MIKHNEVICH, P.A., inzh.

Ensuring a timely supply of peat to enterprises of White Russia.
Torf. prom. no.1:34-36 '58. (MIRA 12:12)

1.Sovnarkhoz BSSR.
(White Russia--Peat industry)

MIKHNEVICH, P.A., insh.

Peat industry and transportation of peat in White Russia. (MIRA 13:3)
Torf. prom. 36 no.7:24-28 '59.

1.Belorusskiy sovnarkhoz.
(White Russia--Peat--Transportation)

MIKHNEVICH, P.A., inzh.; L'VOVICH, GOG., inzh.

Mechanization of peat reloading. Torf prom. 39 no.6:3-4 '62.
(MIRA 16:7)

1. Belgiprotorf.

(Peat machinery)

MIKHNEVICH, P.O.

Powerful magnetic defect detectors with smooth current regulation.
Zav.lab.22 no.7:860-862 '56. (MLRA 9:12)
(Metals--Analysis) (Testing machines)

Defektoskopiya metallov; sbornik statey (Flaw Detection in Metals; Collection of Articles) Moscow, Oborongiz, 1959. 459 p. Errata slip inserted. 4,550 copies printed.

Ed.: D.S. Shreyber, Candidate of Technical Sciences; Ed.: M.S. Lagovskaya; Tech. Ed.: V.P. Rozhin; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.

COVERAGE: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutes and plants of magnetic, electrical, X-ray, ultrasonic, and fluorescent-penetrant methods of flaw detection are described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.

9(7)

SOV/32-25-7-36/50

AUTHOR: Mikhnevich, P. G.

TITLE: Electron-ionic Control by Magnetic Crack Detectors (Elektronno-ionnoye upravleniye magnitnymi defektoskopami)

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, pp 878-882 (USSR)

ABSTRACT: In order to obtain maximum magnetization of the crack detectors to be investigated with alternating current the current has to be disconnected immediately when the amperage starts decreasing (second or fourth quarter of period) or reaches zero. For this purpose the disconnection of the current has to be synchronized which can be brought about by electron-ionic control of the magnetization process. A scheme of arrangement (Fig 1) of this kind was worked out and two types of magnetic crack detectors were designed where the current disconnection takes place by means of "ignitrons" controlled by thyratrons, and the current intensity is regulated by means of an electronic phase regulator. The functioning of the device is explained by a diagram; moreover, the measuring results (Table 1) in a disconnection of the magnetizing current by a magnetic switch and an "ignitron" switch on the crack detector are given as

Card 1/2

Electron-ionic Control by Magnetic Crack Detectors

well as measuring results of the voltage of the magnetic field on the sample surface during magnetization by using various amounts of halfperiods (Table). The oscillograms obtained show (Fig 2) that in electron-ionic control by magnetic crack detectors magnetization can take place with a current in sinusoidal form or more complicated form; however, the existing equations for the determination of the voltage intensity of the magnetic field have to be corrected. There are 4 figures, 2 tables, and 1 Soviet reference.

34949
S/193/62/000/001/001/001
A004/A101

1.8000

AUTHOR: Mikhnevich, P. S.

TITLE: The [illegible] 10000 (UMDE 10000) and [illegible] 2500 (UMDE 2500) magnetic crack detectors

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 1, 1962, [illegible]

TEXT: The author describes the new multipurpose UMDE [illegible] and UMDE [illegible] magnetic crack detectors, the former being intended for checking medium and large-size components, while the latter is to be used for parts of small and medium size. The electron-ion control of the crack detectors is effected by the magnetic powder method and ensures a high stability of component magnetizing; a straggling in magnetization degree of components is practically absent. The constant magnetic field voltage in the UMDE 2500 electromagnet and in the UMDE 10000 solenoid for longitudinal magnetizing can be steplessly regulated from 0 - 300 oersted. The hydraulic system of the crack detectors ensures the spraying of the parts with a magnetic suspension and its continuous agitation to prevent the magnetic powder from settling on the bath bottom. The following technical data of the crack detectors are given:

Card 1/3

S/[illegible]/[illegible]
A004/A101

The [illegible] 10000 (UMDE 10000) ...

	Crack detectors	
	UMDE 10000	UMDE [illegible]000
Maximum dimensions of parts being checked, mm:		
diameter	up to 1,000	[illegible]75
length with attachment	up to 4,000	-
length without attachment	up to 1,600	[illegible]00
Input current voltage, v	380	[illegible]80
Electric motors:		
Type A0[illegible]-011-4 (AOL-011-4), pieces	1	[illegible]
power, w	50	50
Type A0[illegible]-11-4 (AOL-11-4), pieces	-	1
power, w	-	[illegible]20
Type A0[illegible]-12-4 (AOL-12-4), pieces	1	-
power, w	180	-
Type A0[illegible]-22-4 (AOL-22-4), pieces	-	1
power, w	-	[illegible]00

Card 2/3

S/193/62/000/001/001/001
A004/A101

The ... 10000 (UMDE 10000) ...

Table continued:

	Crack detectors	
	UMDE 10000	UMDE 2500
Overall dimensions, mm:		
length	2,500	1,[illegible]
width	800	[illegible]
height, without instrument panel	800	[illegible]
Weight, kg	1,500	1,000

There is 1 figure.

Card 3/3

MIKHNEVICH, P.G.

Selecting the type of current for magnetic defectoscopy.
Zav. lab. 30 no.11:1355-1357 '64 (MIRA 18:1)

MIKHNEVICH, V.M.; ORLIKOV, M.L., kandidat tekhnicheskikh nauk, redaktor; SAMOKHVALOV, Ya.A., inzhener, redaktor; RUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Experience of a turner and repairman] Opyt tokaria-remontnika. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry Ukrainskoe otdelenie, 1954. 51 p. (MLRA 8:7)
(Lathes)

MIKHNEVICH, V. V.

USSR/Physics - Electric Discharge Dec 52

"Impeded Discharge in a Magnetic Field With a Special Configuration of Discharg Gap," E. M. Reykhrudel, A. V. Chernyshevskiy, V. V. Mikhnevich, I. A. Vasil'yeva

"Zhur Tekh Fiziki" Vol 22, No 12, pp 1945-1965 1952

Electrons were subjected to simultaneous action of nonhomogeneous elec and axially symmetric magnetic fields. External magnetic field affects potential of ignition. Oscillographic observations revealed periodic and chaotic oscillations in the discharge. The mechanism of discharge at low pressure is discussed. Received 16 Jul 52

PA 240T100

RYZHKHRUDEL', E.M.; CHERNETSKIY, A.V.; MIKHNEVICH, V.V.; VASIL'YEVA, I.A.

Mechanism of discharge in a magnetic ionized manometer. Vest.Mosk.un. 8 no.8:87-100 Ag '53. (MLRA 6:11)

1. Fizicheskiy fakul'tet.
(Electric discharges through gases) (Manometer)

Name : MIKHNEVICH, V. √

Title : Candidate of Physical and Mathematical Sciences

Remarks : In an article entitled "An Automatic Laboratory in Outer Space" V. Mikhnevich describes Sputnik II as the last stage of the rocket. The nose cone contains instruments for the study of solar radiation in the short-wave ultra-violet and X-ray bands of the spectrum, a spherical container with radio transmitters, electric batteries to power them, a heat regulator and instruments recording temperature fluctuations and other conditions. The hermetically sealed chamber for the experimental dog is fixed on the same frame-like structure. The instruments for the study of cosmic radiation are housed in the third stage of the rocket. The information transmitted by the satellite will be of great scientific value in physics, astrophysics and geophysics. Preliminary processing of the data collected from the instruments recording cosmic radiation has clearly demonstrated the dependence of the number of particles of cosmic radiation on the geo-magnetic latitude. The instruments housed in the air-tight chamber have reported the reactions of a living organism to weightlessness.

Source : N: Krasnaya Zvezda, No. 268, 14 November 1957, p. 3, c. 1-6

Mikhnevich, V. V.

AUTHORS: Mikhnevich, V. V. and Khvostikov, I. A. 49-11-10/12

TITLE: Study of the Upper Layers of the Atmosphere. (Izucheniye vysokikh sloyev atmosfery).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1957, No.11, pp. 1393-1409 (USSR)

ABSTRACT: Review of pre-war and post-war work in this field. A certain amount of information is given on apparatus used in Soviet rockets for exploration of the upper atmosphere, however, some of this information was published earlier. Fig.4, p.1401, gives a diagrammatic drawing of a meteorological rocket which is equipped with small size thermal pressure gauges. More detailed information on rocket investigations of the upper atmosphere for altitudes up to 80 km was published in a earlier paper by Alekseyev, P. P. et alii (Meteorology and Hydrology, 1957, No.6) and also in a paper by B. A. Mirtov, (Uspekhi Fiz. Nauk, 1957, September). The results of rocket investigations are given in a series of tables which contain American as well as Soviet results. Recent trends in investigating the structure and properties of the upper layers of the atmosphere are summarised very briefly in the last paragraph, quoting Soviet as well as American

Card 1/2

MIKHNEVICH V.V.

AUTHOR DANILIN, B.S., MIKHNEVICH, V.V., REPNEV, A.I., SHVIDKOVSKIY, Ye.G.

TITLE The Problem of Measuring Pressure and Density of the High Layers of the Atmosphere by Means of an Artificial Earth Satellite. (Zadacha izmereniya davleniya i plotnosti vysokikh sloyev atmosfery s pomoshch'yu iskusstvennogo sputnika zemli. Russian)

53-1b-14/18

PERIODICAL Uspekhi Fiz. Nauk 1957, Vol 63, Nr 1b, pp 205-225 (USSR)

ABSTRACT By the instrument for the measuring of pressure and density the authors here understand a "manometer" of any suitable type (e.g. an ionization manometer or an omegotron). First the authors discuss the various models of the upper atmosphere. According to the authors the models MITRA and NICOLET are the nearest approach to reality. A table gives values of concentration and pressure which correspond to various models of the atmosphere. For further precise determination of these data tests with rokes and artificial satellites are suitable. In investigations of this kind various problems arise with regard to the interaction of a rapidly flying body and a diluted gas. The authors here study some of these problems. First the authors discuss the currents of particles, the momenta and the energies for the case of a homogeneous gas. From 200 km upward

CARD 1/5

The Problem of Measuring Pressure and Density of the High Layers of the Atmosphere by Means of an Artificial Earth Satellite.

53-2b-14,18

the interaction between a body moving with a speed of some km/sec and the atmosphere will conform to the laws of a free molecular flow. Some preliminary works on this problem are cited. The behavior of a surface is here calculated which moves with a speed U with respect to the earth. The energy transmitted by this surface is also calculated. The oscillation energy is not calculated here.

The presure of the flow of a homogeneous gas: The surface Π mentioned above is considered as a plate impermeable to particles. The total pressure acting on this plate is calculated. From the corresponding formula the following may be concluded: At a speed of the satellite of ~8 km/s. an average molecular weight of the air of ~ 20, and at specular reflection of the molecules ($f = 0$), the frontal presure on the surface of the satellite is $P \sim 10^2 P$, which means that it exceeds the pressure in the free atmosphere by two orders of magnitude. The tangential stress on the lateral plane surface of the moving body will amount to zero in the case of specular reflection.

CARD 2/5

The Problem of Measuring Pressure and Density of the High Layers of the Atmosphere by Means of an Artificial Earth Satellite. 53-1b-14/18

Accommodation can be introduced: Like in the case of gas dynamics, a slowing down temperature of the gas whose progressing power was consumed by its being heated. During interaction with the screen the energy can newly distribute over the degress of freedom. Part of the energy of the progressive movement of the molecules can transform itself into revolution energy and oscillation energy. The measurements of the coefficients of accommodation indicate the following: This coefficient depends on the kind of gas, on the temperature of the gas, on the temperature and the form of the surface and on the presence of admixtures. The accommodation coefficients of the degrees of freedom of the progressive motion and the freedom degrees of rotation are almost equal.

The equilibrium pressure in the cavity of the manometer: The consideration of the properties of the free molecular flow carried out here permits the establishment of a relation between the pressure and the number of particles

CARD 3/5

The Problem of Measuring Pressure and Density of the High Layers of the Atmosphere by Means of an Artificial Earth Satellite.

in the unit of volume in the cavity of the manometer and the corresponding parameters of the surrounding medium. The authors here calculate the most simple case: The cavity of the manometer is connected with the atmosphere by a diaphragm with the radius r. The recordings of the manometer are rather difficult to interpret. If a rather long tube is placed between the cavity of the manometer and outside atmosphere, the pressure within the manometer must rise. Something is also said about the time constant of the manometer; under the test conditions assumed here it is of a magnitude of 2.10^{-3} sec.

Some problems connected with the measurement of pressure: The authors here shortly discuss the following problems: ionization by impact, "dissociation by impact", the separation of gas, the electric charge of the satellite, the knocking out of atoms from the surface of the satellite, the natural ionization of the atmosphere, photoemission. Finally the apparatus is discussed on the basis of a drawing. Along the axis of a cylindrical lattice a thin

CARD 4/5

53-1b-14/18

The Problem of Measuring Pressure and Density of the High Layers of the Atmosphere by Means of an Artificial Earth Satellite.

wire is stretched which serves as ion collector. Outside the lattice a cathode with a straight channel is fixed parallel to the collector.

(10 illustrations and 4 tables)

ASSOCIATION: not given.
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 5/5

53-1b-13/18

AUTHOR: MIKHNEVICH, V.V.

TITLE: Measuring Pressure in the Upper Atmosphere. (Izmereniye davleniya v verkhney atmosfere. Russian)

PERIODICAL: Uspekhi Fiz. Nauk, 1957, Vol 63, Nr 1b, pp 197 - 204 (U.S.S.R.)

ABSTRACT: In the case of the experiments carried out with rockets in the U.S.A. the rocket serves not only as a means of transport but also as a measuring device which carries out measurements in the atmosphere, In the Institute for Applied Geophysics of the Academy of Science of the U.S.S.R. the rocket is used only as a means of transport for the apparatus when studying the structural parameters of the upper atmosphere. A container with the apparatus is transported up to a certain height in a projecting device inside the rocket This container is then ejected in a certain altitude and continues moving by its own inertia. As soon as the container is ejected from the rocket, the measuring apparatus is switched on, and measurements of atmospheric conditions begin. A parachute opens automatically and the container lands, the entire measuring apparatus remaining undamaged. By this method the disturbing influence exercised by the rocket on measurements is eliminated to a considerable extent. The present work describes the apparatus and the measuring results obtained in the upper atmospheric strata (50 - 100 km) by means of the non-stabilized container.

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Measuring Pressure in the Upper Atmosphere. 53-1b-13/18

The Apparatus: Because of the difficult conditions prevailing in the rockets, the author used two types of manometers: a magnetic discharge manometer and a thermal manometer. By means of the magnetic electrically charged manometers pressure in the interval of 5.10^{-2} - 1.10^{-5} torr was measured, but by means of the thermal manometer pressure was measured in the interval of 8.10^{-1} - 5.10^{-2} torr. The manner in which the manometers are mounted in the container is discussed. The lower part of the container contains measuring devices, a photorecorder, clocks, the automatic, and the electrical feeding device. This lower part is hermetically closed, and during the entire duration of the experiment, normal pressure is maintained. Pressures are registered by photographing the recordings of the measuring devices every 1,3 - 1,5 seconds.

Results:

Pressure: The author here discusses the results obtained from two series of measurements carried out in the European part of Russia in July, August, and September. I. Measuring series: The containers with the apparatus were launched at dawn. In each container there were two thermal manometers and two magnetic electric discharge manometers. The results obtained by measuring pressures in the various containers are shown in form of diagrams.

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Measuring Pressure in the Upper Atmosphere. 53-2b-13/18

Measuring results differ by not more than double their amount with respect to different containers. II. Measuring series: Measurements were carried out in the morning. The apparatus was fitted both in the container and in the rocket. The head of the rocket contained only the thermal manometers. The results obtained by measuring pressure in the container and in the rocket agree with each other within the limits of measuring errors. The average values of pressures measured in the experimental series I and II agree with one another. The average quadratic error when determining pressure amounts to 10 %. A table and two diagrams show the data obtained on the occasion of rocket tests carried out in the U.S.A. An analysis of the data obtained shows the following: Up to a height of 85 km the pressure values obtained by the container and by the rocket agree with each other. At heights of more than 85 km pressure values obtained by means of the container are lower than those obtained by the rocket.

Temperature: The author did not carry out any direct temperature measurements in connection with his experiments. The temperature of the atmosphere was determined from the pressure determined on the occasion of the rocket tests from the barometric altitude formula.

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MIKHNEVICH, V.V.

29(2) R.T PHASE I BOOK EXPLOITATION SOV/2894

Akademiya nauk SSSR

Iskusstvennyye sputniki zemli. vyp. 2: Rezul'taty nauchnykh issledovaniy, poluchennyye pri pomoshchi tret'yego isskusstvennogo sputnika zemli (Artificial Earth Satellites. No 2: Results of Scientific Studies Obtained by the Third Earth Satellite) Moscow, Izd-vo AN SSSR, 1958. 82 p. 3,500 copies printed.

Ed.: L. V. Kurnosova; Ed. of Publishing House: D. M. Alekseyev; Tech. Ed.: Yu. V. Rylina.

PURPOSE: This work is intended for geophysicists, meteorologists, and other scientific and technical personnel engaged in space exploration and research.

COVERAGE: This collection of articles containscertain of the scientific findings recorded by the third Soviet space satellite. Much corroborating data from other rocket and satellite investigations are included. The articles are based on papers originally read at the Fifth Assembly of the

Card 1/4

of the Special IGY Committee held in Moscow in August, 1958. Individual articles discuss the ionic composition and density of the atmosphere, the thermodynamic parameters of the stratosphere, and questions dealing with the motion of the satellite. References accompany each article.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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12-18/59

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26-58-5-13/57

AUTHOR: Mikhnevich, V.V., Candidate of Physico-Mathematical Sciences

TITLE: Some Results of Investigations of the Upper Atmosphere (Nekotoryye rezul'taty issledovaniy verkhney atmosfery)

PERIODICAL: Priroda, 1958, Nr 5, pp 71-72 (USSR)

ABSTRACT: Soviet methods and devices for the investigation of the upper atmosphere are ever improving. In 1949, rockets containing devices with a total weight of 120 to 130 kg were launched to a vertical height of 110 km. The ceiling reached by modern geophysical rockets was 212 km in 1957 and 473 km on 21 February 1958, with a total weight of devices of 1,520 kg. Recent investigations include study of the ionosphere, solar radiation, motion of meteors, etc, in addition to the former study of the structure of the atmosphere and the intensity of cosmic radiation. Special apparatuses included: a dispersion interferometer for recording the concentration of electrons in diverse regions of the ionosphere; special sounding devices to determine the temperature of electrons; a radiofrequency mass spectrometer to determine the amount of ions in rarefied gases; ion "traps" mounted on the outer surface of the rocket to

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Some Results of Investigations of the Upper Atmosphere

measure the concentration of positive ions; ionization and magnetic manometers to record the air pressure; special piezoelectric transmitting elements to record the energy and amount of micrometeors; special dynamic electrometers to measure the tension of the electric field on the outer surface of the rocket; a spectrometer photographing the solar spectrum in the shortwave ultraviolet range. Results of the stabilized vertical rocket launching of 21 February 1958 included the fact that there is no clearly defined ionospheric layer at a height of 110 to 120 km. The electron concentration beyond 110 to 120 km at first decreases insignificantly, and then gradually, until it reaches a height of 250 to 300 km. Over 300 km the electron concentration decreases slowly. At an altitude of 470 km, the electron concentration is equal to one million electrons in a cu cm. This may be explained by an intensive diffusion of electrons from lower layers of the ionosphere. The ion amount of the atmospheric air was determined up to a height of 206 km. Air samples taken by special balloons up to a height of 120 km disclosed the second important fact obtained by rocket investigations: there is no diffusion

Some Results of Investigations of the Upper Atmosphere

separation at an altitude of 100 km. Hits from microparticles were registered up to an altitude of 300 km. Pressure and density of the upper atmosphere was recorded up to an altitude of 260 km.
There are 2 Soviet references.

ASSOCIATION: Institut prikladnoy geofiziki AN SSSR, Moscow (Institute of Applied Geophysics of AS USSR, Moscow)

AVAILABLE: Library of Congress

Card 3/3 1. Upper atmosphere research - USSR 2. Upper atmosphere - Test results

MIKHNEVICH, Vera, kand.fiz.-mat.nauk

On the way into space. Rabotnitsa 36 no.7:22-23 Jl '58.
(MIRA 11:9)

(International Geophysical Year, 1957-1958)

MIKHNEVICH, V.V.; DANILIN, B.S.; REPNEV, A.I.; SOKOLOV, V.A.

Results of determining atmospheric-structure parameters by means of the third Soviet artificial earth satellite. Isk. sput. zem. no.3:84-97 '59. (MIRA 12:12)
(Artificial satellites) (Atmosphere, Upper--Measurement)

PHASE I BOOK EXPLOITATION SOV/3946

Mikhaylov, A. A., ed.

Stantsii v kosmose; sbornik statey (Space Stations; Collection of Articles) Moscow, Izd-vo AN SSSR, 1960. 444 p. 25,000 copies printed. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya Seriya)

Resp. Ed.: A. A. Mikhaylov; Compiler: V. V. Fedorov; Ed. of Publishing House: Ye. M. Klyaus; Tech. Ed.: I. D. Novichkova.

PURPOSE: This book is intended both for the space specialist and the average reader interested in space problems.

COVERAGE: The book contains 73 short articles by various Soviet authors on problems connected with space travel and the launching of artificial earth satellites and space rockets. Some possibilities of future developments are also discussed. The articles were published in the period of 1957-1960. No personalities are mentioned. There are no references.

II. PRELIMINARY RESULTS OF SPACE INVESTIGATION

S/169/62/000/010/062/071
D228/D307

AUTHOR: Mikhnevich, V.V.

TITLE: Some results of upper atmosphere and space research by means of rockets and satellites in the Soviet Union during the IGY

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 6, abstract 10G46 (Geofiz. byul. Mezhduved. geofiz. kom-t pri Prezidiume AN SSSR, no. 11, 1962, 22-32)

TEXT: Some results of high atmospheric-layer and space research during the IGY are given in a general form. Research on structural parameters, the ionosphere, the magnetic field, cosmic radiation, meteorite matter, and different solar emissions is mentioned. It is pointed out that 175 rockets were fired in the USSR during the IGY, 17 of these being geophysical and 158 meteorologic. Spherical (space oriented) and cyclindrical containers, carrying the intricate complex of geophysical equipment, were employed on the rockets. The firings of Soviet satellites and space rockets, and

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S/169/62/000/010/062/071
D228/D307

Some results of upper ...

the main geophysical results obtained by means of them, are briefly enumerated: the discovery of radiation belts; the investigation of the magnetic field of the earth and the moon; the investigation of distant regions of the ionosphere, both from the viewpoint of their electron concentration and from that of their ionic composition; measurements of the density of the gaseous medium to a distance of 500 km; the registration of the frequency of collisions with micrometeorites; and also the discovery of heavy nuclei in the composition of primary cosmic radiation.
[Abstracter's note: Complete translation]

Card 2/2

MIKHNEVICH, V.V.

Atmospheric density variations at altitudes above 200 km. (MIRA 16:7)
Isk.sput.Zem. no.17:31-41 '63.
(Atmosphere, Upper--Density)

L 2988-66 FSS-2/EWT(1)/ECC/EWA(h) GS/GW

ACCESSION NR: AT5023554 UR/0000/65/000/000/0023/0029

16
B+1

AUTHOR: Mikhnevich, V. V.

TITLE: Density and temperature of the atmosphere from measurements made in 1963 with an automatic high-altitude geophysical station

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 23-29

TOPIC TAGS: atmospheric density, atmospheric temperature, meteorological rocket, geophysical research station, upper atmosphere

ABSTRACT: Rockets containing automatic high-altitude geophysical stations were launched on 6 and 18 June 1963 to study the properties of the upper atmosphere (in excess of 500 km). This equipment included ionization and magnetic discharge manometers and other instruments for determining the density, pressure, and temperature of the atmosphere. The equipment was hermetically sealed, and there were no obstructions in the field of view of the ionization manometers. The instruments were stabilized with respect to the sun during the flight, and measurements were made during the ascent and descent of the rockets. The results confirmed previous data:

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ACCESSION NR: AT5023554

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the density of the atmosphere varies considerably above 200 km. The observed variation in the atmospheric density (see Fig. 1 of the Enclosure) is caused both by the reduction in solar activity and by the diurnal effect. Measurements of the altitude of the homogeneous atmosphere and the atmospheric temperature show a reduction in temperature at altitudes of ~165 and ~265 km, and an increase in temperature at altitudes of ~145 and ~215 km. Comparison with previous data indicates that there is a temperature inversion in the region between 100 and 300 km. The author recommends that this temperature inversion be studied further. Orig. art. has: 6 figures.

[14]

ASSOCIATION: none

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

NO REF SOV: 003 OTHER: 010 ATD PRESS: 4110

Card 2/3

L 2988-66

ACCESSION NR: AT5023554

ENCLOSURE: 01

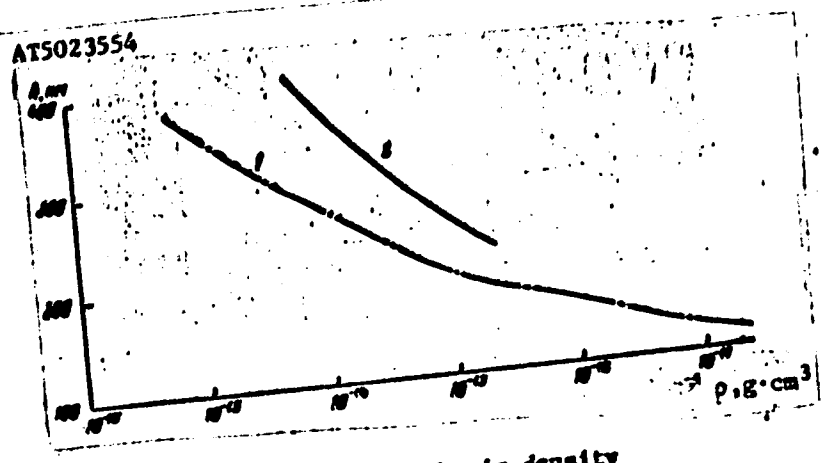

Fig. 1. Atmospheric density

1 - 18 June 1963, middle latitudes of the European section of the USSR, automatic high-altitude geophysical equipment, manometers; 2 - 16 May 1958 - third Soviet artificial earth satellite, manometers.

PC

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L 54740-65 FSS-2/EWT(1)/FCC/EEC(t)/EWA(h) Po-4/Pq-4/Pae-2/Peb/Pi-4 GM

ACCESSION NR: AP5015673. UR/0293/65/003/003/0457/0468
551.510.3

AUTHOR: Mikhnevich, V. V.; Golubev, Ye. N.; Parfianovich, Yu. N. 34 B

TITLE: Preliminary results of determining particle concentration and atmospheric density on 18 June 1963

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 3, 1965, 457-468

TOPIC TAGS: atmospheric density, satellite mission analysis, geophysical satellite, solar activity, atmospheric particle concentration, quiet sun, ultraviolet radiation

ABSTRACT: Analyses of the results are presented for manometer determinations of atmospheric densities and particle concentrations at altitudes between 120 and 360 km made on 18 June 1963. The vehicle used was a high-altitude automatic geophysical station (VGAS), which was 1 m in diameter, weighed about 360 kg, and carried 5 (2 ionization and 3 electric-discharge magnetic) manometers in addition to amplifying apparatus. The arrangement of the manometers in the satellite is shown in Fig. 1 of the Enclosure. A description is given of the satellite's trajectory and operation. The solar radio-emission flux at the time of flight (according to

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L 54740-65

ACCESSION NR: AP5015673 0

the Ottawa Observatory, Canada) was $82 \cdot 10^{-22}$ $w \cdot m^{-2}$ cps^{-1}. Manometer readings were interpreted using the method described by A. I. Ivanovskiy and A. I. Repnev (Tr. Tsentral. Aerol. Observ., no. 56, 1964). An analysis of the dependence of the formulas used to determine particle concentrations and densities on temperature showed that the faster the instruments moved, the more accurate the readings became. Under the conditions of this experiment, the effect of manometer sensitivity on the readings is explained and analyzed. The error in the determination of the orientation angle between the apparatus and the vector of the flux velocity was about 3°. Figs. 2 and 3 show graphically the results obtained. It was found that at an altitude of over 200 km, atmospheric density diminishes with diminution in solar activity, but below this altitude the effect of the solar activity is inconsequential. Orig. art. has: 10 figures, 3 tables, and 16 formulas. [ER]

ASSOCIATION: none

SUBMITTED: 10Jun64 ENCL: 02 SUB CODE: ES, SV

NO REF SOV: 008 OTHER: 006 ATD PRESS: 4030

Card 2/2

L 54740-65
ACCESSION NR: AP5015673

ENCLOSURE: 01

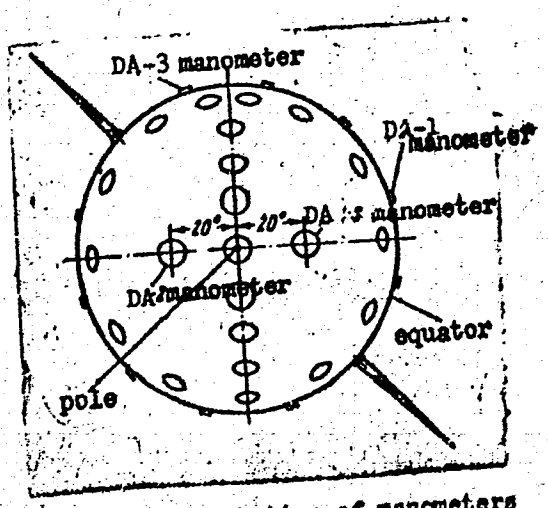


Fig. 1. Distribution of manometers in VGAS satellite

Card 3/4

L 54740-65
ACCESSION NR: AP5015673

ENCLOSURE: 02

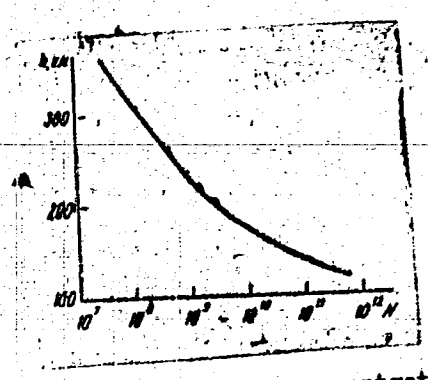


Fig. 2. Particle concentration at altitudes of 120—350 km on 18 June 1963, at 4:30 a.m. local time

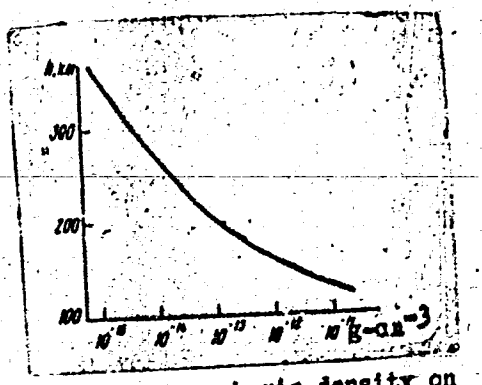


Fig. 3. Atmospheric density on 18 June 1963, at 4:30 a.m. local time

Card 4/4

L 34745-66 EWT(1)/FCC GW/WS-2

ACC NR: AP6025229 SOURCE CODE: UR/0384/66/000/001/0017/0021

AUTHOR: Nikhnevich, V. V. (Candidate of physicomathematical sciences)

ORG: none

TITLE: Summary of recent upper atmosphere research

SOURCE: Zemlya i vselennaya, no. 1, 1966, 17-21

TOPIC TAGS: upper atmosphere, atmospheric temperature, atmospheric density, manometer, mass spectrometry, nitrogen

ABSTRACT: Measurements of 6 and 18 June 1963 revealed that the temperature of the atmosphere above 100 km does not increase monotonically; instead, there are maxima and minima. Of particular interest are the results of mass-spectrometer investigations of nitrogen, since in this case no assumptions concerning the composition of atmospheric gas are made when determining temperature. It was found that at heights of about 180 and 270 km there is a minimum and at heights of about 160 and 220 km there is a maximum. Such a variation of temperature with two maxima and minima in the region from 100 to 300 km was recorded on 18 and 6 June 1963 with manometers. On 18 June the temperature minimum was situated at heights of about 165 and 265 km; the maximum was at about 145 and 215 km. On 21

Card 1/2

C595

L 31745-66

ACC NR: AP6025229

0

February and 27 August 1958 the temperature minimum was at about 175 and 185 km. Maxima and minima also are observed frequently in the curve of the change of temperature and the height of the homogeneous atmosphere computed from the deceleration of satellites. Observations of four satellites revealed that in the region of approximately 220 km there is a maximum of the height of the homogeneous atmosphere, and near 260 km -- a minimum. Since it is assumed that the molecular weight of gas decreases monotonically with height, there should be a temperature maximum and minimum at these heights. Results of determination of the height of the homogeneous atmosphere and temperature by different methods (manometers, mass spectrometers, satellites) give basis for assuming that above 100 km with a monotonic decrease of molecular weight with height the temperature does not increase monotonically and a temperature inversion is present. In the region of heights 100-300 km there are two maxima and minima. The height of these maxima and minima is not constant. Indeed, the maxima and minima may not always be present at these heights. However, neglecting the measurements with mass spectrometers, the results of measurement of density by manometers and from the deceleration of satellites can be attributed to the nonmonotonic character of the change of molecular weight. Some studies on determination of atmospheric temperature fail to mention the presence of maxima and minima. Orig. art. has: 5 figures. [JPRS: 36,553]

SUB CODE: 04 / SUBM DATE: none

Card 2/2 mj 5

MIKHNEVICH Z.M.

6

JOURNAL ARTICLE TRANSLATION

Transl. No. & Country	TRANSLATIONS ISSUED BY R.A.E.	Authors
190 U.S.S.R.	Impeded Discharge in a Magnetic Field for a Special Configuration of the Discharge Gap Zh. Tekh. Fiz., Vol 22, No. 12, pp 1954-1966, 1952	Z. M. Reikhrudel I. V. Vasileva A. V. Chernetskii Z. M. Mikhnevich

PH

Source: Index Aeronauticus, Vol 11, No. 12, December, 1955, p 114

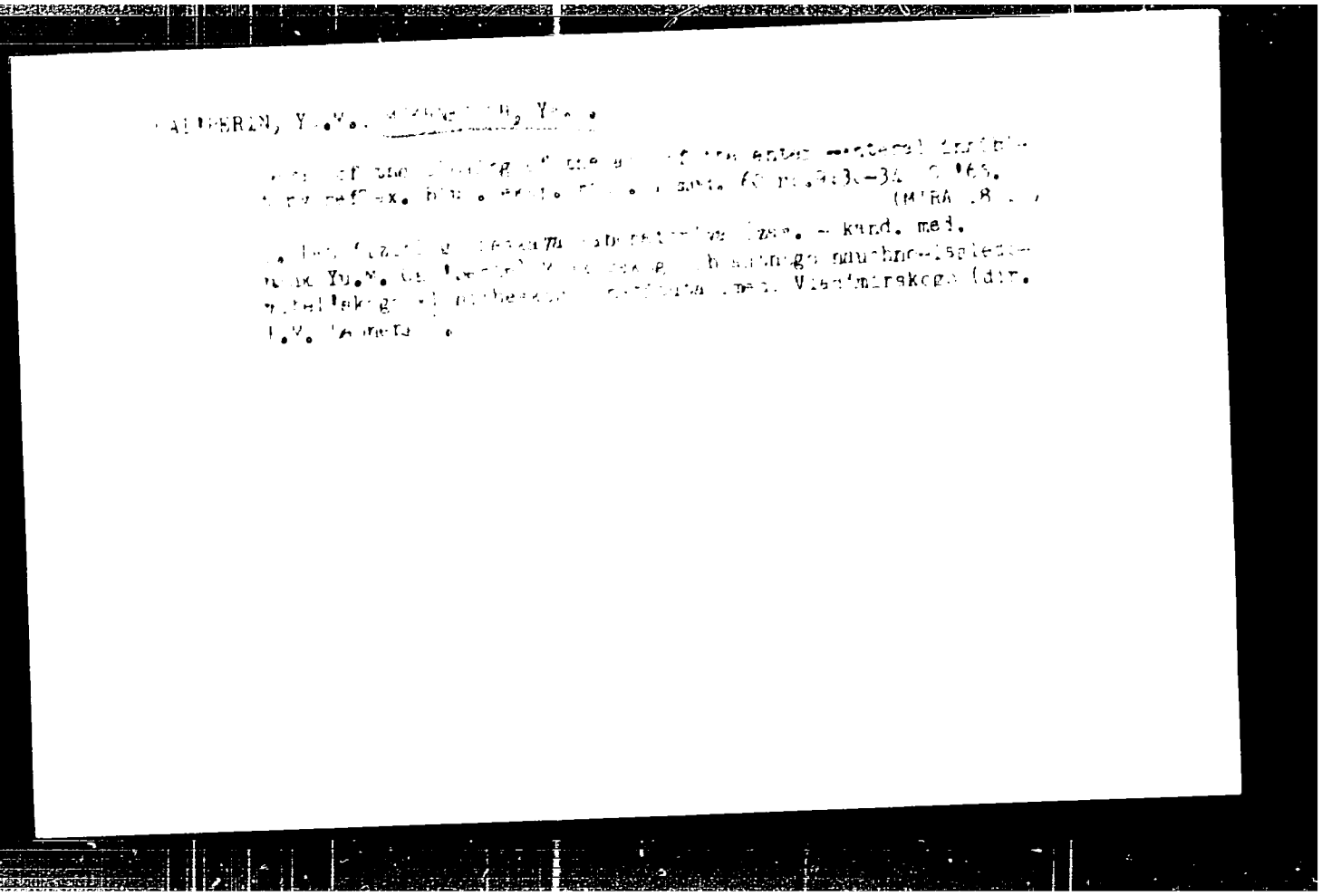
(3)

MIKHNEYEV, Anatoliy L'vovich, zasl. deyatel' nauki prof.;
SLEDZEVSKAYA, Irina Kazimirovna, kand. med. nauk;
YANOVSKIY, Georgiy Viktorovich, kand. med. nauk;
ZANAZDRA, N.S., red.; BOYKO, V.P., tekhn. red.

[Clinical phonocardiography] Klinicheskaia fonokardiografiia. Kiev, Gosmedizdat USSR, 1963. 134 p.
(MIRA 17:3)

MIKHNEVICH, G.V. (Moskva); FIALKOV, V.M. (Moskva)

System for the automatic control of regulated reactors.
Elektrichestvo no.12:66-71 D '65. (MIRA 18:12)



MI[illegible]NEVSKA, V.K.; YARTSEVA, A.K.; BOBRITSKAYA, M.A.

Nitrogen balance in turf-Podzolic soils. Pochvovedenie no. 7: 72-79 Jl '65 (MIRA 18:8)

1. Pochvennyy institut imeni V.V. Dokuchayeva, Moskva. Submitted November 1, 1963.

5(1)

SOV/112-59-5-9633

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 169 (USSR)

AUTHOR: Mikhno, A. K.

TITLE: Automation of a Large Contact Apparatus

PERIODICAL: Nauchno-tekhn. inform. byul. Nauchn. in-t po udobr. i insektofungisidam, 1957, Nr 5-6, pp 34-40

ABSTRACT: A scheme of temperature control depending on concentration adopted on the seventh contact apparatus of the Sulfuric-Acid Department, Kranoural'sk Chemical Plant, is described; the scheme was developed by the UNIKhIM automation laboratory. The scheme comprises an ERT-54 electronic controller for maintaining the desirable temperature (about 450°C) at the input of the first layer of the apparatus and a second ERT-54 controller for maintaining the specified temperature at the input of the lower internal heat exchanger within 250-300°C depending on gas concentration. The concentration is measured by a gas analyzer which controls a remodeled type EPD-07 electronic controller;

Card 1/2

Automation of a Large Contact Apparatus

this controller corrects the operation of the second temperature controller in correspondence with the concentration variations. It is stated that maintaining the temperature at the input of lower internal heat exchanger, which determines the functioning of the third and subsequent layers according to the concentration, ensures normal processing and optimum conditions for contacting Two illustrations.

B.A.K.

SHUMAKOV, V.F., inzhener; PRASOV, M.M., inzhener; ABAYEV, V.M., inzhener po trudu; VOL'PITER, E.V., inzhener-teplotekhnik; MALAKHOVSKIY, L.A.; MIKHNO, B.P.

Mechanizing slag removal from slag pockets in open-hearth furnaces. Metallurg no.9:14-19 S '56. (MLRA 9:10)

1.Starshiy inzhener teknicheskogo otdela Metallurgicheskogo zavoda imeni Voroshilova (for Malakhovskiy). 2.Starshiy konstruktor proyektnogo otdela Metallurgicheskogo zavoda imeni Voroshilova (for Mikhno).
(Metallurgical plants--Equipment and supplies)

SOV/133-59-6-14/41

AUTHORS: Sabiyev, M.P., Ploshchenko, Ye.A. and Mikhno, B.P.

TITLE: Mechanisation of the Removal of Slag from Slag Pockets of Open Hearth Furnaces (Mekhanizatsiya udaleniya shlaka iz shlakovikov martenovskikh pechey)

PERIODICAL: Stal', 1959, Nr 6, pp 521-523 (USSR)

ABSTRACT: On the proposal of L.D.Yupko and B.P.Mikhno, a new type of isolated removable slag pockets without walls with an independent support for the roof was developed and introduced on all gas fired furnaces of the Alchevsk Works. The design and mode of operation of the slag pockets are shown in Fig 1-3. The design consists of an independent stationary roof and movable double walled box of a rectangular cross section, both halves of which are made from plate 20 mm thick with reinforcing ribs. The two halves of the box are bolted together. Rollers are connected directly to the bottom of the box. The box is placed along the axis of the slag pocket on rails. The internal walls of the box are lined as follows: bottom loose layer - 30 mm; layer of foamed chamotte 115 mm; silica lining of the

Card 1/2

Mechanisation of the Removal of Slag from Slag Pockets of Open Hearth Furnaces

bottom - 195 mm, the same of the walls at the bottom - 345 mm, the same of the walls at the top - 215 mm. Roofs of the removable slag pockets are supported by water cooled plates mounted on beams and ⊓ shaped columns. Under normal operating conditions the wear of roofs of slag pockets is uniform and amounts to 25 - 30 mm per campaign at 400 - 450 heats. The durability of the roofs increased from 600 - 1000 heats to 1200 - 1500 heats. The duration of repairs on transfer to removable slag pockets decreased from 7.7% of the total calendar time to 5.5% which is equivalent to an increase in the output of 5000 tons per year per furnace. There are 3 figures.

ASSOCIATION: Alchevskiy zavod im. Voroshilova
(Alchevsk Works imeni Voroshilov)

MIKHNO, L.S., kand.med.nauk

Use of eryside in chronic cardiovascular insufficiency.
Vrach.delo no.2:185 F '59. (MIRA 12:6)

1. Kafedra propedevtiki, fakul'tetsko-gospital'noy terapii sanitarno-gigiyenicheskogo i gospital'noy terapii pediatricheskogo fakul'tetov (zav. - prof.L.T.Malaya) Khar'kovskogo meditsinskogo instituta.
(CARDIAC GLYCOSIDES)

DOBROBOL'SKIY, L.G., kand.filosof.nauk; MIKHNO, L.S., kand.med.nauk (Khar'kov)

Significance of Lenin's ideas for the development of the natural sciences, especially medicine. Vrach.delo no.4:343-347 Ap '60. (MIRA 13:6)

(LENIN, VLADIMIR IL'ICH, 1870-1924)

MIKHNO, M., inzhener.

The best way to organize wages of workers in auxiliary shops.
Sots.trud. no.1:131 Ja '57. (MLRA 10:4)
(Wages)

NEPROCHNOV, Yu.P.; MIKHNO, M.F.

Data on the structure of sedimentary strata on the deep-sea depression in the Sochi region of the Black Sea. Dokl.AN SSSR 137 no.5: 1209-1212 Ap '61. (MIRA 14:4)

1. Chernomorskaya nauchno-eksperimental'naya stantsiya Instituta okeanologii AN SSSR. Predstavleno akademikom N.M.Strakhovym.
(Sochi region—Submarine geology)

MIKHNO, M.F.

Study of the sedimentary layer in the Ionian and Tyrrhenian Seas by the seismic method. Okeanologiia 3 no.5:853-860 '63. (MIRA 16:11)

MIKHNO, M.F.

Studying the crustal structure by the method of refracted waves in the northwestern part of the Pacific Ocean. Izv. AN SSSR Ser. geol. 29 no.3:43-51 Mr '64 (MIRA 17:3)

1. Institut okeanologii AN SSSR, Moskva.

L 33343-66 EWT(1) GW

ACC NR: AP6007652 SOURCE CODE: UR/0213/66/006/001/0098/0108

AUTHOR: Neprochnov, Yu. P.; Neprochnova, A. F.; Lunarskiy, G. N.; Mikhno, M. E.; Murasidze, G. Ya.; Chichinadze, V. K.

ORG: Institute of Oceanology, AN SSSR (Institut okeanologii AN SSSR); Institute of Geophysics AN GruzSSR (Institut geofiziki AN GruzSSR)

TITLE: Structure of the earth's crust in the eastern region of the Black Sea on the basis of seismic depth soundings

SOURCE: Okeanologiya v.6, no. 1, 1966, 98-108

TOPIC TAGS: earth crust, seismology, hodograph

ABSTRACT: The work was performed using sea and shore recording stations. The Institute of Oceanology's ships "Akademik Vavilov" and "Akademik Obruchev" were used as sea recording stations. The recording devices on both ships included: hydrophones with preliminary amplifiers and seismic depth sounding stations designed by the Institute of Physics of the Earth (Institut fiziki zemli), each consisting of two low-frequency amplifiers, two medium-frequency amplifiers, and one sonic amplifier. The hydrophones were submerged to a depth of 80 m. The shore stations were located in Sukhumi and Zugdidi. Explosions of trotyl charges weighing 130 kg were used as a source for seismic waves. Using four recorded wave groups, three sections of the earth's crust were ex-

Card 1/2 UDC: 550.311

L 33343-66

ACC NR: AP6007652

8

plored. The study of seismograms and hodographs disclosed that the three sections crossed heterogeneous zones of complex geological formations. However, positively plot-refracted boundary lines were not sufficiently accurate, although some conclusions about the depth structure of the sections could be made. The cross-section of the earth crust explored consists of sedimentary and "basaltic" beds. Eastward lies a "granitic" bed. The most important characteristic of this region's earth structure is the big upheaval of the "granitic" bed, buried under a 4-km mass of sedimentation. It could be considered as a remainder of the trans-Caucasian geoanticline. Another upheaval of smaller size is located in the vicinity of the Gudaut shole. In addition to the authors, G. N. Shchepletsov, G. S. Strizhenok, M. A. Zayonchkovskiy, N. I. Kichin, and others participated in the expedition. The material was processed by A. F. Neprochnova and Yu. P. Neprochnov; the seismogram processing was done at the Zugdidi sea station by G. Ya. Murusidze and V. K. Chichinadze. Orig. art. has: 5 fig. [19]

SUB CODE: 08/ SUBM DATE: 11Nov64/ ORIG REF: 005

Card 2/2

MIKHNO, N.M.

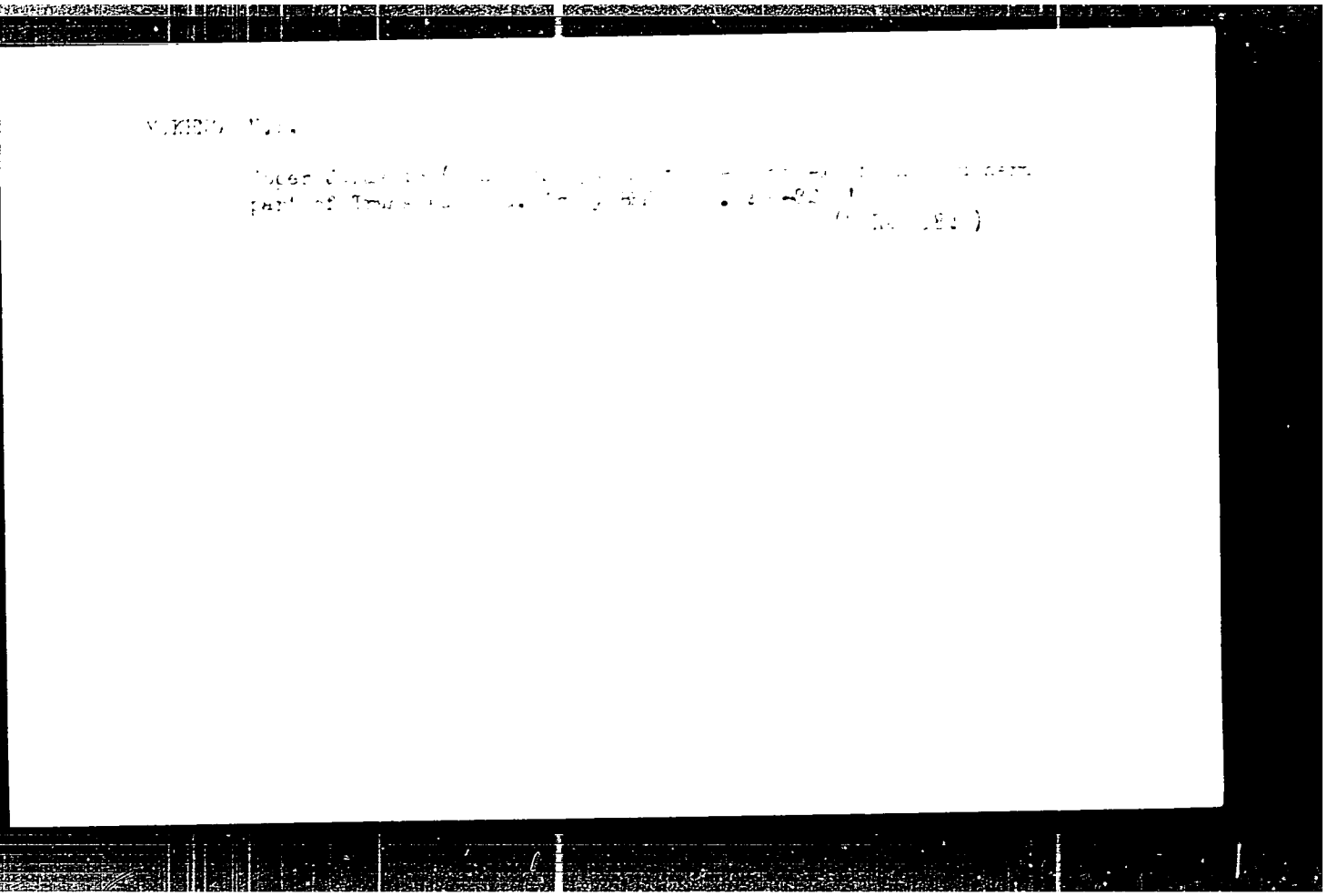
Strangulation by a noose as an accident. Sud.-med.ekspert. 5 no.4:49-50 O-D '62. (MIRA 15:11)

1. Ternopol'skoye oblastnoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik G.S.Domareva).
(DEATH--CAUSES)

MIKHNO, N.P.; [illegible]

Mesozoic structural formational complexes in western Transbaikalia. Geol. i geofiz. no.4:36-48 '65. (MIRA 18:8)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk, i Buryatskoye geologicheskoye upravleniye, g. Ulan-Ude.



MIKHNO, N.P.; SOLOV'YEV, V.A.

Tectonic conditions governing the association of Mesozoic formations in western Transbaikalia. Geol. i geofiz. no.1 45-54 '65. (MIRA 18:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted March 16, 1964.

MIKHNO, O. D., CAND TECH SCI, "PHOTOGRAPHIC METHOD OF ~~CONSTRUCTING~~ GRAPHIC REPRESENTATIONS AND CERTAIN PROBLEMS OF DETERMINING CONTOUR LINES OF TOPOGRAPHIC SURFACES." KIEV, 1960. (MIN OF HIGHER AND SEC SPEC ED UKSSR, KIEV ENGINEERING-CONSTRUCTION INST). (KL, 3-61, 218).

MIKHNO, S. A., Cand Agr Sci -- (diss) "Economic efficiency in the irrigation of agricultural crops in the sovkhozes of the Rostov oblast." Moscow, 1960. 26 pp; (Ministry of Agriculture USSR, All-Union Order of Lenin Agricultural Sciences Academy im V. I. Lenin, All-Union Scientific Research Inst of Hydraulic Engineering and Land Reclamation im A. N. Kostyakov); 250 copies; price not given; (KL, 26-60, 14)

MIKHNO, S.D.; BEREZOVSKIY, V.M.; PREOBRAZHENSKIY, N.A.

Synthesis of γ-formylbutyric ester. Zhur.ob.khim. 32 no.9:2829-2831 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Glutaraldehydic acid)

AUTHOR: Mikhno, V.A., Engineer SOV-91-58-4-17/29

TITLE: Work on Oil-filled Equipment Without Draining Off the Oil (Raboty na maslonapolnennoy apparature bez sliva masla)

PERIODICAL: Energetik, 1958, Nr 4, p 22 (USSR)

ABSTRACT: The replacement of low voltage leads in the lower part of current transformers of the "TFN-154" type normally requires draining and then refilling the transformer with oil. In the Zaporozhskiy setevoy rayon (Zaporozh'ye Network Sector), these operations were carried out be means of a vacuum-pump, without draining off the oil. The time of the complete operation was 1 to 1.5 hours. The same method was applied for replacing a stopper with a valve at the lower part of the tank on a power transformer of 40,000 kva, 154/10.5 kv.

1. Transformers--Maintenance 2. Power transformers--Maintenance
3. Vacuum pumps--Applications

Card 1/1

MIKHNO, V.I., inzh.

Lowering the water table with ejector well points. Transp. stroi. 11 no.8:20-23 Ag '61. (MIRA 14:9)
(Drainage) (Tunnelling)

MIKHNO, V.I., inzh.

Stations of the new part of the surface-level section of the Arbatskiy line. Transp.stroi. 12 no.7:25-27 Jl '62. (MIRA 16:2)

(Moscow--Subways--Stations)

MIKHNO, V.I., inzh.

New design for a ground-level subway station. Transp. stroi. 12 no.1:19-21 Ja '62. (MIRA 17:2)

MIKHNO, V.I., inzh.

New developments in needle filtration units for lowering the water level at construction sites and experience in using them in the construction of the Moscow subway. Transp. stroi. 14 no.3:20-22 Mr '64. (MIRA 17:6)

NOTYCH, A.G.; MIKHNO, V.P.

Water treatment of gas in standpipes and gas collectors. Koks i khim. no.8:26-29 '61. (MIRA 15:1)

1. Gosudarstvennyy vsesoyuznyy institut po proyektirovaniyu predpriyatiy koksokhimicheskoy promyshlennosti.
(Coke-oven gas--Cooling)

MIKHNO, V.S.

Studying the possibility of bacteriophage adsorption by yeast cells.
Izv. Irk.gos.protivochum.inst. 9:73-78 '51. (MIRA 10:12)
(ADSORPTION) (BACTERIOPHAGE) (YEAST)

MIKHNO, V.S.

Changes in the biological properties of dry living antiplague bivalent vaccine during storage. Tez.i dokl.konf.Irk.gos.nauch.-issl.protivochum. inst. no.2:34-35 '57. (MIRA 11:3)
(PLAGUE) (VACCINE)

KHUNDANOV, L.Ye.; SHKURKO, Ye.D.; MIKHNO, V.S.

Serological relationship between Vibrio comma and Brucella. Tez. i dokl.konf. Irk.gos.nauch.-issl.protivochum. inst. no.2:71-72 '57.
(VIBRIO COMMA) (BRUCELLA) (MIRA 11:3)

NOSKOVA, L.I.; TROFIMENKO, N.Z.; MIKHNO, V.S.

Meat-acid hydrolysate for growing cholera and plague microbes.
Izv.Irk.gos.nauch.-issl.protivochum.inst. 18:111-115 '58.
(MIRA 13:7)

(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)
(PASTEURELLA PESTIS) (VIBRIO COMMA)

KHUNDANOV, L.Ye.; SHKURKO, Ye.D.; MIKHNO, V.S.

Serological relationship between Vibrio comma and Brucella. Zhur. mikrobiol. epid. i immun. 29 no.12:93-94 D '58. (MIRA 12:1)

1. Iz Irkutskogo nauchno-issledovatel'skogo instituta Ministerstva zdravookhraneniya SSSR.

(VIBRIO COMMA,
serol. relation to Brucella (Rus))
(BRUCELLA,
serol. relation to Vibrio comma (Rus))

MIKHNO, V.S.

Serviceability period of the cholera bacteriophage. Izv.Irk. gos.nauch.-issl.protivochum.inst. 20:297-301 '59.
(MIRA 13:7)

(BACTERIOPHAGE)

MIKHNO, V.V.

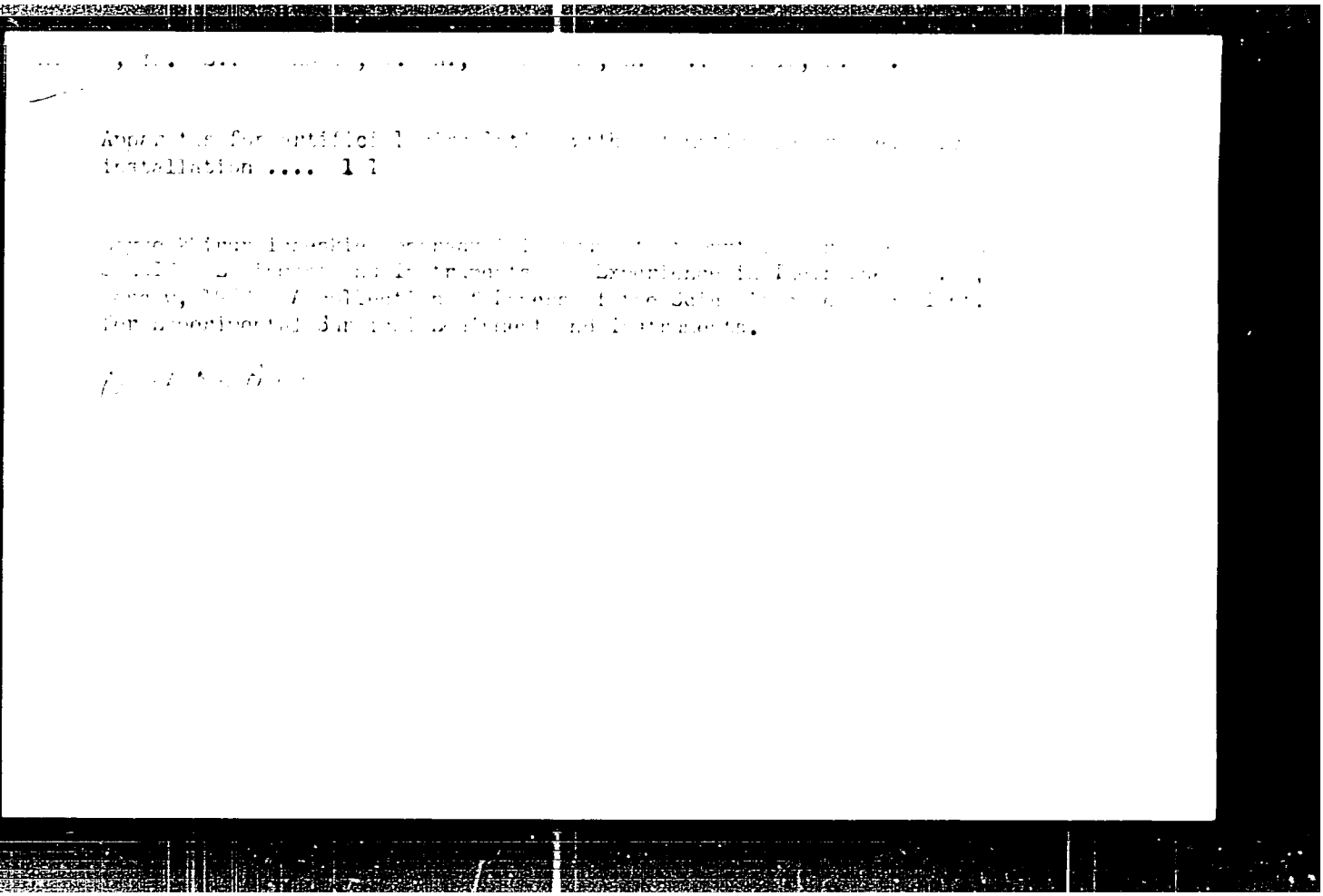
Reactions for [illegible] identification of [illegible] [illegible] anthamine. Farmatsev. zhur. [illegible] no.[illegible]:45-47 [illegible]65. MIRA 19:1.

1. Kafedra [illegible] i neorganicheskoy khimii [illegible] farmatsevticheskogo instituta (zaveduyushchiy kafedroy kand. farmatsevticheskikh nauk [illegible]. Marenich). Submitted March [illegible], 19[illegible]5.

MI[illegible]NC, [illegible], [illegible]

Improving rock [illegible] . [illegible] / [illegible]. [illegible]
[illegible].

1. [illegible] No.17/20 [illegible].
2. [illegible] "Vet[illegible]-3[illegible]" [illegible].
(D[illegible] [illegible])



ZAKHAROVA, I.I.; MIKHNO, Ya.S.; KHORUNZHAYA, K.Yu.

Apparatus for softening water by means of ion exchange. Med. prom. 15 no.8:54-55 Ag '61. (MIRA 14:12)

1. Nauchno-issledovatel'skiy institut eksperimental'noy khirurgicheskoy apparatury i instrumentov Ministerstva zdravookhraneniya SSSR.

(WATER—SOFTENING)

GROTTE, M.G., kand.tekhn.na[illegible]; MIKHNO, Ye.R., mla[illegible]

Low volume spraying of orchards. Zashch.rast. ot vred. i [illegible]
no.11:29-30 '64. (MIRA 18:1)

1. Ukrainskiy institut mekhanizatsii i elektrifikatsii [illegible]
khozyaystva, Kiyev.

MIKHN'OV, A.L., dots.

Antireticular cytotoxic serum and penicillin for treating wound sepsis. Medych.zhur. 17:264-269 '47. (MIRA 11:1)

1. Z klinichnogo viddilu (zav. - akad. M.D.Strazhesko) Institutu klinichnoi fiziologii AN URSR (direktor - akad. O.O.Bogomolets')
(SERUM THERAPY) (PENICILLIN)
(WOUNDS--TREATMENT)

MIKHN'OV, A.L., dots.; TIDEL'SKA, I.L.

Allergic reactions with bacterial antigens in wounds sepsis.
Medych.zhur. 17:270-276 '47. (MIRA 11:1)

1. Z Ukrains'kogo institutu klinichnoi meditsini (direktor - akad. M.D.Strazhesko).
(ANTIGENS AND ANTIBODIES) (WOUNDS)

MIKHN'OV, A.L.; GANDZHA, I.M.

Academician M.D.Strazhesko. Medych.zhur. 21 no.6:5-13 '51
(MLRA 11:1)

(STRAZHESKO, MYKOLA DMYTROVYCH, 1876-)

MIKHN'OV, A.L.; KARAPATA, O.P.

Classification of hypertension. Fiziol.zhur. (Ukr.) 1 no.3:70-77 My-Je '55. (MLRA 9:9)

1. Ukrains'kiy naukovo-doslidniy institut klinichnoi meditsini imeni akademika M.D.Strazheska, Viddil klinichnoi farmakologii.
(HYPERTENSION)

L 12897-65 EWG(j)/EWA(k)/FBD/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h) Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c)/AS(mp)-2/AEDC(a)/AFWL/ASD(a)-5/APGC(b)/BSD/AFETR/RAEM(a)/ESD(gs)/ESD(t)
ACCESSION NR: AP4047180 WG/JD/JW/WH S/0051/64/017/004/0597/0606

AUTHORS: Ivanov, A. P.; Rubinov, A. N.; Mikhnov, S. A. 13

TITLE: Methods of investigating absorption spectra of substances in a state of strongly disturbed thermodynamic equilibrium 21

SOURCE: Optika i spektroskopiya, v. 17, no. 4, 1964, 597-606

TOPIC TAGS: absorption spectrum, thermodynamic equilibrium, laser medium, ruby laser 25

ABSTRACT: The article deals with the interaction between a substance and light of sufficient intensity to raise a large number of molecules from the ground state to several excited states corresponding to several absorption bands. If these bands overlap, their analysis in separation becomes dependent on the optical and physico-chemical properties of the substance, as well as on the conditions under which the system is excited. The authors consider three methods

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for the analysis of such spectra. Two pertain to the case of stationary applied illumination, and one to pulsed illumination. The first method consists of plotting a family of curves for the absorption coefficient k as a function of αU (U -- intensity, α -- nonlinearity parameter of the medium, dependent on the transition probabilities between different levels) and determining the ratio of the oscillator strengths with an auxiliary curve. In the second method the ratio of the oscillator strengths of the different absorption bands is determined from an estimate of the distribution of the particles between the different levels. The third method, which applies to pulsed illumination, is essentially a modification of the second method. This method was checked by investigating the absorption spectrum of a ruby crystal excited with two infrared IKF-2000 flash lamps connected in series and energized with a capacitor bank. The test procedure and the analysis of the results are briefly discussed. "The authors thank P. Ya. Ganich and V. I. Tyaptin for help in constructing the setup and in the tests." Orig.

L 12897-65
ACCESSION NR: AP4047180

art. has: 6 figures and 14 formulas.

ASSOCIATION: None

SUBMITTED: 03Jun63 ENCL: 00

SUB CODE: OP NR REF SOV: 005 OTHER: 002

Card 3/3

L 44352-65 EWT(m)/EWP(e)/EWP(1) WH

ACCESSION NR: AP5006862 S/0250/65/009/001/0018/0021

28
27
B

AUTHOR: Rubinov, A. N.; Mikhnov, S. A.

TITLE: Change in emission spectrum of a finite volume on going through an inversion point

SOURCE: AN BSSR. Doklady, v. 9, no. 1, 1965, 18-21

TOPIC TAGS: ruby laser, absorption coefficient, emission spectrum, inversion point, stimulated emission, absorption

ABSTRACT: The authors consider the change in the spectral composition of emission from a finite volume under the influence of a strong stimulation by light, such as to produce a reversal in the absorption coefficient of the medium from positive to negative values. Specifically, the change in the spectral composition of a parallel light beam emitted by a layer of given thickness is determined for the case when there is no reflection on the boundary of this layer and the radiation is only in one direction (perpendicular to the base of the sample). The analysis of the equations for the emission in the case of positive and negative absorption coefficients shows that the distortion of the emission contour is determined by simi-

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ACCESSION NR: AP5006862

lar formulas for both positive and negative values of the absorption coefficients, despite the difference in the nature of the processes. To check on these deductions, experiments were made on the emission of R-lines of ruby as functions of the relative populations of the metastable level, since the relative population is uniquely connected with the absorption coefficients of the two lines. The relative population was varied by varying the intensity of the exciting light. A pink ruby laser and equipment described by the authors earlier (ZhPS v. 1, 133, 1964) was used in the tests. Measurements were made of the ratios of the emission intensities of the maxima of the R_1 and R_2 lines, and also the intensity of ruby emission at a frequency lying between the R lines. The results show that the presence of a negative absorption coefficient in the medium leads to a considerable change in the emission spectrum of the medium in a finite volume, and should be taken into account in spectral investigations. On the other hand, the formation of a negative absorption coefficient in the medium can be deduced from changes in the emission spectrum. This is of particular use in the investigation of four-level systems, in which observation of negative absorption by other means is difficult. Orig. art. has: 1 figure and 11 formulas.

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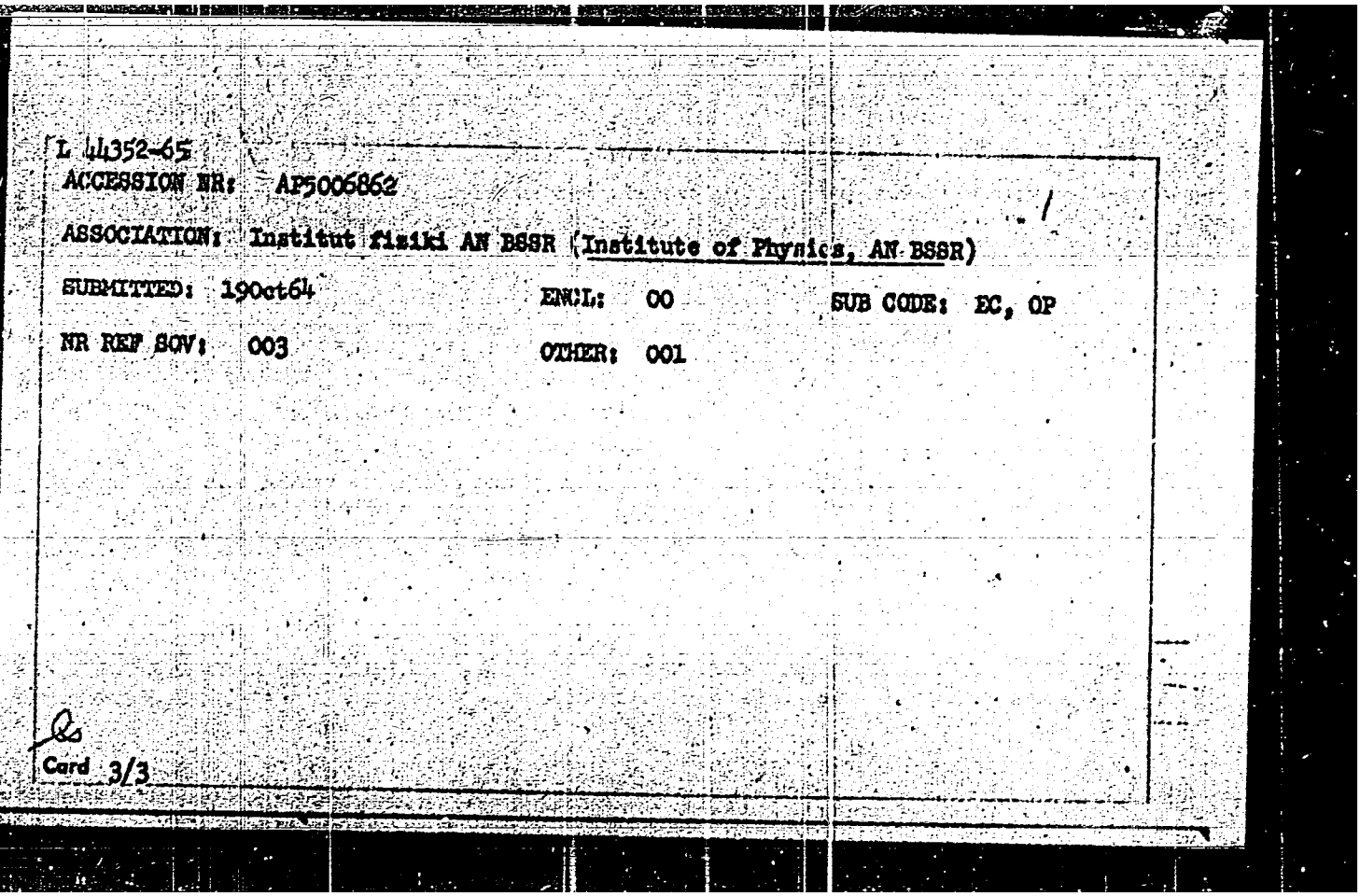

L 44352-65
ACCESSION NR: AP5006862

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR)

SUBMITTED: 19Oct64 ENCL: 00 SUB CODE: EC, OP

NR REF SOV: 003 OTHER: 001

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L 61900-65 EWA(k)/FBD/EWG(r)/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/EWP(i)/T/EEC(b)-2/
EWP(k)/EWA(m)-2/EWA(h) Pn-4/Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 SCTB/IJP(c) WG/WH
ACCESSION NR: AP5017695 UR/0250/65/009/006/0367/0371

AUTHOR: Stepanov, B. I.; Rubinov, A. N.; Mikhnov, S. A.

TITLE: Determination of the parameters of ruby laser losses

SOURCE: AN BSSR. Doklady, v. 9, no. 6, 1965, 367-371

TOPIC TAGS: laser, ruby laser, level population, laser loss, noise loss

ABSTRACT: The authors determined experimentally the main parameters of a ruby laser, characterizing the loss of generated radiation. The investigation is based on the theoretical premises developed in earlier papers (ZhPS v. 1, no. 1, 35, 1964; DAN BSSR v. 6, 147, 1962). Some results of earlier measurements (ZhPS v. 1, 3, 210, 1964) were also employed. Pink ruby and a resonator with plane removable mirrors were used. The behavior of the population of the metastable level of the ruby was investigated by oscillographic measurements of the time variation of $\log(T/T^0) = c(n_2/n)$ (T - transmission, T^0 - transmission without pumping, c - coefficient, n_2/n - relative population of metastable level). The tests showed that the population saturates not at the start of lasing, but somewhat later, and that the pump power affects only the time interval between the start of lasing and the establishment of constant population. This behavior is attributed to the optical inhomogeneity of the ruby. Another characteristic studied was the ratio of the

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ACCESSION NR: AP5017695

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noise radiation flux per unit surface to the noise per unit volume, which is found to range from 0.467 to 0.518, depending on the power loss coefficient. Orig. art. has: 2 figures, 7 formulas, and 1 table. [02]

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR) 44

SUBMITTED: 27Nov64 ENCL: 00 SUB CODE: EC

NO REF SOV: 006 OTHER: 004 ATD PRESS: 4060

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