89610

Radiation Measurements During the Flight of the Third Cosmic Rocket

S/020/60/136/002/013/034
B019/B056

October 4, 1959, to October 18, 1959. The trajectory of the rocket was in practical agreement with that of the first and second cosmic rocket. From a comparison of the readings of the various counters, the authors conclude that the intensities of the particles recorded by the instruments depend on the absorption in the container walls. Measurements in the interplanetary space showed that the cosmic radiation on the boundary of the terrestrial magnetic field is very strong; only individual small fluctuations were recorded. Finally, the agreement existing between the recorded intensities and those of a monitor are dealt with. From these considerations the authors draw the conclusion that the weak variations in the time from October 4 to October 18 are in connection with the variations of the magnetic fields in the solar system and the interactions among the latter are connected with cosmic radiations. There are 1 figure, 1 table, and 3 Soviet references.

SUBMITTED: October 26, 1960

Card 2/2

PONTECORVO, B.; CHUDAKOV, A.Ye.

Neutrinos and the cosmic ray intensity at great depths.
Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1962.
4 p.

(No subject heading)

VERNOV, Sergey N., LOGACHEV, Yu. I., GORCHAKOV, Ye. V., SAVENKO, I. A., CHUDAKOV, Alek Ye. and NESTEROV, V. Ye.

"The earth's radiation belt"

report to be submitted to the 13th Intl. Astronautical Congress, IAF, Varna, Bulgaria, 23-29 Sep 1962.

PISARENKO, N. F., SAVENKO, I. A., CHUDAKOV, A. Ye., SHAVRIN, P. I., VERNOV, S. N., GORCHAKOV, E. V., LOGACHEV, Yu. I., NESTEROV, V. E.

"Investigations of Radiation During flights of Satillites, Space Vehicles, and Rockets"

Soviet Papers Presented at Plenary Meetings of Committee on Space Research (COSPAR) and Third International Space Sumposium, Washington, D. C., 23 Apr - 9 May 62.

5

38067
S/048/62/026/006/013/020
B125/B102

3.2420

AUTHORS: Vakulov, P. V., Vernov, S. N., Gorchakov, Ye. V., Logachev, Yu. I., Nesterov, V. Ye., Nikolayev, A. G., Pisarenko, N. F., Savenko, I. A., Chudakov, A. Ye., and Shavrin, P. I.

TITLE: Radiation studies during the flights of satellites, spaceships and rockets

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 6, 1962, 758-781

4

TEXT: This report deals with radiation measurements made by the second and the third Soviet spaceship, by the rocket launched toward the Venus on February 12, 1961, and by the third Soviet earth satellite (August 15, 1958). The spaceships were equipped with scintillation counters, gas discharge counters and elements for storing data through 24 hours. The northern and southern zones of increased radiation intensity are undoubtedly linked by the lines of force of the geomagnetic field. The increased radiation intensity is due to electrons of the outer radiation belt, slowed down in the jacket of the spaceship. The

Card 1/3

Radiation studies during the flights ...

boundaries of this belt were determined more accurately by the lower orbiting Soviet spaceship. At 16 hours after the chromosphere flare of June 17, 1958 had vanished but still a few hours before the magnetic storm, charged particle intensity increased. The electron spectrum of the outer radiation belt does not change much at an altitude of 32,000-40,000 km, nor did the magnetic storm which occurred during the flight of the third Soviet spaceship have any substantial effect on the outer radiation belt. Except for a few percent, the proton intensity of the inner radiation belt remained constant during the three weeks' flight of the third Soviet satellite. The increased radiation intensity over the Brazilian anomaly, observed on board of the second spaceship at an altitude of 320 km, was due to the inner radiation belt. In this anomaly, the proton component of the inner radiation belt is predominant at small geomagnetic latitudes. The portion of X-rays increases with increasing latitude. A zone of lower bremsstrahlung intensity separates the outer from the inner radiation belt. This zone is practically absent in the region of the Brazilian anomaly. The equator of cosmic rays determined by the second and the third Soviet spaceship resembles remotely a sine curve running between 11° of northern and 11° of southern latitude.

Card 2/3

5

S/048/62/026/006/013/020
B125/B102

Radiation studies during the flights ...

Between 60° western and 60° eastern longitude the equator of cosmic radiation lies north of the theoretical sine curve. The general trend of the lines of equal cosmic radiation intensity corresponds in general to the distribution of magnetic rigidity. There are 16 figures and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gos. universiteta im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics of the Moscow State University imeni M. V. Lomonosov).
Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR)

4

Card 3/3

38667
S/056/62/042/006/032/047
B104/B108

3.2410

AUTHORS: Zatsepin, V. I., Chudakov, A. Ye.

TITLE: Spatial distribution of the intensity of Cherenkov radiation in extensive atmospheric showers

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1622 - 1628

TEXT: The Cherenkov radiation generated by extensive atmospheric cosmic-ray showers on two observation levels of different altitudes is calculated. The angular and energy distributions of the electrons in the showers are adopted from the cascade theory of electron-photon showers. The shower axis meets the earth's surface at the point O (Fig. 1), the radiation pickup is at D, the figure OBCD lies in the drawing plane, the figure OO'A'B in a plane perpendicular to the drawing plane. The intensity of light generating electrons with energies between E and E +dE at the point D is determined. Numerical results obtained for showers from primary protons and photons of various energies are given (Table). There are 4 figures and 1 table.

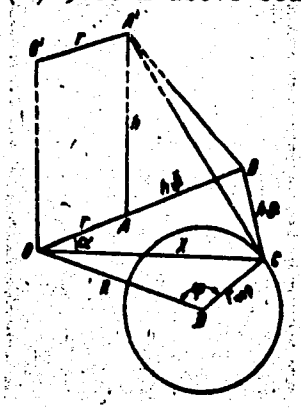
Card 1/2

Spatial distribution of the ...

SUBMITTED: January 17, 1962

Table. Numerical results. Legend: (1) Primary particles energy, (2) distance between shower axis and pickup, meters (Fig. 1), (3) total number of electrons in the shower, (4) total number of photons in the shower, (5) sea level, primary photon, (6) sea level, primary proton, (7) 3860 m above sea level, primary photon, (8) 3860 m above sea level, primary proton.

Fig. 1



Card 2/2

PONTEKORVO, B.; CHUDAKOV, A.Ye.

Neutrinos and the cosmic ray intensity at great depths.
Zhur. eksp. i teor. fiz. 43 no.5:1967-1969 N '62. (MIRA 15:12)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Neutrinos) (Cosmic rays)

CHUDAKOV, A. YE.

6

VAKULOV, P.V., VERNOV, S.N., GORCHAKOV, YE.V., LOGACHEV, YU.I.
CHARAKHCHYAN, A.N., CHARAKHCHYAN, T.N., CHUDAKOV, A. YE.

Cosmic rays in the stratosphere and their correlation with solar activity.

Report to be submitted for Space Research Committee on COSPAR 6th plenary meeting
Warsaw, Poland 11 June 65-

CHUDAKOV, A. Ye.; VERNOV, S.N.

"Investigation of radiation at altitudes of 250-800 km during flight of Cosmos 17."(USSR)

Report submitted for the COSPAR Fifth Internation Space Science Symposium, Florence, Italy, 8-20 May 1964

L 24805-65 EEC-4/EWG(j)/EWG(v)/EWA(h)/EWT(l)/EWT(m)/EEC(t)/EEC/T Pe-5/Pi-4/ [illegible]-4/Pae-2/Peb IJP(c) GW/WS
[illegible]SSION NR: AT4049952 S/2906/64/026/000/0118/0141

AUTHOR: Chudakov, A. Ye.; Dadykin, V. L.; Zatsepin, V. I.; Nesterova, N. M.

TITLE: Search for photons with energies of about 10000 Bev for local sources of cosmic radiation

SOURCE: AN SSSR. Fizicheskiy institut. Trudy*, v. 26, 1964. Kosmicheskiye luchi (Cosmic rays), 118-141

TOPIC TAGS: cosmic radiation, cosmic ray source, high energy photon, Cerenkov radiation, radio source, radio telescope

ABSTRACT: The method and results of an attempt to detect high-energy photon flux from certain cosmic sources (primarily from Cygnus A and Taurus A) are described. Obser-[illegible] were made during the summer season of 1960-[illegible] [illegible] results of this [illegible] presented at conferences on cosm[illegible] [illegible] Bolivia [illegible] the All-Union Conferen[illegible] [illegible] experimental [illegible] was based on the recording of extens[illegible] [illegible] angle [illegible] of a few thousandths o[illegible] [illegible] and [illegible]ative intensity of high-energy particles for various parts of the sky. A high

Card 1/2

L 24805-65

ACCESSION NR: AT4048952

17

aperture value device was used to record bursts of Cerenkov light from showers of [illegible] low initial energy (about $2 \cdot 10^{12}$ ev observed at sea level). The count rate [illegible] 200-250/min, yielding good [illegible] comparison of [illegible] various segments of the sky [illegible] of photons with [illegible] covered. [illegible] system is discussed in detail [illegible] radioastronomicheskaya stantsiya FIAN [illegible] Station, [illegible] their help in the experimental work [illegible] premises; [illegible] thank Yu. N. Konovalov and V. Ya. Markov [illegible] laboratoriya [illegible] cheskikh luchey (Cosmic Ray Laboratory), for helping to develop the apparatus, [illegible] V. I. Yakovlev, B. V. Subbotin, Ye. [illegible] V. Popova, [illegible] Ye. V. Denisov and the [illegible] AN Dolgoprudnensk Scientific Station [illegible] A. F. Kraso- [illegible] to process the data [illegible]

[illegible] TION: Fizicheskiy institut AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 00 ENCL: 00

NO REF SOV: 004 OTHER: 007

Card 2/2

[illegible] belt, radiation [illegible] satellite

[illegible] survey article, based mostly on [illegible] papers, [illegible] survey and study of [illegible]

[illegible] gas-discharge counter STS-5 on Mars 1 and the stratosphere (at 64° latitude) over the November 1962 - January 1963 period, and the counting rate of the STS-5 counter on the Luna 4 satellite station and in the stratosphere during the first half of April of 1963. Orig. art. has: 16 figures and 2 tables.

L 52771-65
ACCESSION NR: AT5009977

D

ASSOCIATION: None.

SUBMITTED: 00	ENCL: 00	SUB CODE: AA, SV
NO REF SOV: 013	OTHER: 004	

Card 2/2

EWT(1)/FS(s)/EPA(b)/EWG(v)/FCC ... Pe-4/Po-4/Pd-4/Pe-5/Pq-4/Pae-2/Peb ... AMD ... 3

ACCESSION NR: AP4043502 ESD(gs)/ESD(t) TT/GW/WS S/0293/64/002/004/0633/0640

AUTHOR: Vernov, S. N.; Chudakov, A. Ye.; Vakulov, P. V.; Gorchakov, Ye. V.; Logachev, Yu. I.; Lyubimov, G. P.; Nikolayev, A. G.

TITLE: Investigation of cosmic radiation during the flight of the Mars-1 and Moon-4 space stations

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 4, 1964, 633-640

TOPIC TAGS: cosmic radiation, space station, Mars 1, Moon 4, Earth radiation belt, scintillation counter, gas discharge counter

ABSTRACT: Recordings of cosmic-radiation intensity beyond the Earth's magnetic field made during the flights of Mars-1 (20 November 1962 to 25 January 1963) and Moon-4 (2-14 April 1963) are discussed. Data on the Earth's radiation belts received from Mars-1 and data on the cosmic-ray intensity during various cycles of solar activity are given. The equipment aboard Mars-1 consisted of two scintillation and two Geiger gas-discharge counters. It was discovered that the intensity of cosmic radiation remains practically constant beyond a distance of 0.24 astronomical units. During the flight of Moon-4,

Card 1/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509020011-3"

L 7044-65
ACCESSION NR: AP4043502 O

slow and smooth variations in cosmic-ray intensity connected with changes of the magnetic situation in the solar system were recorded. The particle fluxes in the radiation belts recorded by Mars-1 are given. The average energy yield in the crystal of the scintillation counters for a single count was about 2 Kev. Orig. art. has: 5 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 30Jan64 ATD PRESS: 3104 ENCL: 00

SUB CODE: AA, SV NO REF SOV: 002 OTHER: 005

Card 2/2

CHUDAKOV, A.Ye.; LADYKIN, V.L.; YATSEPIN, V.I., NESTEROVA, N.M.

Search of photons with an energy of ~10^{13}ev. from local sources of cosmic radio-frequency radiation. Trudy Fiz. inst. 26:118-141 '64.

(MIRA 17:10)

EWG(v)/EWA(h)/EWT(l)/EEC(t)/FS(v)-3/EEC(m)/FCC/FSF(h)/FSS-2 ... (a)-5/

... 2058-2074

... Kuznetsov, S. N.; ... Lyubimov, ... Okhlopkov, ... Chernovskaya,

... study by Cosmos 17. [Report presented at the Vse- ... fizike kosm... All-Union ... the physics of cosmic ...]

AN SSSR. Izvestiya. Seriya fizicheskaya, v. 28, no. 12, 2058-2074

TOPIC TAGS: radiation measurement, spaceborne ionization measurement, cosmic radiation, scintillation counter, gas discharge counter/ gas discharge counter, Cosmos-17

ABSTRACT: The article describes equipment used in the flight of Cosmos-17 (apogee, 788 km; perigee, 260 km) for investigating the Earth's radiation belts and primary cosmic radiation. The equipment consisted of two scintillation counters (with NaI and CsI crystals) and

a STS-5 gas-discharge counter. The cylindrical NaI counter (20 X 20 mm) was mounted under the shell of the satellite and was fitted with aluminum shielding (1 g/cm^2). On one channel it recorded ionization produced in the crystal by radiation; on the two others, it registered the number of pulses with energy release in the crystal over the specified thresholds (50 kev and Mev). The effective cross section of the NaI crystal for particles registered along the ionization and first threshold channels was approx. 4.7 cm^2; for the second channel, it was roughly 5% smaller for particles with quadruple ionization and 20% smaller for relativistic particles.

The STS-5 gas-discharge counter has an effective cross section of 4.3 cm^2. It was placed inside the device containing the scintillation counter and was not fitted with any special protection. Up to counting rates of 3 x 10^3 pulse/sec, the counter registered virtually all particles. At higher rates, the count became less reliable.

The flat CsI counte (crystal diameter, 6 mm; thickness, 3 mm) was mounted outside the container. For protection from light, the crystal was covered with aluminum foil (2 mg/cm^2). For protection against

L 21116-65
ACCESSION NR: AP5002106

bremsstrahlung, the photomultiplier and the crystal were shielded with 5 mm of lead and 11 mm of aluminum, except for the front of the photomultiplier, which had a conical opening for particle incidence (aperture angle, 40°). This counter carried out ionization measurements and particle registration at energy release in the crystal of 45 and 160 kev and 5.4 and 8.5 Mev. Both electrons and protons could be registered along the first two (45 and 160 Kev) channels. Along the other two (5.4 and 8.5 Mev) channels, the count was mainly of protons; at an electron path perpendicular to the crystal surface energy losses were about 2 Mev and oblique paths were precluded by the thickness of the shielding. Table 1 of the Enclosure gives the minimal [illegible] particle energies registered by the counters. Orig. art. has: 2 [illegible] tables and 4 formulas.

ASSOCIATION: none

Card 3/5

L 21116-65

ACCESSION NR: AP5002106

SUBMITTED: 00	ENCL: 01	SUB CODE: SV, ES
NO REF SOV: 003	OTHER: 006	ATD PRESS: 3165

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L 21116-65
ACCESSION NR: AP5002106

ENCLOSURE: 01

Table 1.

Channel #	Detectors and registration thresholds	Minimum particle energy		
		Protons	Electrons	γ-quanta
	NaI crystal			
1	Ionization	30 Mev	2.5 Mev	20 kev
2	Threshold, 50 kev	30 Mev	2.5 Mev	50 kev
3	Threshold, 3.3 Mev	33 Mev	5 Mev	3.3 Mev
4	STS-5 counter	35 Mev	3 Mev	30 kev
	CsI crystal			
5	Ionization	500 kev	50 kev	5 kev
6	Threshold, 45 kev	500 kev	80 kev	45 kev
7	Threshold, 160 kev	660 kev	180 kev	160 kev
8	Threshold, 5.4 Mev	6 Mev	5.4 Mev	5.4 Mev
9	Threshold, 8.5 Mev	9 Mev	8.5 Mev	8.5 Mev

Card 5/5

VERNOV, S.N.; CHUDAKOV, A.Ye.; GORCHAKOV, Ye.V.; LOGACHEV, Yu.I.; NESTEROV, V.Ye.; SAVENKO, I.A.; SHAVRIN, P.I.

Radiation belts of the earth. Geofiz. biul. no.14:96-108 '64. (MIRA 18:4)

VAKULOV, P.V.; GORCHAKOV, Ye.V.; LOGACHEV, Yu.I.; CHUDAKOV, A.Ye., doktor fiziko-matem. nauk, otv. red.; ISAKOVICH, T.D., red.

[Collection of articles] Sbornik statei. Moskva, Nauka. No.6. 1965. 112 p. (MIRA 18:5)

1. Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. VII razdel programmy MGG: Kosmicheskiye luchi.

CHUDAKOV, A.Ye.; DADYKIN, V.L.; ZATSEPIN, V.I.; NESTEROVA, N.M.

Search for 10^{13} ev. photons emanating from local radio sources. Izv. AN SSSR.Ser.fiz. 29 no.10:1870-1871 O '65. (MIRA 18:10)

L 1890-66 FBD/EWT(1) GS/GW/WS-2

ACCESSION NR: AT5022824 UR/0000/65/000/000/0046/0049

AUTHOR: Chudakov, A. Ye.; Dadykin, V. L.; Zatsepin, V. I.; Nesterova, N. M.

TITLE: Search for high-energy photons from discrete sources of cosmic radio emission

SOURCE: Vsesoyuznoye soveshchaniye po kosmofizicheskomu napravleniyu issledovaniy kosmicheskikh luchey. 1st, Yakutsk, 1962. Kosmicheskiye luchi i problemy kosmofiziki (Cosmic rays and problems in cosmophysics); trudy soveshchaniya. Novosibirsk, Redizdat Sib. otd. AN SSSR, 1965, 46-49

TOPIC TAGS: radio emission, photon emission, cosmic radio source, cosmic ray shower

ABSTRACT: In 1960-61, the authors attempted to detect photons coming from discrete sources of cosmic radio emission by recording atmospheric showers by means of the Cerenkov radiation which the showers produce in the Earth's atmosphere. The observations were made at sea level in the Crimea on cloudless and moonless nights. The separation of the "photon" showers from the total shower mass produced by primary protons and nuclei was based solely on the expected angular anisotropy of the primary photons. The data showed that the photon flux does not exceed 10^{11} photon cm^2 sec^{-1} for Cygnus A and Taurus A.

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This result conflicts with the hypothesis that electrons which produce the synchrotron radiation of the Crab Nebula are continuously formed and replenished by nuclear collisions, since the photon flux in this case would be 100 times greater. Hence, high-energy electrons in the Crab Nebula either formed during the first stage of the outburst of a supernova, or are also being accelerated at the present time by some very efficient mechanism. The problem of the existence of a photon flux coming from Cygnus A can be solved only by further experiments. Orig. art. has: 3 figures.

ASSOCIATION: Fizicheskiy institut im. P. I. Lebedeva, AN SSSR (Physics Institute, AN SSSR)
55

SUBMITTED: 29Oct64 ENCL: 00 SUB CODE: AA

NO REF SOV: 002 OTHER: 000

2/2

L 1553-66 FSS-2/EWT(1)/FS(v)-3/FCC/EWA(d)/EWA(h) TT/GS/GW

ACCESSION NR: AT5023610 UR/0000/65/000/000/0394/0405

AUTHOR: Vernov, S. N.; Chudakov, A. Ye.; Vakulov, P. V.; Gorchakov, Ye. V.; Kuznetsov, S. N.; Logachev, Yu. I.; Nikolayev, A. G.; Sosnovets, E. N.; Rubinshteyn, I. A.; Stolpovskiy, V. G.; El'tekov, V. A.

TITLE: Geometric position and particle composition of the earth's radiation belts

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 394-405

TOPIC TAGS: cosmic radiation, earth radiation belt, cosmic ray, Elektron 1, Elektron 2

ABSTRACT: An exhaustive study is made of data recorded by the Elektron-1 and -2 satellites, which were launched on 30 January 1964. Orbital data are given in Table 1 of the Enclosure. The first orbits were positioned so that the satellites passed their apogee at about 3 o'clock a.m. local time. The outer boundary of the radiation belt was thus crossed at about midnight and again at about 7—8 p.m. on the return branch of the orbit. The subsequent orbits were shifted toward the sunset: Elektron-1, by 8 min, and Elektron-2, by about 4 min in the 24-hr period. Elek-

Card 1/4

ACCESSION NR: AT5023610

tron-1 and -2 were equipped with similar instrumentation. In some cases, however, there were differences in energy thresholds. A chart summarizing all data shows the electron and proton fluxes of different energies in the equatorial plane and for comparison gives IMP-1 data. The following conclusions can be made from the chart: 1) A belt of artifically injected electrons exists at distances closest to the Earth's center. The maximum of the belt in February 1964 was at L = 1.35. The flux of electrons with energy above 2 Mev at the maximum was about 1×10^7 $cm^{-2} \cdot sec^{-1} \cdot ster^{-1}$. 2) The average directed flux of protons with an energy of 45—70 Mev at the maximum of the inner belt (L = 1.45) was about 1.5×10^3 $cm^{-2} \cdot sec^{-1} \cdot ster^{-1}$. A change in the integral spectrum at proton energies above 50 Mev was observed at L = 2.2; the spectrum of these energies is in the process of hardening, which could be explained by the theory of albedo neutrons. 3) The spatial distribution of protons with an energy of one to several Mev differs from that of the electrons. There is a definite regularity in the distribution of protons according to their energies. The average directed flux of protons with an energy above 2 Mev was about 4.5×10^5 $cm^{-2} \cdot sec^{-1} \cdot ster^{-1}$ in the equatorial plane at L = 2.8. It appears that the majority of the protons in this energy range are created by transverse drift with respect to the magnetic field lines. 4) A belt of high-energy electrons was observed at L = 2.75. Its width at the equator was about 0.4 earth radii. The average directed flux of electrons above 6 Mev was about 10^2 $cm^{-2} \cdot sec^{-1} \cdot ster^{-1}$. 5) A minimum of distribution

L 1553-66

ACCESSION NR: AT5023610

of electrons of above 150 kev energy was observed in the region between L = 3 and L = 4. The altitude intensity shift is subject to large fluctuations in time and may drop at times to negligible magnitudes. 6) The maximum of the outer belt is positioned, on the average, at L = 4.8. The maximum altitude intensity shift indicator m = 0.5 +0.3/-0.2 within a wide range of L. There is a sharp intensity jump on the night side at L = 7 + 0.5. On the morning side, a slow monotonic drop of intensity was observed. The average directed flux of electrons with an energy of over 70 kev at the maximum of the outer belt is about 5×10^6 $cm^{-2} \cdot sec^{-1} \cdot ster^{-1}$ and can change by more than an order of magnitude. The electron energy spectrum observed within the 70 to 600 kev range is in agreement with the data of other researchers. The electron energy spectrum in the energy range above 1 Mev appears to be softening, in comparison with measurements of earlier years. Orig. art. has: 11 figures. [FP]

ASSOCIATION: none

SUBMITTED: 02Sep65 ENCL: 01 SUB CODE: AA, SV

NO REF SOV: 007 OTHER: 004 ATD PRESS: 4094

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L 1553-66

ACCESSION NR: AT5023610 ENCLOSURE: 01

Table 1. Orbital data

	Elektron-1 (low altitude)	Elektron-2 (high altitude)
Altitude, apogee	7, 140 km	68,200 km
Altitude, perigee	406 km	460 km
Orbital period	2 hr 48 min	22 hr 30 min
Inclination of orbital plane	61°	61°
Period of rotation	40 sec	120 sec

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L 3281-66 FSS-2/EWT(1)/FS(v)-3/FCC/EWA(d)/EWA(h) T/GS/GW
ACCESSION NR: AT5023614 UR/0000/65/000/000/0425/0433

AUTHOR: Vernov, S. N.; Chudakov, A. Ye.; Vakulov, P. V.; Kuznetsov, S. N.; Logachev, Yu. I.; Sosnovets, E. N.; Stolpovskiy, V. G. 48 B+1

TITLE: Irregular flows of high energy electrons close to the boundary of the earth's radiation belts

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); Trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 425-433

TOPIC TAGS: geomagnetic field, satellite data analysis, radiation belt 12

ABSTRACT: The authors analyze data obtained from "Elektron-1" and "Elektron-2" during their first month of operation. The equipment used on the satellites is briefly described. Analysis of data pertaining to the midnight meridian indicates that the intensity of the electrons at the boundary of the outer belt decreases by two or three orders of magnitude within a narrow range of radial distances. It is established that the radiation belt on the night side of the earth terminates on quiet days at $L = 6.5—7.5$. On the day side, the boundary of the belt extends on the

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L 3281-66

ACCESSION NR: AT5023614

average to L = 9—10. (Here L is the nominal McIlwain parameter calculated in the dipole approximation and expressed in earth radii.) It is found that irregular flows of electrons outside the boundary of the earth's radiation belts appear with an increase in perturbation of the geomagnetic field both at the surface of the earth and at distances of ~30,000 km from the earth. A theoretical explanation is given for this phenomenon. The experimental data support the hypothesis of a closed system of lines of force in the earth's magnetic field up to latitudes of 75°. [14]
Orig. art. has: 9 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 02Sep65 ENCL: 00 SUB CODE: ES, SV

NO REF SOV: 002 OTHER: 010 ATD PRESS: 4105

Card 2/2

L 3096-66 FSS-2/EWT(1)/FS(v)-3/FCC/EWA(d) TT/GS/GW

ACCESSION NR: AT5023615 UR/0000/65/000/000/0433/0434

AUTHORS: Vernov, S. N.; Chudakov, A. Ye.; Vakulov, P. V.; Gorchakov, Ye. V.; Logachev, Yu. I.; Nikolayev, A. G.; Rubinshteyn, I. A.; Sosnovets, E. N.; Ternovskaya, M. V.

TITLE: Pulsations of the earth's magnetic field, from the measurements taken by the Elektron-3 satellite

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 433-434

TOPIC TAGS: satellite, satellite data analysis, pulse counter, pulse amplifier, pulse amplitude, earth magnetic field

ABSTRACT: The Elektron-3 satellite, launched on July 11, 1964, carried a coil with a ferrite core. Signals from this coil were transmitted to two amplifying circuits, one for the band of 1—10 cps, the other for 30—300 cps. Both circuits recorded pulses with amplitudes exceeding ~1, ~5, ~25 γ. The type and operation of the memory bank are briefly described. From a small amount of data processed it can be seen that no pulses with the amplitudes ~25 γ were recorded, that at

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L 3096-66
ACCESSION NR: AT5023615 O

the maximum sensitivity ($\gtrsim$ 1 γ) the count exceeded seven pulses per 2 minutes, and that at the intermediate sensitivity ($>$ 5 γ) about 2—3 pulses were recorded by the low-frequency circuit and about 1 by the high-frequency circuit. It is noted that the number of magnetic field pulses with the amplitude $\gtrsim$ 5 γ is generally greater in the frequency region of 1—10 cps than in the region of 30—300 cps and that the pulse intensity tends to increase in some geographical regions. Normally, this increase is recorded by the low-frequency circuit but not by the high-frequency one. [04]

ASSOCIATION: none [illegible] Fizike kosmicheskogo prostranstva [illegible] Committee on Space Physics)

SUBMITTED: 02Sep65 ENCL: 00 SUB CODE: ES, SV

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4106

Card 2/2

L 9604-66 EWT(1)/FCC/EWA(h) GW

ACC NR: AR5020397 UR/0313/65/000/008/0035/0035

57
B

SOURCE: Ref. zh. Issledovaniye kosmicheskogo prostranstva, Abs. 8.62.238

AUTHOR: Vernov, S.N.; Chudakov, A.Ye; Gorchakov, Ye.V.; Logachev, Yu.I.; Nesterov, V.Ye.; Savenko, I.A.; Shavrin, P.I.

TITLE: Radiation belts of the earth

12

CITED SOURCE: Geofiz. byul. Mezhduved. geofiz. kom-t pri Prezidiume AN SSSR, no. 14, 1964, 96-109

TOPIC TAGS: satellite, rocket, radiation effect, cosmic radiation

TRANSLATION: A short outline is given of the results obtained from studies conducted using Soviet artificial satellites and cosmic rockets of the radiation belts and of primary cosmic radiation beyond the limits of the magnetic sphere.

SUB CODE: 04,03 ENCL: 00

beh

Card 1/1

L 1552-66 FSS-2/EWT(1)/FS(v)-3/FCC/EWA(d)/EWA(h) TT/GS/GW

ACCESSION NR: AT5023628 UR/0000/65/000/000/0502/0506

AUTHOR: Vernov, S. N.; Vakulov, P. V.; Zatsepin, V. I.; Logachev, Yu. I.; Okhlopkov, V. P.; Chudakov, A. Ye.

TITLE: Primary cosmic radiation investigations

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii, Moscow, Izd-vo Nauka, 1965, 502-506

TOPIC TAGS: cosmic ray, cosmic radiation, primary cosmic ray, primary cosmic radiation, Elektron 2, Elektron 4

ABSTRACT: Experimental data obtained by Elektron-2 and -4 on primary cosmic radiation are presented and interpreted. The data, covering the period 30 January to 1 November 1964, were obtained primarily by means of gas-discharge counters with an average frequency of 20 pulses/sec. The apogee of the satellites was 68,000 km, keeping them outside the earth's radiation belts most of the time. The higher count frequency as the thickness of the screens was increased, made it possible to conclude that the primary radiation did not contain particles within the 50 to 110 Mev range. Two types of radiation intensity variations were distinguished:

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ACCESSION NR: AT5023628

those connected with the 11-year period of solar activity, and fast variations, with a period of the order of two weeks. The 11-year period variations grew in intensity at the rate of about 2 percent per month during the first half of 1964. During the second half of the year the intensity reached a ceiling and in October indicated a tendency to decline. These data are in fair agreement with those of the Fort Churchill and Deep River observation posts. Certain indications of a phase shift between the periods of solar activity and the intensity of cosmic rays were discerned in the sequence of monthly averages of the intensity of cosmic radiation, the relative number of solar spots, and the solar flux of 10.7-cm radio waves. These observations, however, are not considered conclusive. The short-period variations of radiation with a 1.5-percent amplitude periodically acquire a clearly cyclic character. The same observation was made in April 1963 by the Luna-4 interplanetary station. In general, however, the cyclicity is not very regular and the nature of these variations remains obscure. There are also indications of a 27-day period in the data for 1964. An attempt was made to correlate these periods with the sun's rotation. A regular coincidence was not observed, but in some cases (rotations 1792, 1793, and 1794) there was a fair indication of parallelism. The absence of a conclusive connection with the sun's rotation suggests the possibility that the short-period variations have a common

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ACCESSION NR: AT5023628

origin with the 11-year variations. It is also possible that the intensification of cosmic radiation during decline of solar activity is not monotonic, but displays ups and downs stemming from changes in the condition of its propagation or dimensions of the region of its effective scattering within the solar system. Orig. art. has: 4 figures. [FP]

ASSOCIATION: none

SUBMITTED: 02Sep65 ENCL: 00 SUB CODE: AA, SV

NO REF SOV: 003 OTHER: 001 ATD PRESS: 4044

Card 1/1

ACC NR: AP7001549 SOURCE CODE: UR/0020/66/171/003/0583/0586

AUTHOR: Vernov S. N. (Corresponding member AN SSSR); Chudakov, A. Ye. (Corresponding member AN SSSR); Vakulov, P. V.; Logachev, Yu. I.; Lyubimov, G. P.; Pereslegina, N. V.

ORG: Moscow State University im. M. V. Lomonosov (Moskovsky gosudarstvennyy universitet)

TITLE: Cosmic ray variations according to data from Zond-3 and Venera-2

SOURCE: AN SSSR. Doklady, v. 171, no. 3, 1966, 583-586

TOPIC TAGS: cosmic ray, cosmic ray intensity, cosmic ray measurement

ABSTRACT: At the end of 1965 and beginning of 1966 two Soviet space stations, Zond-3 and Venera-2, were in space simultaneously measuring cosmic ray intensity. The first was in motion away from the Sun and the second toward the Sun, which made it possible to determine both variations in the intensity of cosmic rays and their dependance on the distance from the Sun (i.e., their radial gradient). Data obtained by STS-4-type gas-discharge counters onboard the spacecraft revealed the radial gradient as $\delta = (3.1 \pm 0.4)\%$ per 1 astronomic unit. The radial

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ACC NR: AP7001549

gradient was irregular; this phenomenon was attributed to changes in the character and magnitude of the Forbush effect. Detectors of the n-p type onboard the space stations measured the radial gradient of protons with energies of 1—5 Mev. In addition to a sharp temperature increase, the detectors revealed a very stable and time-independent noise which exceeded by about 10 times the possible noise of high-energy particles. It was also found that the intensity of protons increased in moving away from the Sun. When the distance from the Sun was increased from 130 x 10^6 to 190 x 10^6 km, the intensity of 1—5-Mev protons, whose origin is known to be solar, increased 5 times. A mechanism is proposed for explaining this paradox. The nature of the radial gradient may possibly be explained by Parker's diffusion theory. Orig. art. has: 4 figures. [WA-75]

SUB CODE: 04/ SUBM DATE: 11Aug66/ ORIG REF: 002/
OTH REF: 002 ATD PRESS: 5111

Card 2/2

ACC NR: AP7001894 SOURCE CODE: UR/0020/66/171/004/0847/0850

AUTHOR: Vernov, S.N. (Corresponding member AN SSSR); Chudakov, A.Ye. (Corresponding member AN SSSR); Vakulov, P.V.; Logachev, Yu.I.; Lobimov, G.P.; Nikolayev, A.G.; Perslegina, N.V.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Measurement of solar protons with energies of 1—5 Mev by the Venera-2, Venera-3, and Zond-3 space probes

SOURCE: AN SSSR. Doklady, v. 171, no. 4, 1966, 847-850

TOPIC TAGS: solar radiation, solar radiation intensity, proton counter

ABSTRACT: During the flights of the Zond-3, Verena-2, and Venera-3 space probes, the counting rate of proton detectors and Geiger counters on board increased markedly on six occasions. The semiconductor surface-barrier proton detectors had an area of about 0.2 cm^2; the p-n junction was 35 μ thick. On the side of free space within a solid angle of ~1 sterad, the detectors were shielded with 2 mg/cm^2-thick aluminum foil; on other sides the shielding was more than 1 g/cm^2 thick. The detectors were tuned to record protons with energies varying from 1 to 5 Mev. The intensity range measured corresponded to 1.1×10^{-3} to 1.1 pulse/sec.

Card 1/2 UDC: none

ACC NR: AP7001894

An analysis of the recorded data indicates that the protons are accelerated on the Sun and are propagated without hindrance along the magnetic force lines in interplanetary space. The width of proton fluxes with energies of 1—5 Mev was estimated at 3×10^{12} cm. It is concluded that these protons of comparatively low energies are generated periodically from the active areas on the Sun. They reach distant regions in interplanetary space through a "tunnel" produced by the corpuscular streams. [WA-75]

03/

SUB CODE: 04/ SUBM DATE: 11Jul66/ ORIG REF: 002/ OTH REF: 002/
ATD PRESS: 5113

Card 2/2

L 45824-66 EWT(m)/T/EWP(t)/ETI IJP(c) BS/JD/GD

ACC NR: AT6024975 (N) SOURCE CODE: UR/0000/65/000/000/0224/0226

34
B

AUTHOR: Chudakov, I. P.; Morachevskiy, A. G.

ORG: All-Union Aluminum-Magnesium Institute (Vsesoyuznyy alyuminiyevo-magniyevyy institut)

TITLE: Electrolyte composition and current efficiency during the deposition of sodium at a liquid lead cathode

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Zashchitnyye metallicheskiye i oksidnyye pokrytiya, korroziya metallov i issledovaniya v oblasti elektrokhimii (Protective metallic and oxide coatings, corrosion of metals, and studies in electrochemistry). Moscow, Nauka, 1965, 224-226

TOPIC TAGS: sodium fluoride, sodium chloride, lead alloy, sodium alloy, electrolysis, electrodeposition

ABSTRACT: The purpose of the study was to select the optimum electrolyte composition and experimentally determine the influence of various factors on the current efficiency during the deposition of sodium at a liquid lead cathode. Preliminary experiments showed that the electrolysis of pure NaCl is unstable and associated with anodic effects when D_a is only 1.2 A/cm^2 (the working anodic density was 1.5 A/cm^2), but that the addition of NaF stabilizes the anodic process. At a 2-3% NaF content of the melt and a cathodic current density of only 0.5 A/cm^2, an average current efficiency of up to 84% can be achieved, and no anodic effects take place. An electrolyte containing 97% NaCl and 3% NaF was therefore used in subsequent experiments. An increase in

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L 46324-66
ACC NR: AT6024975 O

cathodic current density from 0.5 to 2.0 A/cm^2 raised the average current efficiency from 81.0 to 90.2%. The electrolysis can be carried out at 820-830° at 2.0 A/cm^2 with a current efficiency of 90-94%; thus, alloys containing up to 5 wt. % Na are obtained at the lead cathode. A further increase in the sodium content of the alloy decreases the current efficiency. The latter is improved by stirring the cathodic alloy at 20 rpm. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11,13/ SUBM DATE: 05Feb64/ ORIG REF: 002/ OTH REF: 003

Card 2/2 blg

L 45660-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6025466 (N) SOURCE CODE: UR/0080/66/039/007/1647/1650

45
B

AUTHOR: Chudakov, I. P.; Morachevskiy, A. G.

ORG: none

TITLE: Investigation of the activity of sodium in its alloys with lead in the 660--1100°K range

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 7, 1966, 1647-1650

TOPIC TAGS: sodium, alloy composition, vapor pressure, vaporization, phase diagram, emf

ABSTRACT: Activity of sodium in Na-Pb alloys and sodium vapor pressures over Na-Pb alloys containing 15.7-57.2 at % Na was measured in the 660-1100°K range. The Na activity was determined by measuring the electromotive force of the following system: (-)Na/electrolite containing Na ions/Na-Pb alloy (+). It was found that for a given temperature, the activity of sodium is a linear function of the sodium content in Na--Pb alloy. The sodium saturation vapor pressure (P_{Na}) over Na-Pb alloys at a given temperature can be calculated from the formula:

$$P_{Na} = P^0_{Na} \cdot a_{Na},$$

where P^0_{Na} is sodium vapor pressure over pure sodium at a given temperature, and a_{Na}

UDC: 546.3-19'33'815

Card 1/2

L 45660-66

ACC NR: AP6025466

is sodium activity in Na-Pb alloy at a given temperature. Orig. art. has: 4 figures, 2 tables, 1 formula.

SUB CODE: 07/ SUBM DATE: 07Sep65/ ORIG REF: 003/ OTH REF: 004

Card 2/2 fv

CHUDAKOV, D. A.

"Integral Equipment of the NS52-V Tractor," Moskva, Gos. izd-vo sel'khoz lit-ry, 1951

CHUDAKOV, D. A. and LYUBIMOV, B.A.

"Basic Questions in Constructing Hanging Tractor Units," Sel'khozmashina, No.1, 1952

CHUDAKOV, D.A., kandidat tekhnicheskikh nauk.

Longitudinal stability of tractor KhTZ-7 with attached agricultural machines. Avt.trakt.prom.no.5:12-16 My '53. (MLRA 6:5)

1. Nauchno-issledovatel'skiy avtotraktornyy institut. (Tractors)

CHUDAKOV, D.A.

VYSOTSKIY, A.A., inzhener; CHUDAKOV, D.A., kandidat tekhnicheskikh nauk, retsenzent; SHEVELEV, [illegible], kandidat tekhnicheskikh nauk, redaktor; TIKHONOV, A.Ya, tekhnicheskiy redaktor

[Dynamometric testing of agricultural machinery; modern instrument designs measuring methods] Dinamometrirovanie sel'skokhoziaistvennykh mashin; sovremennye konstruktsii priborov i metody izmerenii. Izd. 2-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 271 p. (MLRA 8:3)
(Agricultural machinery--Testing) (Dynamometer)

CHUDAKOV, David Abramovich

(Central State Machine-Testing Station of the Ministry of Agriculture USSR) - Academic degree of Doctor of Technical Sciences, based on his defense, 3 June 1955, in the Council of the Moscow Inst of Mechanization and Electrification of Agriculture imeni Molotov, of his dissertation entitled: "Fundamentals of the Theory of Agricultural Shutter Combines (Navesnyye Agregaty)."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 27, 24 Dec 55, Byulletin' MVO SSSR
Uncl. JPRS/NY 548

CHUDAKOV, David Abramovich

N/5
743.281
.C52

Traktornyye Gidropod "Yemniki (Hydraulic Lift Tractors) Moskva,
Sel'Khozgiz, 1955.
108 P. Illus., Diagrs., Tables.

CHUDAKOV, D.A.

Aron Borisovich Treivas. Mekh. i elek. sots. sel'khoz. 16 no.4:59 '58. (MIRA 11:10)
(Treivas, Aron Borisovich, 1888-)

TREPENENKOV, Igor' Isidorovich, kand.tekhn.nauk; CHUDAKOV, D.A., prof., doktor tekhn.nauk, retsenzent; FRUMKIS, I.V., inzh., red.; AVSHAROVA, Ye.G., red.izd-va; MODEL', B.I., tekhn.red.

[Operational indices of agricultural tractors] Ekspluatatsionnye pokazateli sel'skokhoziaistvennykh traktorov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 191 p. (MIRA 12:3)
(Tractors)

CHUDAKOV, David Abramovich; LETNEV, B.Ya., red.; GUREVICH, M.M., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[Fundamentals of the theory of tractors and motor vehicles] Osnovy teorii traktora i avtomobilia. Moskva, Sel'khozizdat, 1962. 311 p. (MIRA 15:11)
(Tractors) (Motor vehicles)

BOLTINSKIY, Vasiliy Nikolayevich; CHUDAKOV, D.A., doktor tekhn. nauk, prof., retsenzent; LETNEV, B.Ya., red.; BALLOD, A.I., tekhn. red.

[Theory, design, and calculation of tractor and motor-vehicle engines] Teoriia, konstruktsiia i raschet traktornykh i avtomobil'nykh dvigatelei. Moskva, Sel'khozizdat, 1962. 390 p. (MIRA 16:2)

(Tractors—Engines) (Motor vehicles—Engines)

TREPENENKOV, I.I., kand. tekhn. nauk; CHUDAKOV, D.A., doktor tekhn. nauk, prof., retsenzent; KOHYLYAKOV, L.M., inzh., red.; SMIRNOVA, G.V., tekhn. red.

[Operational indices of farm tractors] Ekspluatatsionnye pokazateli sel'skokhoziaistvennykh traktorov. Izd.2., ispr. i dop. Moskva, Mashgiz, 1963. 270 p. (MIRA 16:12)
(Tractors)

CHUDAKOV, G.

Abastumani astronomical photographers at their telescopes. Sov. foto 19 no.11:26-29 N '59. (MIRA 13:4)
(Abastumani--Astronomical photography)

CHUDAKOV, G.

Amateur photographers of Leningrad. Sov.foto 20 no.7:19 Jl '60. (MIRA 13:7)
(Leningrad--Photographers)

CHUDAKOV, G.

What kind of pictures are needed for newspapers? Sov. foto 22 no.12:10-11 D '62. (MIRA 16:1)

(Photography, Journalistic)

CHUDAKOV, I.

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(MIRA 14:3)

1. Starshiy redaktor Redizdata Aeroflota.
(Aeronautics, Commerical)

CHUDAKOV, I., starshiy redaktor

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1. Redaktsionno-izdatel'skiy otdel Aeroflota.
(Aeronautics, Commercial)

OVSYANNIKOV, M.; CHUDAKOV, I.

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(Bibliography--Aeronautics, Commercial)

42821

S/169/62/000/010/034/071
D228/D307

3,5800

AUTHORS: Kutin, S.N. and Chudakov, I.G.

TITLE: Problem of applying glow discharge to anemometry

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 9, abstract 10B55 (Uch. zap. Saratovsk. un-t, 70, 1961, 193-205)

TEXT: The layouts and photographs of anemometer equipment are briefly described. Attention is above all paid to a discharger -- a sensing element and the most responsible detail of the system. The authors cite the following basic results of research in motionless air and particularly in turbulent flow conditions. 1. On a graph, representing the dependence of the discharge current force on the distance (the gap) between the electrodes, it is possible to delimit 4 regions: A with sparkover, B and C with glow discharge, and D with arcover. Only region C, in which glow discharge can arise without the joining of electrodes, is of interest for anemometry. If the gap is constant, increasing the discharge current

Card 1/3

42821

S/169/62/000/010/034/071
D228/D307

3.5800

AUTHORS: Kutin, S.N. and Chudakov, I.G.

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Card 1/3

leads to the transition of glow discharge in region D; when the gap is increased while the current is constant, glow discharge changes to sparkover. 2. A gap interval of 0.08-0.14 mm is distinguishable on the graph of the dependence of the discharge voltage on the gap magnitude. It is conspicuous for the fact that in this interval the trend of the curve depends weakly on the discharge current force (5, 7, and 15 ma). This interval lies in region C and is characterized by the maximum sensitivity of glow discharge to a change in the gap. It is evident from the current-voltage characteristic that for gaps of about 0.1 mm the discharge voltage also hardly depends on chance variations of the discharge current force. A gap of about 0.1 mm is thus the most favorable for anemometry. It was established, too, that spherical electrodes are more advantageous than pointed ones. All investigations were made with the stablest electrodes of platinum wire, 0.8-1.0 mm in diameter, with fused ends. 3. To avoid overheating the platinum electrodes were welded to massive silver holders. Under these conditions the constant gap dischargers worked for not more than 5-10 min. Increased air humidity also impairs the glow discharge stability. Therefore it is necessary to

CHUDAKOV, K.P.

30316

Pribor dlya izmyeryeniya raboty mashiny v absolyutnykh yedinitsakh. Inform. byullyetyens Akad. (Voyen - transp. dkad. Vooruzh. Sil im. Kaganovicha) No 19, 1949, s. 47-49
v. Pod'' yemno - transportnyye Myekhanizmy 1 ustroustva
Gol'dshtyeyn, M.I. Avtopogruzchiki na kombinatye ((Krasnyy stroityel')) - sm. 30326
D. Tochnoye Priborostroyeniye. Kontrol' No- izmyerityel'naya
trekhnika

SO: LETOPIS' No. 34

CHUDAKOV, K.P.

"Operation of a Road-Machinery Station," Moscow, Dorizdat, 1951. 320 pages.

CHUDAKOV, Konstantin Petrovich;, kandidat tekhnicheskikh nauk; DOMBROVSKIY, N.G. doktor tekhnicheskikh nauk, prof., redaktor; IGOLKIN, V.N. redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor.

[Transporting and storing road machinery] Transportirovanie i khranenie dorozhnykh mashin. Pod red. N.G. Dombrovskogo. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1955. 39 p. (MLRA 8:8)
(Road machinery)

CHUDAKOV, K.P., kandidat tekhnicheskikh nauk; FERIN, G.K., inzhener.

Some problems in the theory and evaluation of diesel hammer pile drivers. Mekh.stroi. 12 no.2:24-29 F '55. (MLRA 8:4)
(Piling (Civil engineering))

CHUDAKOV, K.P., kand.tekhn.nauk

Analysis of the startability of diesel-powered hammers and suggestions for increasing the startability. Sbor.trud.MISI no.26:169-176 '58. (MIRA 12:1)

(Hammers)

CHUDAKOV, K.P.; SLEZNIKOV, G.I., inzh., nauchnyy red.; GORDEYEV, P.A., red.izd-va; TOKER, A.M., tekhn.red.

[Maintenance of building machinery] Tekhnicheskoe obsluzhivanie stroitel'nykh mashin. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1958. 257 p. (MIRA 12:10)
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CHUDAKOV, Konstantin Petrovich, kand.tekhn.nauk; BOYTSOV, Vsevolod Ivanovich, insh.; SLEZNIKOV, G.I., nauchnyy red.; LEYKINA, A.K., red.; PERSON, M.N., tekhn.red.

[Repair of building machinery] Remont stroitel'nykh mashin. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1960. 354 p. (MIRA 13:12)

(Building machinery--Maintenance and repair)

RAZYGRAYEV, Aleksandr Matveyevich; KRIVSHIN, A.P., kand. tekhn. nauk, retsenzent; AYZENBERG, B.I., inzh., retsenzent; CHUDAKOV, K.P., kand. tekhn. nauk, nauchnyy red.; GORDEYEV, P.A., red. izd-va; OSENKO, L.M., tekhn. red.

[Repair of building machinery and equipment] Remont stroitel'nykh mashin i oborudovaniia. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 295 p. (MIRA 14:11)
(Building machinery--Maintenance and repair)

CHUDAKOV, K.P., kand.tekhn.nauk

Machine life gauges and their value in practice. Stroi. i dor. mash. 6 no.5:21-23 My '61. (MIRA 14:6)
(Building machinery)

CHUDAKOV, K.P., kand.tekhn.nauk

Conference on problems of the reliability and durability of machines. Stroi. i dor. mash. 6 no.3:37-38 Mr '61. (MIRA 14:4)

1. Uchenyy sekretar' vremennoy komissii po dolgovechnosti mashin pri Gosudarstvennom nauchno-tekhnicheskom komitete SSSR.
(Machinery--Maintenance and repair)

CHUDAKOV, K.P., inzh.; DOMBROVSKAYA, I.K., inzh.; BOLDOV, Yu.V., inzh.

Using the method of negative impressions for determining the wear of machine parts. Vest.mash. 42 no.1:40-42 Ja '62.
(MIRA 15:1)

(Mechanical wear--Testing)

CHUDAKOV, K.P., kand.tekhn.nauk

The durability and repairability of construction equipment. Stroi. i dor. mash. 7 no.9:21-24 S '62. (MIRA 15:10)
(Construction equipment—Maintenance and repair)

FROLOV, Petr Terent'yevich; CHUDAKOV, Konstantin Petrovich; ZELENKOV, G.I., kand. tekhn. nauk, dots., retsenzent; MALOLETKOV, Ye.K., inzh., retsenzent; YEFREMENKO, V.P., inzh., nauchnyy red.; KROMOSHCH, I.L., inzh., nauchnyy red.; GOL'DBERG, T.M., tekhn. red.

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1. Zaveduyushchiy kafedroy "Ekspluatatsiya dorozhnykh mashin" Moskovskogo avtodorozhnogo instituta (for Zelenkov). 2. Nachal'nik laboratorii ekspluatatsii stroitel'nykh mashin Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (for Maloletkov).

(Construction equipment)

CHUDAKOV, K. P., kand. tekhn. nauk

Theoretical estimate of the longevity of building machines. Sbor. trud. MISI no.39:441-447 '61. (MIRA 16:4)

1. Moskovskiy inshenerno-stroitel'nyy institut imeni V. V. Kuybysheva.

(Construction equipment)

CHUDAKOV, K.P., kand. tekhn. nauk

Basic definitions and terminology of the reliability and longevity of machinery. Stroi. i dor. mash. 8 no.3:5-8 Mr '63. (MIRA 18:5)

CHUDAKOV, K.P., kand. tekhn. nauk; VALOVA, L.S., inzh.; ALFEROVA, T.I., inzh.; ALFEROVA, Yu.A.; FEYGIN, L.; BONDAROVICH, B.A., inzh.; GONCHARENKO, V.T.

Prolong the life of excavators. Stroi. i dor. mash. 8 no.3: 8-14 Mr '63. (MIRA 18:5)

CHUDAKOV, K.P.; KROMOSHCH, I.L., inzh., retsenzent

[Fundamentals of the theory of durability and reliability of machinery; manual for the courses for improving the qualifications of the engineering and technical workers on the subject "Modern methods for repairing building machinery"] Osnovy teorii dolgovechnosti i nadezhnosti mashin; uchebnoe posobie dlia kursov povysheniia kvalifikatsii ITR po predmetu "Sovremennye metody remonta stroitel'nykh mashin." Moskva, Vses. zaochnyi stroitel'nyi tekhnikum, 1963. 70 p. (MIRA 17:4)

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(Metals--Testing)

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Forced tests of machines for durability. Stroi. i dor. mash. 9 no.3:9-13 Mr '64. (MIRA 17:6)

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Standardization of the indices of reliability and durability of machinery. Standartizatsiia 28 no.6:43-47 Je '64. (MIRA 17:9)

1. Moskovskiy inzhenerno-stroitel'nyy institut imeni Kuybysheva.

(A) L 12019-66 EWT(d)/EWT(m)/EWP(w)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWP(l)/
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ACC NR: AP5028745 SOURCE CODE: UR/0028/65/000/007/0033/0036

AUTHORS: Chudakov, K. P.; Kubarev, A. I.

ORG: VNIINMASh

TITLE: Accelerated determination of reliability and life of machine parts

SOURCE: Standartizatsiya, no. 7, 1965, 33-36

TOPIC TAGS: endurance test, machine industry, fatigue test, reliability engineering, static load test, mechanical stress

ABSTRACT: Different methods for accelerated life and reliability testing are discussed qualitatively. Since it is not practical to wait 2 to 4 years to determine the reliability and wear characteristics of a given machine, accelerated tests must be performed which will give sufficient data in 3 to 6 weeks to predict the long-term behavior of machine elements. This can be achieved by either increasing the number of cycles per unit time, by intensifying the loads, or by both methods. It has been shown repeatedly that wear processes and fatigue processes can be extrapolated from limited test data with an accuracy of ± 10%. Although under industrial conditions the scatter may be as much as ± 150%, these extrapolation techniques give an excellent indication of average wear, life, and reliability. When fatigue is the life-limiting factor, the fatigue limit can be established by several increasing-load methods, such as a constant load increase to destruction, stepwise load increase to destruction, or cyclically increasing loads. Each of

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these methods has advantages for certain applications. Determining the fatigue limit by the critical stress method is of particular interest. This method depends on the energy hypothesis of fatigue, by which it has been established that the cyclic constant and the critical number of cycles are constant for a given type of metal. No specific recommendations are made, and the article represents a very general, qualitative discussion.

SUB CODE: 14/ SUBM DATE: none

Card 2/2

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Intracellular registration of rest and action potentials of muscle fibers in various segments of the frog heart. Biofizika 6 no.6:672-680 '61. (MIRA 15:1)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.
(HEART)

CHUDANOV, M., serzhant

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CHUDAKOV, M. I.

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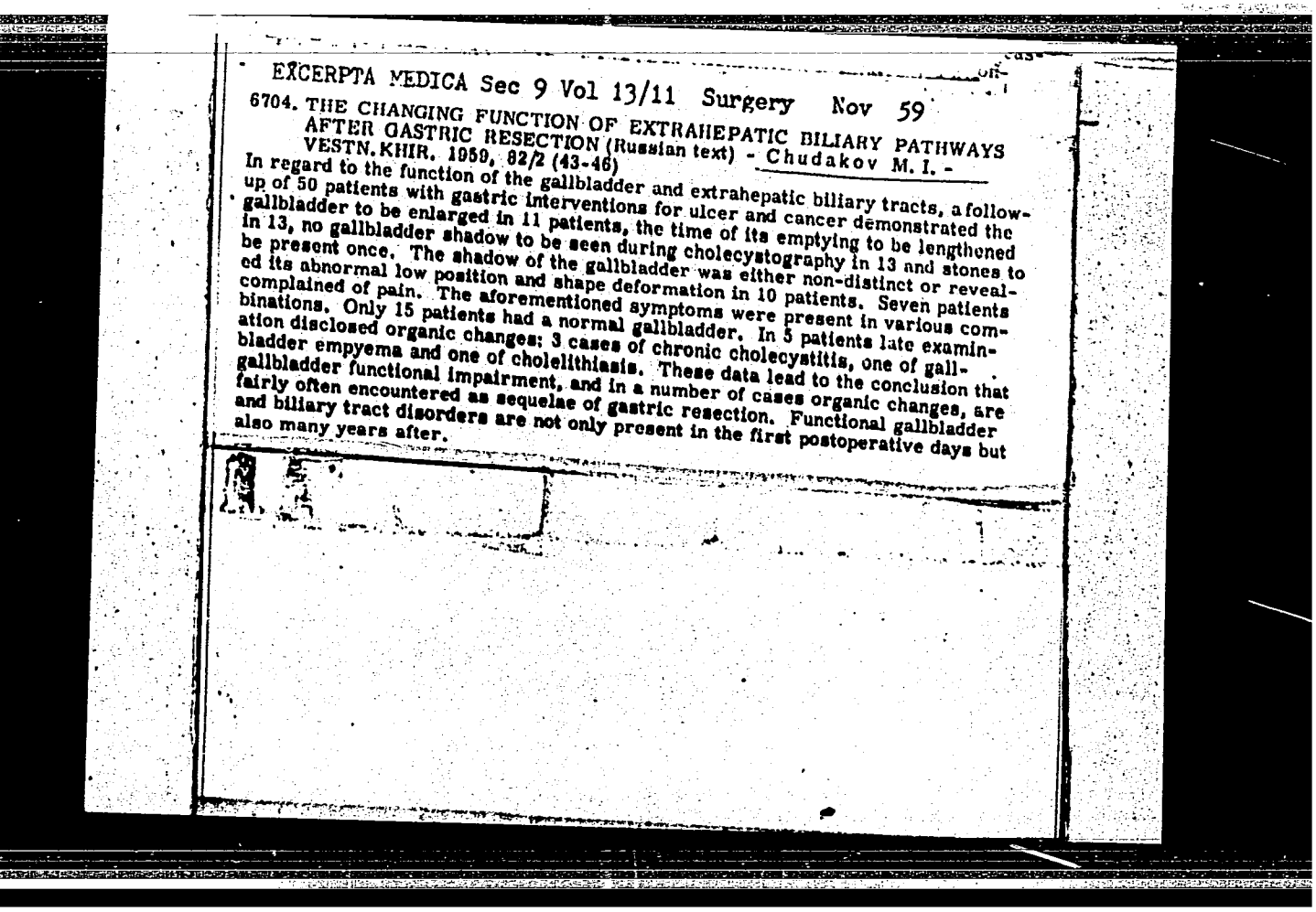
CHUDAKOV, M.I., kandidat meditsinskikh nauk; ARTYUSHKOV, V.N.

Cholecystography using the Russian preparation "bilitrast."
Vrach. delo no.3:311 Mr '57 (MLRA 10:5)

1. Kafedra obshchey khirurgii (zav.-prof. S.L. Minkin) Khar'kovskogo meditsinskogo instituta i klinicheskaya doroshnaya bol'nitsa Yuzhnoy zheleznoy dorogi.
(GALL BLADDER--RADIOGRAPHY)



EXCERPTA MEDICA Sec 9 Vol 13/11 Surgery Nov 59

6704. THE CHANGING FUNCTION OF EXTRAHEPATIC BILIARY PATHWAYS AFTER GASTRIC RESECTION (Russian text) - Chudakov M. I. -
VESTN. KHIR. 1959, 82/2 (43-46)

In regard to the function of the gallbladder and extrahepatic biliary tracts, a follow-up of 50 patients with gastric interventions for ulcer and cancer demonstrated the gallbladder to be enlarged in 11 patients, the time of its emptying to be lengthened in 13, no gallbladder shadow to be seen during cholecystography in 13 and stones to be present once. The shadow of the gallbladder was either non-distinct or revealed its abnormal low position and shape deformation in 10 patients. Seven patients complained of pain. The aforementioned symptoms were present in various combinations. Only 15 patients had a normal gallbladder. In 5 patients late examination disclosed organic changes: 3 cases of chronic cholecystitis, one of gallbladder empyema and one of cholelithiasis. These data lead to the conclusion that gallbladder functional impairment, and in a number of cases organic changes, are fairly often encountered as sequelae of gastric resection. Functional gallbladder and biliary tract disorders are not only present in the first postoperative days but also many years after.

CHUDAKOV, M.I., kand.med.nauk (Khar'kov, 9,ul.Novo-Proyektnaya,d.28)

Aneuryam of the abdominal aorta. Nov. khir. arkh. no.1:102-104 Ja-F '60. (MIRA 15:2)

1. Kafedra gospital'noy khirurgii (zav. - prof. K.I.Pikin) Khar'kovskogo instituta i zheleznodorozhnaya bol'nitsa Yuzhnoy zheleznoy dorogi. (ABDOMINAL ANEURYSMS)

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Effect of gallbladder stimulation on the secretory and motor function of the stomach in man. Fiziol. zhur. [Ukr.] 10 no.1: 129-131 '64. (MIRA 17:8)

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