tyurmina, L.O.

TITLE: Analytical concept of the geomagnetic field on the Soviet Union territory for the 1958 epoch

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 8, 1961, 34, abstract 8G240 ("Geomagnetizm i aeronomiya", 1961, v. 1, no. 1, 87 - 103)

TEXT: For the 1958 epoch, the geomagnetic field on the USSR territory is represented with the aid of coefficients of expansion of the geomagnetic potential in series in spheric harmonics. The results are compared with charts. A comparison is made of data pertaining to the East-Siberian zone of the global anomaly for a series of epochs, and secular changes of this anomaly are discussed.

The authors' summary ✓

[Abstracter's note: Complete translation]

Card 1/1

BEN'KOVA, N.R.; BONCHKOVSKAYA, Yu.S.; SHASHUN'KINA, V.M.

Ionospheric disturbances of July 10-18, 1959 according to
observations at ionospheric stations of the U.S.S.R. Geomag.
i aer. 1 no.3:369-373 My-Je '61. (MIRA 14:9)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya
radiovoln AN SSSR.

(Ionosphere)

3/203/61/601/665/614/928
A006/A101

AUTHORS: Ben'kova, N. P., Yudevich, S. A.

TITLE: Diurnal variations in the occurrence of blackouts according to data of the IGY

PERIODICAL: Geomagnetizm i aeronomiya, v. 1, no. 5, 1961, 725 - 729

TEXT: The authors investigated the distribution of blackouts from data of 41 ionospheric stations on the northern hemisphere. The maximum of blackout recurrence was determined for each station during the winter, summer and equinoxes of the IGY. To reveal general regularities of blackout maxima isochrone systems were plotted and maximum recurrence was registered from data of the IGY. In the geomagnetic coordinates the isochrones of maximum recurrence for all seasons were ovals, whose shape was controlled by the zone of aurora polaris. When approaching the pole, the time of the maximum is shifted from the night to the day hours. In polar coordinates (local geomagnetic time serves as azimuth and the reduced geomagnetic latitude as a radius) the dependence of the time of blackout recurrence maximum on the reduced geomagnetic latitude has a spiral shape. A comparison with analogous spiralshaped distributions of magnetic activity during corresponding

Card 1/2

S/203/61/001/005/014/023
A006/A101

Diurnal variations in the occurrence of...

seasons within the same period of time shows, that the maximum of magnetic activity on latitude $\varphi' = 60^\circ$ is by 2 - 3 hours in advance of the maximum of blackout recurrence. With higher latitudes the delay of blackouts in respect to magnetic activity decreases. The results obtained by the present study are different from previous data; this is possibly due to the fact that magnetic and ionospheric observations from different periods had been compared. There are 4 figures, 1 table and 9 references; 5 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere and Propagation of Radiowave - AN USSR)

SUBMITTED: July 7, 1961

Card 2/2

S/203/61/001/005/024/028
A006/A101

AUTHORS: Ben'kova, N.F., Fligel', M.D.

TITLE: Ionospheric disturbances on November 10-17, 1960

PERIODICAL: Geomagnetizm i aeronomiya, v. 1, no. 5, 1961, 832 - 835

TEXT: Data obtained on magneto-ionospheric disturbances in July 1959 were compared with disturbances of November 1960 and conclusions were drawn on the spectrum of geoeffective radiation of the Sun and the nature of disturbances. The distribution of absorption in the ionosphere from data of 26 stations is represented in graphs, which show also changes in the average hourly values of the H-component of the geomagnetic field in Moscow, the moments of chromospheric flares and the sudden commencement of magnetic storms. It was found that chromospheric flares, accompanied by a higher intensity of cosmic radiation, entailed absorption of the III order which was caused by particles with an energy of several dozens of megaelectron volt. In spite of the high geoefficiency of the flares on November 10 and 11 (Ultraviolet radiation, radio radiation and corpuscular streams) fast and cosmic particles were apparently not generated in them (with an energy of ten megaelectron volt and more). When analyzing the intensity

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Ionospheric disturbances ...

S/203/61/001/005/024/028
A006/A101

of corpuscular radiation of these flares an attempt was made of evaluating the southern boundaries of the penetration zone of corpuscles from the magnitude of D_{3000} variations of the geomagnetic field. For the active period of November 12, ϕ values calculated varied from 53 to 60°, whilst the actual boundary of polar absorption attained 46°. There are 2 figures, 1 table and 4 references: 2 Soviet bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere and Propagation of Radiowaves, AS USSR)

SUBMITTED: August 1, 1961

Card 2/2

S/203/61/001/005/027/028
A06/A101

AUTHORS: Ben'kova, N.P., Turbin, R.I., Fligel', M.D.

TITLE: Solar radiobursts at 28 Megacycle frequency on July 12, 1961

PERIODICAL: Geomagnetizm i aeronomiya, v. 1, no. 5, 1961, 842 - 843

TEXT. Cosmic radio-emission at 28 Megacycle frequency is regularly recorded at the ionospheric department of IZMIRAN for the purpose of studying ionospheric absorption. An analysis of the recordings showed that in some cases chromospheric flares caused a greater intensity of signals, which was particularly high during the chromospheric flare on July 12, 1961. The data recorded show that the chromospheric flare was accompanied by radiobursts of types II and IV which were strongly different as to time and nature. During bursts of type II and IV, the radio-radiation intensity increased in the centimeter, meter and 30 Megacycle range (10 meters). This fact does not confirm the concept that the spectrum of type II bursts rapidly decreases with reduced frequency. The different nature of radio-radiation during II and IV type bursts confirms E.I. Mogilevskiy's hypothesis on different mechanisms of generation: plasma, oscillations in the solar atmosphere

Card 1/2

S/203/61/001/005/027/028
A006/A101

Solar radiobursts at 28 Megacycle frequency ...

in the case of type II bursts, and synchronous radiation of relativistic electrons in the case of type IV bursts. There are 1 figure and 2 Soviet-bloc references.

ASSOCIATION; Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln
AN SSSR (Institute of Terrestrial Magnetism, Ionosphere and Propagation of Radiowaves, AS USSR) ✓

SUBMITTED: September 11, 1961

Card 2/2

BEN'KOVA, N.P., doktor fiziko-mat. nauk, otv. red.; SHAPIRO, B.S.,
otv. red.; GANGHUS, A.A., red.; SHEVCHENKO, G.N., tekhn. red.;
SIMKIN, G.S., tekhn. red.

[Papers]Sbornik statei. Moskva, Izd-vo Akad. nauk SSSR. (Re-
zul'taty issledovaniy po programme Mezhdunarodnogo geofiziche-
skogo goda). No.10. [Ionospheric studies]Ionosferye issledo-
vaniia. 1962. 154 p. (MIRA 15:10)

1. Akademiya nauk SSSR. Mezhdunarodnyy geofizicheskii ko-
mitet. V razdel programmy MGG. Ionosfera.
(Ionosphere)

BEN'KOVA, N.P.

Conference on ionosphere. Geofiz. biul. no.12:54-56 '62. (MIRA 16:5)
(Ionosphere)

EEN'KOVA, N.P.

All-Union Conference of the Ionospheric Research Section
of the Interdepartmental Geophysical Committee, held at
Ashkhabad on February 19-23, 1962. Geomag. i aer. 2
no.3:577-578 My-Je '62. (MIRA 15:11)
(Ionospheric research--Congresses)

S/203/62/002/004/003/018
1046/1242

AUTHORS: Bon'kova, N.P., and Tyurmina, L.O.

TITLE: The magnetic field of the equatorial current

PERIODICAL: Geomagnetizm i aeronomiya, v.2, no.4, 1962, 635-641

TEXT: The authors calculate the magnetic field of the equatorial current ring for any point on the surface of the earth assuming that the current flows along a surface shaped like the force lines of the dipole field ($r = a \sin^2 \psi$) and positioned symmetrically with respect to the equator. Agreement between the theoretical results and the experimental latitude distribution of the geomagnetic D_{st} variation is best obtained for a current ring with $a = 3R_{earth}$ and for current density $j = j_0(b + c \cos^2 \psi)$. The magnetic moment of the ring (calculated for the magnetic storm of June 1, 1958), $M = (4-5) \cdot 10^{25}$ CGSM agrees with the results of other authors (Ref. 5: E.H.Vestin. The geomagnetic field, its description and analysis. Washington, 1947). (Ref. 9: S.I.Akasofu, J.Cain, and S.Chapman.

Card 1/2

S/203/62/002/004/003/018
I046/I242

The magnetic field of...

J.Geophys.Res., 1961, 66, No.12, 4013-4026). The conclusions confirm the hypothesis that the extraionospheric current flows in two radiation belts with $a = 3-5 R$ (the outer belt) and $a = 9-10 R$ (the outermost, or third belt). There are 2 figures and 3 tables.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprosstraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, the Ionosphere, and Propagation of Radio Waves, AS USSR)

SUBMITTED: April 17, 1962

Card 2/2

BEN*KOVA, N.P.

Conference on the ionosphere held in Nice December 11-17, 1961.
Geomag. i aer. 2 no.4:794-797 J1-Ag '62. (MIRA 15:10)
(Ionosphere—Congress)

ADAM, N.V.; BEN'KOVA, N.P.; ORLOV, V.P.; OSINOV, M.K.; TYURMINA, L.O.

Spherical analysis of the constant magnetic field for the epochs
1955 and 1958. Geomag. i aer. 2 no.5:949-962 S-O '62.

(MIRA 15:10)

1. Institut zemnogo magnetizma, ionosferi i rasprostraneniya
radiovoln Sibirskogo otdeleniya AN SSSR i Institut matematiki
i vychislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR.
(Magnetism, Terrestrial)

BENKOVA, N.P.

Sixth Conference of the Research Commission of the International
Advisory Committee on Radio (held in Geneva from June 7 to 23,
1962). Geomag. i aer. 2 no.5:1017 S-O '62. (MIRA 15:10)
(Ionospheric radio wave propagation—Congresses)

BENKOVÁ, N.P.

Studies of the ionosphere. Vest. AN SSSR 32 no.6:11-112 Je '62.
(MIRA 15:6)

(Ionosphere—Congresses)

XHVOSTIKOV, I.A.; BEN'KOVA, N.P., doktor fiz.-matem. nauk, otv. red.;
MIRTOV, B.A., kand.viz.-matem.nauk, otv. red.; VERSTAK, G.V.,
red.; ISAKOVICH, T.D., red.; PODOL'SKIY, A.D., red.; POLENOVA,
T.P., tekhn. red.

[Papers]Sbornik statei. Moskva, Izd-vo Akad. nauk SSSR.
No.11[Physics of ozonosphere and ionosphere]Fizika ozono-
sfery i ionosfery. 1963. 662 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Mezhdovedomstvernyy geofizicheskiy ko-
mitet. V razdel programy MGG. (Atmosphere, Upper)

B. F. N. K. U. V. B. N. P.

ADAM, N.V., BENKOVA, N.P., CRLOV, V.P., CSIPOV, N.K., TYURINA, L.O.

4

Calculated magnetic field of the Earth, (USSR)

report submitted for the 4th International Space Science Symposium (COSPAR)
Warsaw, 2-12 June 63

h521h
S/203/63/003/001/011/022
A061/A126

AUTHORS: Ben'kova, N. P., Vasil'yev, K. N.

TITLE: The E layer in low latitudes as investigated on the schooner "Zarya"

PERIODICAL: Geomagnetizm i aeronomiya, v. 3, no. 1, 1963, 88 - 93

TEXT: Ionospheric observations, in addition to geomagnetic measurements, were conducted with an AIC (AIS) ionospheric recorder on the non-magnetic schooner "Zarya" in the Indian and the Pacific Ocean in 1959 - 1960. A report is given of the analysis performed on the results. The latitude distribution of the f_0E layer at all hours of a day is described. Special features in the equator region (lessening of the f_0E layer in the region of the geomagnetic equator) are shown to become more manifest in the morning and evening hours, and to smooth out at midday. The daily course of the f_0E layer can be described by the formula $f_0E = K \cos^n \chi$. n differs in the morning and evening hours. The value n in the morning varies appreciably with the latitude. It is a maximum at latitudes of

Card 1/2

The E layer in low latitudes f...
+ 20° and a minimum at the geographic equator. There are 5 figures.

S/203/63/003/001/011/022
A061/A126

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya
radiovoln AN SSSR (Institute of Terrestrial Magnetism,
Ionosphere and Radio Wave Propagation AS USSR)

SUBMITTED: July 27, 1962

Card 2/2

ADAM, N.V.; BEN'KOVA, N.P.; ORLOV, V.P.; OSIPOV, N.K.; TYURMINA, L.O.

Spherical analysis of the constant geomagnetic field for the period
1955 through 1958. Pt. 2. Geomag. i aer. 3 no.1:121-126 Ja-F '63.
(MIRA 16:4)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln
AN SSSR i Institut matematiki s vychislitel'nym tsentrom Sibirskogo
otdeleniya AN SSSR.

(Magnetism, Terrestrial)

ADAM, N.V.; BEN'KOVA, N.P.; ORLOV, V.P.; OSIPOV, N.K.; TYURMINA, L.O.

Spherical analysis of the permanent geomagnetic field and
secular variation. Geomg. i aer. 3 no.2:336-353 Mr-Apr '63.
(MIRA 17:2)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya
radiovoln AN SSSR i Institut matematiki s vychislitel'nym
tsentrom Sibirskogo otdeleniya AN SSSR.

ADAM, N.V.; BEN'KOVA, N.P.; ORLOV, V.P.; OSIPOV, N.K.; TYURMINA, L.O.

Synthesis of the geomagnetic field according to the coefficients
of spherical analysis. Geomag. i aer. 4 no.1:151-160 Ja-F'64.
(MIRA 17:2)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya
radiovoln AN SSSR i Institut matematiki s vychislitel'ny
tsentrom Sibirskogo otdeleniya AN SSSR.

ACCESSION NR: AP4043254

8/0203/64/004/004/0748/0752

AUTHOR: Adam, N. V., Ben'kova, N. P., Orlov, V. P., Osipov, N. K., Tyurmina, L. O.

TITLE: Analytical representation of secular variation

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 4, 1964, 748-752

TOPIC TAGS: geomagnetism, geomagnetic field, geomagnetic field secular variation, secular variation

ABSTRACT: A study has been made showing that an analytical representation of the secular variation (SV) of the geomagnetic field based on six harmonics is adequate for representation of world SV with the same degree of accuracy as world maps of SV compiled directly from observations at magnetic observatories; it is also shown that the analytical method can be used for compiling maps of SV. The synthesis of SV maps was accomplished using a grid with grid lines spaced 5° apart in longitude. The grid was somewhat more open to the south of 60°S and to the north of 70°N. The values δX and δY were derived using the mean coefficients δg_n^m and δh_n^m , computed from δX and δY in order to exclude the potential-free part. In accordance with the assumption of the existence of an outer part the values δZ were computed using δj_m^n and δk_m^n . The quality of the analytical maps was judged by compiling maps of the differences Δ between the initial values δX , δY

Card 1/1

ACCESSION NR: AP4043254

and δZ used for analysis and the values obtained as a result of the synthesis. Figures 1 and 2 of the Enclosure show the IZMIRAN (Institute of Terrestrial Magnetism, the Ionosphere and Radio Wave Propagation) maps of $\Delta \delta X$ and $\Delta \delta Y$. The Δ values are given in gammas; positive values are represented by solid and negative values by dashed isolines. The maximum discrepancies between the initial and new maps, $+30\gamma$, was in the southern hemisphere; in the northern hemisphere they did not exceed $+10\gamma$. The discrepancies in δX , δY and δZ on the IZMIRAN SV world maps do not have a regular pattern, except that in the southern hemisphere $\Delta \delta Y$ is generally negative. The values $\Delta \delta X$ and $\Delta \delta Y$ are of the order of $+5\gamma$ and only in the south polar cap do they attain 40γ for δX and 20γ for δY . For $\Delta \delta Z$ there is an increase to $+15\gamma$ in the Atlantic and a sharp increase to 60γ in the high latitudes of the southern hemisphere. The IZMIRAN maps also were compared with the values δX , δY and δZ directly at 53 magnetic observatories; the mean discrepancy for the three elements was $+9\gamma$. The analytical method is thus as accurate as graphic methods, but does not involve the subjectivism involved in use of the latter. However, graphic and analytical methods could be combined; the first is best for areas for which little data is available and the second is best for characterizing regions of rapid secular variations. Orig. art. has: 3 figures and 2 tables.

Card

2/7

ACCESSION NR: AP4043254

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, the Ionosphere and Radio Wave Propagation, AN SSSR); Institut matematiki s vy*chislitel'nym tsentrom, SO AN SSSR (Institute of Mathematics and the Computation Center, SO AN SSSR)

SUBMITTED: 04Feb64

ENCL: 04

SUB CODE: ES

NO REF SOV: 004

OTHER: 001

Card 3/1

L 1899-66 EWT(1)/FCC/EWA(h) GN/GS

ACCESSION NR: AT5022835

UR/0000/65/000/000/0224/0228

24
23
241

AUTHOR: Ben'kova, N. P.; Sukhodol'skaya, A. N.

TITLE: Variability of ionospheric parameters

SOURCE: Vsesoyuznoye soveshchaniye po kosmofizicheskomu napravleniyu issledovaniy kosmicheskikh luchey, Ist. Yakutsk, 1962. Kosmicheskiye luchy i problemy kosmofiziki (Cosmic rays and problems in cosmophysics); trudy soveshchaniya. Novosibirsk, Redizdat Sib. otd. AN SSSR, 1965, 224-228

TOPIC TAGS: P layer, statistic distribution, critical frequency, ionosphere

ABSTRACT: The variance of hourly values of the critical frequency of the F₂ layer, $f_o F_2$, was determined from the formula for a normal distribution:

$$\sigma = \frac{1}{2} \frac{(\lambda_u - m) + (m - \lambda_l)}{0.6745}$$

where λ_u and λ_l are the upper and lower values and m is the median value of a given parameter, and the formula

$$\delta = (\lambda_u - m) - (m - \lambda_l).$$

Card 1/2

L 1899-66

ACCESSION NR: AT5022835

was used to find the deviation of the distribution from the normal distribution. Data obtained from vertical sounding of the ionosphere during the IGY at the Yakutsk, Yuzhno-Sakhalinsk, and Tiksi Bay stations were employed. It is found that the variance of the hourly values of the ionospheric parameters relative to the monthly median is largely due to a regular seasonal change of the parameters. The characteristics σ and δ , calculated from the quartile values of the parameters, characterize the general variability of the ionosphere and can be used advantageously for practical calculations of the range of working frequencies and other practical problems of radio communications where possible deviations of ionospheric parameters from monthly median values must be evaluated. Orig. art. has: 5 figures, 1 table, and 2 formulas.

ASSOCIATION: Institut zemnogo magnetizma i rasprostraneniya radiovoln
 (Institute of Terrestrial Magnetism and Radio Wave Propagation)

SUBMITTED: 29Oct64

INCL: 00

SUB CODE: ES

NO REF SOV: 003

OTHER: 000

mlr
Card 2/2

ACC NR: AT6021011 ^{11/11/80} GW/QD

(A,N)

SOURCE CODE: UR/0000/65/000/000/0018/0033

AUTHOR: Adam, N. V.; Ben'kova, N. P.; Orlov, V. P.; Tyrumina, L. O.

31

ORG: none

TITLE: Secular variations of the geomagnetic field based on data of a spherical analysis

SOURCE: AN SSSR. Institut fiziki Zemli. Nastoyashcheye i proshloye magnitnogo polya Zemli (The present and past of the earth's magnetic field). Moscow, Izd-vo Nauka, 1965, 18-33

TOPIC TAGS: earth magnetism, geomagnetic measurement, spherical analysis, secular variation

ABSTRACT: This article concerns the principal geomagnetic field studied by the method of spherical analysis and its secular variations. The authors derive an analytical expression which approximates secular variations. They examine on the basis of this analytical expression certain problems of the nature of secular variations, and attempt to use the results obtained for forecasting the field. The authors, having previously used spherical analysis for plotting charts of isoporic lines in the polar caps and having obtained sufficiently good agreement with charts plotted from observational data, conclude that the sum of the first six terms of a spherical harmonic series permits representing the morphology of secular variations with the same degree

Card 1/3

L 10913-67

ACC NR: AT6021011

of schematization. This scheme is characteristic of modern world isoporic charts plotted graphically from the data of magnetic observatories but without the element of subjectivism inherent to the graphic method. Spherical analysis is recommended both as a method of analytical representation and as a method of plotting isoporic charts. Since one of the important characteristics of the planetary part of secular variations is western drift, the authors estimated western drift for individual harmonics by means of spherical analysis of a constant field and secular variations, and by the shift of the centers of world anomalies. They also examined the latitudinal and longitudinal distributions of drift velocity. The velocity values obtained from the coefficients of spherical analysis of world charts of the total field for the 1955 epoch, and from the secular variation charts for the period 1954—1959, are calculated. The velocity values were found to fluctuate within -0.47 to $+0.12$ deg/year, two characteristics being noted: 1) a decrease of the velocity for high-latitude observatories and 2) asymmetry in the distribution of velocity between western and eastern hemispheres. The velocity values were higher for western observatories than for eastern. To extrapolate secular variations to the present or forthcoming epochs, isoporic charts of 1954—1959 were used to forecast the secular variations for 1960—1965. A comparison of the coefficients of the spherical analysis of secular variations revealed that, with the present accuracy, the coefficients higher than the third order can be considered constant, and the coefficients of the first three orders change in time within a set interval, fluctuating about averages that are constant or almost constant in time. It is concluded that during a 50-year period the magnetic moment can decrease by $0.5 \cdot 10^{25}$ CGS, and that the position of the geomagnetic pole will

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ACC NR: AT6021011

shift along the latitudinal circle from $291^{\circ}46'$ to $291^{\circ}52'$. Combining paleomagnetic and analytical studies of the geomagnetic field can be quite fruitful, in particular in regions west and east of the centers of world anomalies. Orig. art. has: 3 formulas, 6 tables and 6 figures.

SUB CODE: 12,08/ SUBM DATE: 21Sep65/ ORIG REF: 007/ OTH REF: 004

Card 3/3

L 07191-67 EWT(1)/ECC GW/GD
ACC NR: AT6021012 (A, N)

SOURCE CODE: UR/0000/65/000/000/0033/0041

AUTHOR: Adam, N. V.; Een'kova, N. P.; Orlov, V. P.; Tyurmina, L. O. 33

ORG: none

TITLE: Calculation of the geomagnetic field strength based on the coefficients of spherical analysis

SOURCE: AN SSSR. Institut fiziki Zemli. Nastoyashcheye i proshloye magnitnogo polya Zemli (The present and past of the earth's magnetic field). Moscow, Izd-vo Nauka, 1965, 33-41

TOPIC TAGS: geomagnetic field, geomagnetic measurement, magnetic field intensity, cartography

ABSTRACT: This article is devoted to a calculation of the geomagnetic field strength based on the coefficients of spherical analysis in order to obtain information on the distribution and character of the change of the geomagnetic field at various distances from the earth's surface. The first step in this work was to determine the coefficients of a spherical harmonic series in order to calculate the geomagnetic field in circumterrestrial space. The starting data were the magnetic charts of the IZMIRAN and the British Admiralty for the 1955 epoch and the values of the magnetic elements at unevenly distributed discrete points. A subsequent synthesis of the field on the earth's surface and its comparison with the starting data showed that the best repre-

Card 1/3

L 07491-67

ACC NR: AT6021012

resentation of the field is given by the coefficients calculated with respect to world charts. The elements X, Y, Z were calculated by the sum of the first six harmonics for a network of points 5° with respect to latitude and 15° with respect to longitude. The coefficients obtained from the IZMIRAN charts were used for further calculations. It was found that spherical analysis carried out for world magnetic charts gives an analytical representation of the distribution of the field on the earth's surface with the same degree of flatness and with the same errors as the world magnetic charts on which the analysis was based. Spherical analysis offers a sufficiently simple and easy method of calculating the magnetic field and its gradients for large heights. The absolute errors of calculation decrease with height in proportion to $(R/r)^3$ or even more quickly, but the relative errors remain constant or decrease slightly. Taking this into account, as well as the rapid decrease of odd harmonics with height, the authors assert that at large heights the series of spherical harmonics provide a high accuracy of approximating the magnetic field sufficient for various problems of investigating a constant field and for interpreting satellite observations. An analysis of the 1955 IZMIRAN charts confirmed the systematic shift of the earth's magnetic center. The theories of the origin of the geomagnetic field scarcely touched upon the problem of the eccentricity of the field and the authors wish to call the very fact of eccentricity and the systematic shift of the magnetic center to the attention of theoreticians. The representation of smoothed world charts by series of spherical harmonics up to the sixth order is not, in the opinion of the authors, the limit of what spherical analysis can give. With a sufficiently large number of observations pertaining to one epoch, a spherical harmonic series can provide a more detailed picture of the

Card 2/3

L 07491-67

ACC NR: AT6021012

field and with fewer errors. Orig. art. has: 11 formulas, 3 tables, and 4 figures.

SUB CODE: 08/ SUBM DATE: 21Sep65/ ORIG REF: 008/ OTH REF: 004

Card 3/3/1965

L 37697-66 EWT(1)/FCC/FSS-2 TT/GW

ACC NR: AP6019600

(A, N)

SOURCE CODE: UR/0293/66/004/003/0463/0468

AUTHORS: Adam, N. V.; Ben'kova, N. P.; Tyurmina, L. O.

54
B

ORG: none

TITLE: Geomagnetic map construction from satellite data ✓

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 3, 1966, 463-468

TOPIC TAGS: geomagnetic measurement, geomagnetic field, harmonic analysis, ~~artificial~~ satellite observation cartography, map, scientific satellite, spaceborne geophysics measurement

ABSTRACT: A map is presented of the total magnetic field intensity at 400 km over the Soviet Union. The data for constructing the map were obtained from measurements from the third artificial earth satellite (1958). The measurements were reduced to the value at 400 km according to the formula

$$T_{400} = T_h + \frac{\Delta T}{\Delta h} (h - 400).$$

An insufficient number of measurements was made to obtain the vertical gradient $\Delta T/\Delta h$ directly. Consequently, the gradients were calculated on the basis of spherical harmonic analysis of world magnetic maps (1955). Details of the analysis and the construction of the map are given, and the accuracy is estimated to be 350 γ. Orig. art. has: 2 figures, 2 tables, and 6 formulas. [04]

SUB CODE: 08/

SUBM DATE: 17Apr65/

ORIG REF: 005/

OTH REF: 001/

Card 1/1 and

ATD PRESS: 50 4/1

UDC: 550.382.528.067.4

L 23136-66 EWT(1)/FCO GW

ACC NR: AF6006677

SOURCE CODE: UR/0203/66/006/001/0179/0181

AUTHORS: Ben'kova, N. P.; Adam, N. V.; Tyurnina, L. O.

ORG: Institute of Terrestrial Magnetism, the Ionosphere, and Propagation of Radio Waves, AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR)

TITLE: On the accuracy of analyzing worldwide magnetic maps of 1960

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 1, 1966, 179-181

TOPIC TAGS: geomagnetic field, harmonic analysis, research ship

ABSTRACT: Distribution of total magnetic field was computed through coefficients of spherical harmonic analyses for 1960. Different combinations of spherical-harmonic coefficients were used to compute for each of the three rectangular coordinates of the field. Theoretical values of the field were then computed according to each set of coefficients. To evaluate the accuracy of this approach by spherical harmonics, comparisons were made between the values obtained here with values taken from worldwide magnetic maps for 1960. Checks were made of every

Card 1/2

UDC: 550.389 2

L 23136-66

ACC NR: AP6006677

5° of latitude and 15° of longitude. Comparisons were also made with data from the Zarya for the Pacific, Indian, and Atlantic Oceans for the period 1957-63, reduced to 1960. Checks were made at 372 points. The theoretical values were also compared with average values from magnetic observatories. Variation in field (for horizontal component) was computed to be 260 γ , was measured as 286 γ on the Zarya, and 290 γ at land observatories. The difference between computed values and the Zarya values for the points of comparison are plotted on a world map, and isopleths of difference are drawn. Orig. art. has: 1 figure and 1 table.

SUB CODE: 08/ SUBM DATE: 06Jul65/ ORIG REF: 001

Card 2/2 PB

PETROVIC, Ferdo; BENKOVIC, Bianka

Gonad dose exposure during diagnostic procedures (measurement). Rad.
med. fak. Zagreb 8 no.2:188-194 '60.

(RADIMETRY) (GONADS radiation eff)

HEAD
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BENKOVIC, I. L.

Contributions to sequelae in the base of the skull with special reference to the sella turcica. Rozhl. chir. 40 no.11:743-747 N '61.

1. Klinika nemoci nervoveho systemu Luganskeho statniho lekarskeho institutu, reditel kliniky prof. I. L. Benkovic.

(BRAIN wds & inj) (SELLA TURCICA wds & inj)

BENKOVIC, J.

IKIC, D.; BENKOVIC, J.

Our investigations on the value of various types of anti-typhoid vaccines. Acta med. iugosl. 9 no.1:38-44 1955.

1. Centralni higijenski zavod--Zagreb.

(VACCINES AND VACCINATIONS,

typhoid vacc. exper. of various types to determ. choice vacc., results (Ser))

(TYPHOID FEVER, immunol.

vacc., exper. of various types in determ. of choice vacc., results (Ser))

MARKIC, D.; BENKOVIC, J.

Anti whooping cough vaccine prepared by various methods, experiments on mice. Acta med.iugosl. 9 no.1:46-53 1955.

1. Centralni Higijenski zavod--Zagreb.

(VACCINES AND VACCINATION,

whooping cough vacc.,variedly prepared, exper.eff.
determ. on mice results(Ser))

(WHOOPIING COUGH,

vacc.,variedly prepared, exper. eff. determ. on mice,
results (Ser))

YUGOSLAVIA/Microbiology. Hemagglutinating Bacteria. F-5

Obs Jour : Zb. Znan. - Biol., No 14, 1957, pp 329-33

Author : Mijic-Mandic Ljerkica, Penkovic Jelka

Inst : -

Title : Preparation of Pertussis Vaccine on a Semi-Synthetic Medium.

Orig Pub : Parac. glasnik, 1957, 13, No 9-10, 327-330

Abstract : No abstract

Serial : 1/1

BENKOVIC, Josip, inz.

Problems of the gray-casting and steel scrap in the gray-casting foundries. Ljevarstvo no.1/2:15-18 '63.

1. "Tono Vidanovic", Bjalovar.

KISS, Lorant, okleveles gépészmérnök; CSERNAVOLGYI, László; HAJDU, István;
BENKOVICS, József; TERNYÁK, Benó; SOSKUTI, András; TOROK, Mihály, dr.;
SZASZ Frigyes; GATI, Geza; KOVACS, Lajos; DEHÉNES, Zoltán; MAGYAROKI,
László; KOVACS, Gyula; AUERSWALD, János; SOS, János; DRÓSZEGHY, Daniel,
prof.

Manufacture and use of gas appliances. Energia es atom 17 no.1:
30-35 Ja'64.

1. Lampagyár (for Kiss).
2. Vegyterv (for Csernavolgyi).
3. Országos Kőolaj- és Gázipari Troszt (for Hajdu, Szasz, Auerswald).
4. Pécsi Gázszolgáltatató Vállalat (for Benkovics).
5. Ásványolaj-forgalmi Vállalat (for Ternyak, Soskuti).
6. Építésügyi Minisztérium Iparterv Műszaki Osztály (for Torok).
7. Országos Villamosenergia Felügyelet (for Gati).
8. Építésügyi Minisztérium (for Lajos Kovacs).
9. Gázkeszulekgyártó Vállalat (for Dehenes).
10. Építéstudományi Intézet (for Gyula Kovacs).

SZUCS, Miklos, dr., a kemiai tudományok kandidátusa; SZASZ Frigyes;
HUNYITAI, Janos, dr.; BANAS Jozsef; ZACHEMSZKY, Ferenc;
GULDEN, Otto; TERNYAK, Beno; BENKOVIC, Jozsef; DIOSZEGHY,
Daniel, prof., dr.; TOTH, Istvan.

Questions of vocational education pertaining to the gas in-
dustry. Energia es atom 1' no.1:7-11 Ja'64.

1. Fovarosi Gazmuvek (for Szucs); 2. Orszagos Koolaj- es
Gazipari Troszt (for Szasz and Bunyitai). 3. Miskolci Ne-
hezipari Muszaki Egyetem (for Dioszeghy). 4. Veszpremi
Vegyipari Muszaki Egyetem (for Toth).

PROCEEDINGS AND PROPERTIES INDEX

1 4

BC

Protein metabolism of brain following trauma.
I. Chemical topography of the brain. II. Effect of removing the visual and olfactory organs.
 I. L. BERKOVITZ (U.S.S.R. Biochem. J., 1939, 14, 85-88, 97-112).—I. The mean % protein + lipin-N content obtained in hemisphere of the brain of dogs is greater than that of the opposite hemisphere; the reverse is the case for non-protein-N. This applies both to the hemispheres in the whole and to the respective motor, olfactory, and visual cortex, white matter, olfactory bulbs, and optic tubers, analyzed separately.
 II. The non-protein-N/total N ratio falls 5 days after removal of the eyeballs in the motor, visual, and olfactory cortex, and in the optic tuber and white matter; it does in the olfactory bulb. Cauterization of the nasal mucosa leads to a fall in the ratio in all cases, to a greater degree in the right than in the left hemisphere.
 R. T.

ASS. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

FROM DIVISION

SEARCHED BY DIVISION

INDEXED BY DIVISION

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APR 1940

197 AND 198 272(1)

PROCESSES AND PROPERTIES INDEX

Protein metabolism of brain in trauma: III. Chemical composition of brain after amputation of receptor-sensor organs. IV. Contents of nitrogenous compounds of brain after local cerebral trauma. I. L. BRYANTONOV (Uman. Bishch. J., 1966, 14: 410-427; 428-434). -TII.

The ratio non-protein-N/total N falls in the motor, olfactory, and visual centres and in the olfactory bulb and optic tuber of the opposite hemisphere of dogs following amputation of both right or left limbs; a smaller decrease is found in the corresponding parts of the other hemisphere. The reverse is the case with the olfactory bulb and optic tuber. The greatest changes are in the motor centre.

IV. Section of the left motor-sensory area of the cortex leads to increase in the ratio in the visual area of the same side and in the right motor-sensory area, but to fall in both olfactory areas and in the left olfactory bulb; section of the right motor-sensory area increases the val. in the left motor-sensory area and diminishes it in the left olfactory area and optic tuber and right olfactory bulb. Section of the left visual area increases the val. in the left olfactory area and in the right olfactory bulb and optic tuber.

R. T.

A 50-51A METALLURGICAL LITERATURE CLASSIFICATION

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197000 510 010 000 000

BC

A-4

Protein metabolism of brain in trauma. V. Change in protein and lipoproteins in brain depending on its state. L. L. Benkevitsh (Ukrain. Resear. J., 1968, 12, 100-110; cf. A., 1948, III, 718). - After removal of the eyeballs of dogs there is a general increase in brain-P and a sharp rise in the amount of P in the visual cortical centres of both hemispheres. Cauterizing the nasal mucous membrane of dogs increases P in both hemispheres mainly in the white substance and in the visual and olfactory cortical centres. Amputation of a limb, especially on the right side, decreases P in the opposite motor centre. A general mechanical trauma of the skull or incision in the cortex of the right motor centre increases the P content in all parts of the brain which are examined. An incision in the cortex of the right cortical visual centre decreases P in most regions of the left hemisphere, in the right hemisphere P is increased. An incision in the cortex of the right olfactory centre markedly increases P in the left olfactory cortical centre; in the right hemisphere the P in the motor and olfactory centres and in the visual tuber is decreased but is increased in other regions of the brain. J. N. A.

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION

BENKOVICH I. L. Clinical manifestations of trauma of the anterior portion of the base of the skull. Problems of Neurosurger, Moscow 1948, 13/3 (12-5)

The first patient, 34 year old, shot himself with a revolver. He was unconscious for 6 days. Subsequently, there was anosmia on the right and hyposmia on the left. Bilaterally there were blindness without pupillary reaction to light (the optic nerves atrophied), paralysis of the 3rd, 4th and 6th nerves, and anaesthesia in the distribution of the 1st division of the 5th nerves. X-rays showed that the bullet had entered through the squamous portion of the right temporal bone; it had produced two jagged channels each approximately 0.5x1cm. in diameter through the body of the sphenoid in front of the base of the anterior clinoids and had finally lodged in the anterior portion of the left zygoma. The CSF was normal and the pneumoencephalogram was without significant abnormality even of the basal cisterns. After 6 weeks there was no change but 18 months later ptosis was less and there was some active movement of the eyes. The second man, aged 21, slipped and fell while carrying a 75 kg. bale which fractured his skull. He was unconscious for 2 hours and bled from the right ear. Subsequently, with the right eye he saw dimly the outlines of objects (the nerve became pale). Also on the right there was complete ophthalmoplegia with ptosis, absence of corneal reflexor sensation in the 1st division of the 5th nerve and peripheral type of 7th nerve palsy without loss of taste. The right ear drum was ruptured. A-P X-rays showed fractures of the upper lateral portions of the right orbit. Two months later the lid could be raised slightly. The next day upward, downward and adduction movements of the eye were seen and 5 days later abduction. In 3 more days Bell's phenomenon was elicited. 7th nerve function returned to normal and the 5th improved slightly. The optic nerve remained unchanged.

Timberlake-Cambridge
(Sec. VIII,11)

SO: Neurology & Psychiatry Section VIII Vol 3 No 7-12

BEN'KOVICH, I. L.

Ben'kovich, I. L. -- "Clinical diagnosis of traumata in the frontal cranial base," *Voprosy neyrokhirurgii*, 1947, No. 3, p. 57-60

SO: U-5241, 17 December 1953, (*Letonis 'zhurnal 'nykh Statey*, No. 26, 1949).

Clinic Neuropathy, Cheljabinsk Med. Inst.

YUGOSLAVIA/Microbiology - Medical and Veterinary P-6
Microbiology

Abs Jour : Ref Zhur-Biologiya, No 1, 1957, 619
Author : Ikich Benkovich
Inst :
Title : Investigation on Mice of Pertussis
 Vaccine Prepared by Different Methods
Orig Pub : Acta med. Jugosl., 1958, 9, No 1, 48-55
Abstract : Mice were immunized intraperitoneally
 with the following pertussis vaccines:
 formol-the microbes were killed with 0.5%
 solution and kept in 0.1% solution (I);
 killed by and preserved in 0.1% solution
 (II); killed and preserved in 0.01%
 solution (III); merthiolate-microbes
 killed with 3% solution of merthiolate

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YUGOSLAVIA/Microbiology - Medical and Veterinary F-6
Microbiology

Abs Jour Ref Zhur-Biologiya, No 1, 1977, 50

Abstract : 1:5,000 and kept in a solution of
1:10,000 (IV); killed at refrigeration
temperature with a solution of merthio-
late 1:10,000 and preserved at the same
temperature (V); microbes were killed
by means of ultrasound and preserved in
physiological solution (VI); microbes
were killed with 75% alcohol and pre-
served in 25% alcohol (VII); microbes
were killed with acetone and preserved
in physiological solution (VIII).
London pertussis vaccine was used as a
control. Fourteen days later the mice
were infected by intracerebral adminis-
tration of 100 DL₅₀. Of the formol

Card 2/3