author expresses his thanks to welders V. M. Kashpirev, N. N. Krasishchenko, G. G. Tumanov, N. P. Nikitin, S. I. Rumyantsev, to the Leader of Communist Team P. P. Podobed, Chief of TsZh E. N. Liberman, Engineer A. I. Pas', and to Candidate of Technical Sciences V. S. Golovchenko for their valuable comments and advice. There are 41 references, all Soviet.

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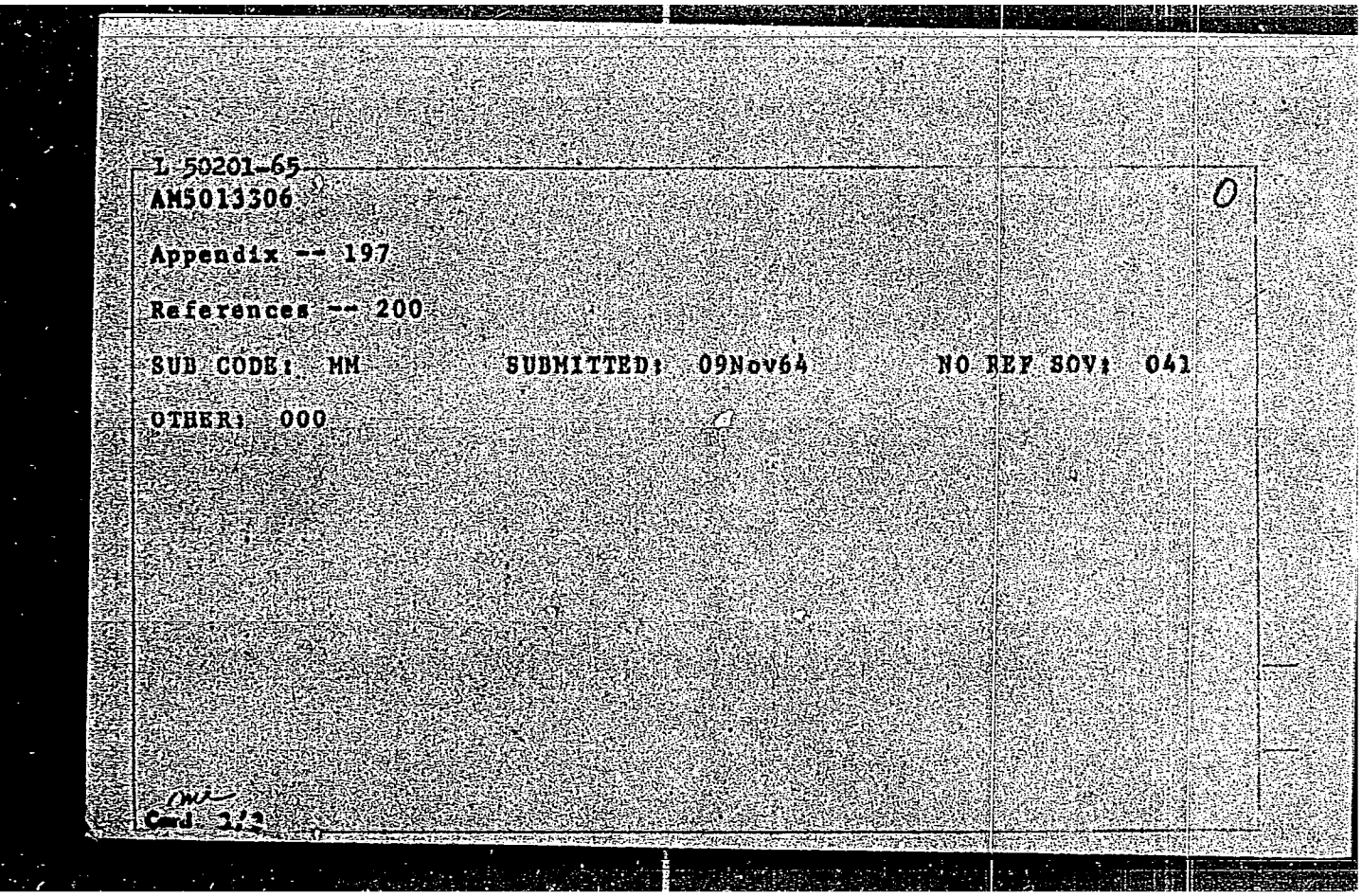

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Appendix -- 197

References -- 200

SUB CODE: MM SUBMITTED: 09Nov64 NO REF SOV: 041

OTHER: 000

Card 2/2

PETROV, Vladilen Nikolayevich; A.RAM[illegible]ICH, V.[illegible], inzh., retsenzent; ISKOZ, [illegible], inzh., retsenzent; [illegible], [illegible], nauchn. red.; VLASOVA, Z.V., red.

[Welding and cutting of stainless steel] Svarka i rezka nerzhaveiushchikh stalei. Leningrad, [illegible], 1965. [illegible]
(MIRA [illegible])

PETROV, V. K.

"Observations of Meteor Trains"

Source: Bull. VAGO No. 4, 1939, pages 24-25

Translation: 50495

PETROV, V.N., monter

Fastening of conductors to split supports. Avtom., telem. i sviaz' 3 no.4:43 Ap '59. (MIRA 12:5)

1.Gryazinskaya distantsiya signalizatsii i svyazi Yugo-Vostochnoy dorogi.

(Electric lines--Overhead)

PETROV, Viktor Nikolayevich; SHEVCHENKO, Vladimir Trofimovich; GAMBURTSEVA, L.V., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Operation and repair of ER1 electric trains] Opyt ekspluatatsii i remonta elektropoezdov ER1. Moskva, Vses.izdatel'sko-poligr.ob"yedinenie M-va putei soobshcheniia, 1960. 60 p. (MIRA 13:9)
(Electric railroads)

PETROV, V.N.

Experience in operating the ... electric train. Elek. i t pl. tiaga 5 no.5:37-38 My '61. (MIRA 14:7)

1. Master tsekha tekushchego remonta depo Moskva Okt. zh. dorogi.

(Electric railroads--Trains)

PETROV, Viktor Nikolayevich; AMOSOV, Valentin Fedorovich; ROMANOV, I.M., inzh., retsenzent; SIDOROV, N.I., inzh., red.; KHITROVA, N.A., tekhn. red.

[Maintenance and repair of the mechanical equipment of electric railroad motor cars] Remont mekhanicheskogo oborudovaniia motor-vagonnogo podvizhnogo sostava. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 96 p. (MIRA 14:12)
(Railroad motor cars--Maintenance and repair)

AUTHOR: Petrov, V.N. SOV/[illegible]

TITLE: An Automatic Device for Making Paper Cartridges, e.g. for Explosives (Avtomat dlya izgotovleniya bumazhnykh gil'z, naprimer, dlya vzryvchatykh veshchestv)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 6, pp 121/122 (USSR)

ABSTRACT: Class 54c, 3. Nr 113540 (455894/615-55 of 4 Oct [illegible]. Submitted to the Ministry of the Coal Industry of the USSR. An automatic machine with mechanisms for feeding cutting off and winding paper band onto a mandrel, and a device for tucking in the cartridge edge to form the bottom. The tucking-in device is designed in the form of a comb mounted at the end of the mandrel, displaceable perpendicularly to the latter, and is provided with prongs formed with gradually increasing curvature; the bottom is finally formed by a striker facing the mandrel end, actuated by the machine drive.

Card 1/1

PETR[illegible], V. N., ([illegible] st., No. [illegible], ap. 47. Moscow.)

A USSR registrant of the 17th International Geological Congress held in Moscow in 1937.

SO: Report of The 17th I[illegible] Geol. Con., 1937

PETROV, V. N. (Prof)

Identified with the book: AUTOMATICS OF AIRCRAFT ENGINES (Avtomatika aviatsionnykh dvigateley) by: V. A. Bolnov

SO: A.I.D. Library of Congress (AF 472339)

PETROV, V. N., inzh.

Concerning a frequently occurring fault on the ER1 electric train. Elek. i tepl. tiaga 6 no.9:35-37 S '62.
(MIRA 15:10)

(Electric railroads)

PETROV, V.N.

VOLOKH, Samuil Markovich, professor; PETROV, V.N., redaktor; SHTEYNGEL', A.S., redaktor izdatel'stva

[Principles of a theory of extraction applied to purification of oils by solvents] Osnovy teorii ekstraktsii primenitel'no k ochistke masel rastvoriteliami. Baku, Azerbaidzhanskoe gos. izd-vo neft.i nauchno-tekhn.lit-ry, 1957. 91 p. (MIRA 10:9)
(Petroleum--Refining)

GURVICH, V.L. [deceased]; SKOBLO, A.I.; SMIDOVICH, Ye.V.; ZAYTSEVA, N.P.; KAZANSKAYA, N.S.; PETROV, V.N.; SUVOROV, A.S.; SHCHERBAKOV, A.A.

Continuous coking of heavy petroleum residues on powdered coke. Trudy MINKHiGP no.24:298-310 '59. (MIRA 13:3)
(Petroleum coke)

PETROV, V.N.

Special characteristics of the hydrodynamic regime of a fluidized bed with horizontal perforated baffles. Trudy MINKHiGP no.28: 102-115 '60. (MIRA 14:4)

(Fluidization)

PETROV, V.N.

Determining the critical rate of the "internal" suspension of small particles of a binary or polydispersed bed of granular material. Izv. vys. ucheb. zav.; neft' i gaz 4 no.5:79-86 '61. (MIRA 15:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.
(Petroleum refining) (Fluidization)

S/871/62/000/000/002/002
E075/E492

AUTHORS: Gavrilov, B.G., Petrov, V.N., Khramov, A.A. (deceased)

TITLE: Catalytic and chemical stabilization of some petroleum waste products

SOURCE: Nizkotemperaturnyye kataliticheskiye prevrashcheniya uglevodorodov. Ed. by V.D.Piastro. (Leningrad) Izd-vo Leningr. univ., 1962. 147-153

TEXT: Attempts to utilize still bottoms (b.p. 215 to 255°C) as a component of motor fuels were made, aiming to decrease the unsaturation and the gum forming tendency. Three different treatments of the still bottoms were tried. Treatment with 10% and 15% H_2SO_4 decreased the iodine number of the products from 33.8 to 20 and 22 respectively, but the existing gum content was not affected. The treatment with metallic Na had little effect other than sulphur removal. Treatment with a silica-alumina catalyst was carried out in the liquid phase (autoclave) at 250 to 350°C and in the gaseous phase at 250 to 400°C, the gases being recirculated through the catalyst column. The latter treatment at 350 to 400°C decreased the iodine number of the feed to 3 - 5.2

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and the existing gum from 143 to 2.4 - 7 mg/100 ml. The liquid phase treatment gave slightly better quality and yields than the gaseous treatment. The raffinate had a reduced content of aromatic and naphthenic hydrocarbons compared with the feedstock and was a suitable blending component for diesel fuels. There are 3 tables.

PETROV, V.N.

Determining the critical speed of fluidization of a binary bed of granular material. Izv. vys. ucheb. zav.; neft' i gaz 5 no.6: 71-76 '62. (MIRA 16:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.

(Fluidization)

BABIN, I. N.; BARSHCHEVSKIY, M. M.; BEZMOZGIN, E. S.; PETROV, V. N.

Converting natural and mixed gas for special heating installations.
Trudy VNIIT no. 11:245-253 '62. (MIRA 17:5)

PETROV, V.N.

Determining the critical velocity of a fluidized polydispersed bed of granular material. Izv. vys. ucheb. zav.; neft' i gaz 5 no.10:53-59 '62. (MIRA 17:8)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

PETROV, V.N.; PRESSMAN, A.Ya.

Estimation of the effect of turbulent scattering along the vertical and in the direction of the wind on the propagation of a polydispersed impurity. Dokl. AN SSSR 146 no.1:86-88 S '62. (MIRA 15:9)

1. Institut prikladnoy geofiziki AN SSSR. Predstavleno akademikom Ye.K. Fedorovym.
(Geophysics)

PETROV, V.N.

Determining the critical rate of fluidizing a binary bed of particles of different density. Inzh.-fiz. zhur. 6 no.5:55-62 My '63. (MIRA 16:5)

1. Institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M.Gubkina, Moskva.

(Fluidization)

PETROV, V.N.

Using an electronic digital computer for the automatic control of an oil field. Neftaprom. delo no. 11:42-44 '63. (MIRA 17.3)

PETROV, V.N.

Hydrodynamic conditions of the separation of powdered materials in a fluidized bed. Trudy MINKhiGP no.44:267-275 '63.
(MIRA 18:5)

LAPUK, B.B.;PETROV, V.N.; GUREVICH, G.R.

Nonsteady flow of real gases. Gaz. pro. 9 no.9:3-7 '64.

(MIA 17:10)

PETROV, V.N.; GLEZIN, I.I.

Concerning the use of shredded peat for the production of synthesis gases. Trudy VNIIT no.13:144-147 '64.

(MIRA 18:4)

L 6366-66 EPF(c)/EWT(m)/EWP(b)/T/EWP(t) IJP(c) WE/JD

ACC NR: AP5026738 SOURCE CODE: UR/0286/65/000/017/0014/0014

INVENTOR: Bezmozgin, E. S.; Glezin, I. L.; Petrov, V. N.

ORG: none

TITLE: Continuous action equipment for production of commercial hydrogen. Class 12, No. 174174

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 14

TOPIC TAGS: hydrogen, chemical plant equipment, manufactured gas

ABSTRACT: This Author's Certificate introduces continuous action equipment for production of commercial hydrogen from natural or mixed gas. The equipment is made in the form of two chambers for full conversion of hydrocarbon gases. The first chamber is filled with a catalyst or an inert packing material for conversion of hydrocarbon gases with heat supply. The second chamber is filled with a catalyst for conversion of carbon monoxide with water jacket cooling.

UDC: 661.961 : 66.05

SUB CODE: IE,GC/ SUBM DATE: 06Jul62/ ORIG REF: 000/ OTH REF: 000

Card 1/1

0902 0131

L 13292-66 EWT(m)/EWP(j) RM

ACC NR: AP6000325 (A) SOURCE CODE: UR/0286/65/000/021/0012/0012

INVENTOR: Volkova, L. I.; Zaitova, A. Ya.; Ioakimis, A. A.; Mochal'nikova, T. P.; Nazarova, L. Yu.; Nazarov, V. I.; Pryakhina, M. S.; Petrov, V. N.; Rachkovskiy, E. E.; Savel'yev, A. P.; Syrova, A. A.; Tikhanovskaya, S. G.

ORG: none

TITLE: A method for producing normal butanol by synthesis from ethyl alcohol. Class 12, No. 175929 [announced by the Bashkir Scientific Research Institute for Petroleum Refining (Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 12

TOPIC TAGS: catalysis, butanol, ethyl alcohol

ABSTRACT: This Author's Certificate introduces: 1. A method for producing normal butanol by synthesis from ethyl alcohol on a catalyst. The process is done in a single stage by using a catalyst consisting of aluminum oxide, magnesium oxide, silicon oxide and a salt or oxide of an alkali metal. 2. A modification of this

Card 1/2 UDC: 66.097.3 : 547.264.07

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ACC NR: AP6000325

C

method in which the catalyst contains from 5 to 80 % aluminum oxide, from 95 to 10 % magnesium oxide, from 0 to 50 % silicon oxide and from 0 to 5 % of a salt or oxide of an alkali metal.

SUB CODE: 07/ SUBM DATE: 11Apr63/ ORIG REF: 000/ OTH REF: 000

jw

Card 2/2

PETROV, V.N.; SOMOV, B.Ye.

Determining the coefficient β in a binomial equation for gas flow. Gaz. delo no.5:3-6 '65. (MIRA 18:)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina.

SOV/28-58-6-31/34

AUTHORS: Petrov, V.N., Troitskaya, Ye.V.

TITLE: Production Brands and Commodity Signs (Proizvodstvennyye marki i tovarnyye znaki)

PERIODICAL: Standartizatsiya, 1958, Nr 6, pp 87-88 (USSR)

ABSTRACT: The difference between production brands and commodity signs according to the regulations of Soviet law is explained. There is 1 set of drawings.

Card 1/1

SKUTEL'SKIY, N.M.; PETROV, V.N.

Extraperitoneal endometriosis. Kaz. med. zhur. 4:35-36 Jl-Ag '63
(MIRA 17:2)

1. Kafedra obshchey khirurgii (zav. - prof. A.I.Kozhevnikov) Gor'kovskogo meditsinskogo instituta i Dzerzhinskiy onkologicheskiy dispanser (glavnyy vrach - N.A. Kalashnikova).

PETROV, V. N., Engineer

"Investigation of the Technological Process and Determination of the Parameters of Equipment for Upsetting Book Blocks." Thesis for degree of Cand. Technical Sci. [illegible] 6 Jun 50, Moscow Polygraphic Inst

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950.

5(3)

AUTHORS: Petrov, V. N., Buzhenko, M. A., Korobtsov, A. A. (Deceased) SOV/153-2-3-17/29

TITLE: Photocolorimetric Determination of Acetone Under the Use of Hydrochloric Hydroxylamine

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 3, pp 394-398 (USSR)

ABSTRACT: The photocolorimetric method described in the present paper makes it possible to determine small amounts of acetone in air and in water. The determination is based on the reaction of acetone with hydrochloric hydroxylamine:
$(CH_3)_2CO + NH_2OH.HCl \rightleftharpoons (CH_3)_2CNOH + H_2O + HCl$. The determination of the released hydrochloric acid was made by the photoelectro-colorimetric method with a device FEK-M and a green filter. Methyl orange proved to be the best indicator. With all other indicators investigated the calibration curves are steeper; this increases the error of determination. If methyl orange is used the calibration curve $\varepsilon = f(c)$ (ε...coefficient of perviousness, c...amount of acetone) for quantities < 1 mg acetone is so flat that the error of determination is ± 3-4%

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Photocolorimetric Determination of Acetone Under the Use of Hydrochloric Hydroxylamine

(with respect to an arithmetic mean value of several measuring results). Amounts up to 2.5 mg acetone in the solution to be measured may be determined with satisfactory accuracy. Since the calibration curve remains constant only for 12-14 hours it must be made on the day of the measurement. Temperature changes strongly influence the accuracy; for this reason the coefficient of perviousness of the test solution must be measured at the same temperature at which the calibration curve was made. If the air, the acetone content of which is to be determined, is impurified by black, dust, etc, the solution must be centrifuged prior to the photoelectro-colorimetric measurement. The solution cannot be filtrated since the methyl orange of the filter paper or the other filtering substances are adsorbed. The duration of the developed determination is only 8-9 minutes, which is especially valuable for series analyses. There are 3 figures and 2 Soviet references.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy dizel'nyy institut i Murmanskoye vyssheye morekhodnoye uchilishche (Central Sci. Res Inst. Diesel Engines & Murmansk Higher Inst. of Marine Navigation.)

Petrov, V. N.

Petrov, V. N. The limits of applicability of S. Tchaplygin's theorem on differential inequalities to linear equations with usual derivatives of the second order. C. R. (Doklady) Acad. Sci. URSS (N.S.) 51, 255–258 (1946).

If $y(x)$ is a solution of $L(y)\equiv y''-p_1y'-p_2y-q=0$ such that $y(x_0)=y_0$, $y'(x_0)=y_0'$ and if $v(x)$ is such that $L(v)>0$, $v(x_0)=y_0$, $v'(x_0)=y_0'$, then one can conclude that $v(x)>y(x)$ if $x_0<x\leqq x_1$ provided that there is a continuous solution $\lambda(x)$ of the Riccati equation $\lambda'+\lambda^2+p_1\lambda+(p_1'-p_2)=0$ on the same interval. The largest such number x_1 is determined in case p_1 and p_2 are constants and is ∞ if $p_1^2+4p_2\geqq 0$, but is finite otherwise. J. L. Wilkins, Jr. (Buffalo, N. Y.)

Source: Mathematical Reviews, Vol. 8, No. 2

PETROV, V.N.

Conference of students of the Faculty of Geography. Vest. LGU 15 no.18:163 '60. (MIRA 13:9)

(Geography)

DUBROVIN, L.I., kand. geograf. nauk; PETROV, V.N., inzh.

Thermal action of an air current on thermometers measuring the temperature of a snow layer in a hole. Inform. biul. Sov. antark. eksp. no.39:15-19 '63. (MIRA 16:6)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Lazarev station, Antarctica—Snow—Temperature)

DUBROVIN, L.I., kand.geograf.nauk; PETROV, V.N., inzh.

Accuracy of snow measurements in Antarctica. Inform.biul. Sov.antarkt. eksp. no.43:15-20 '63. (MIRA 17:1)

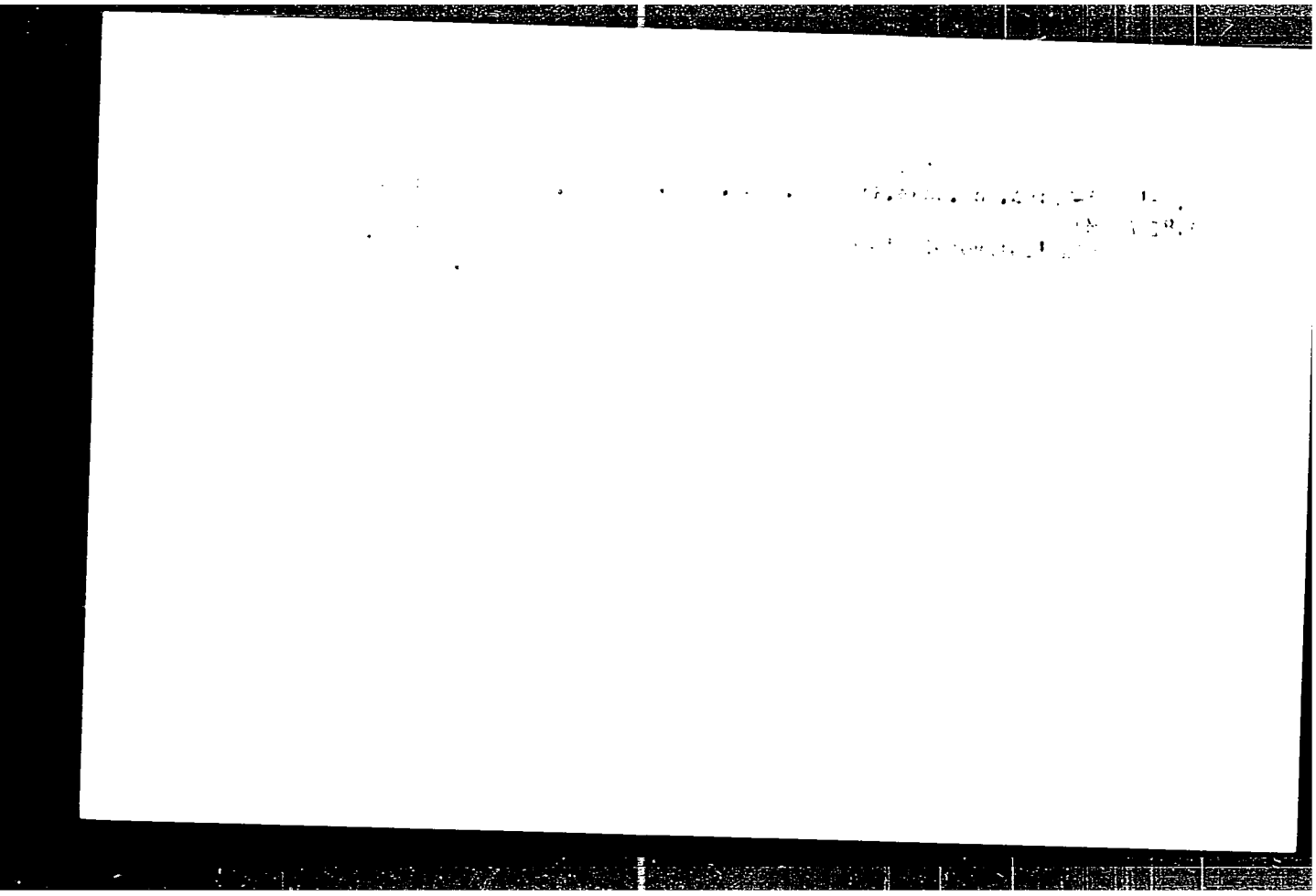
1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut (for Dubrovin).

PETROV, V.N., inzh.

Methodology of determining the air permeability of snow. Inform. biul. Sov. antark. eksp. no.50:18-23 '64.

(MIRA 18:5)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

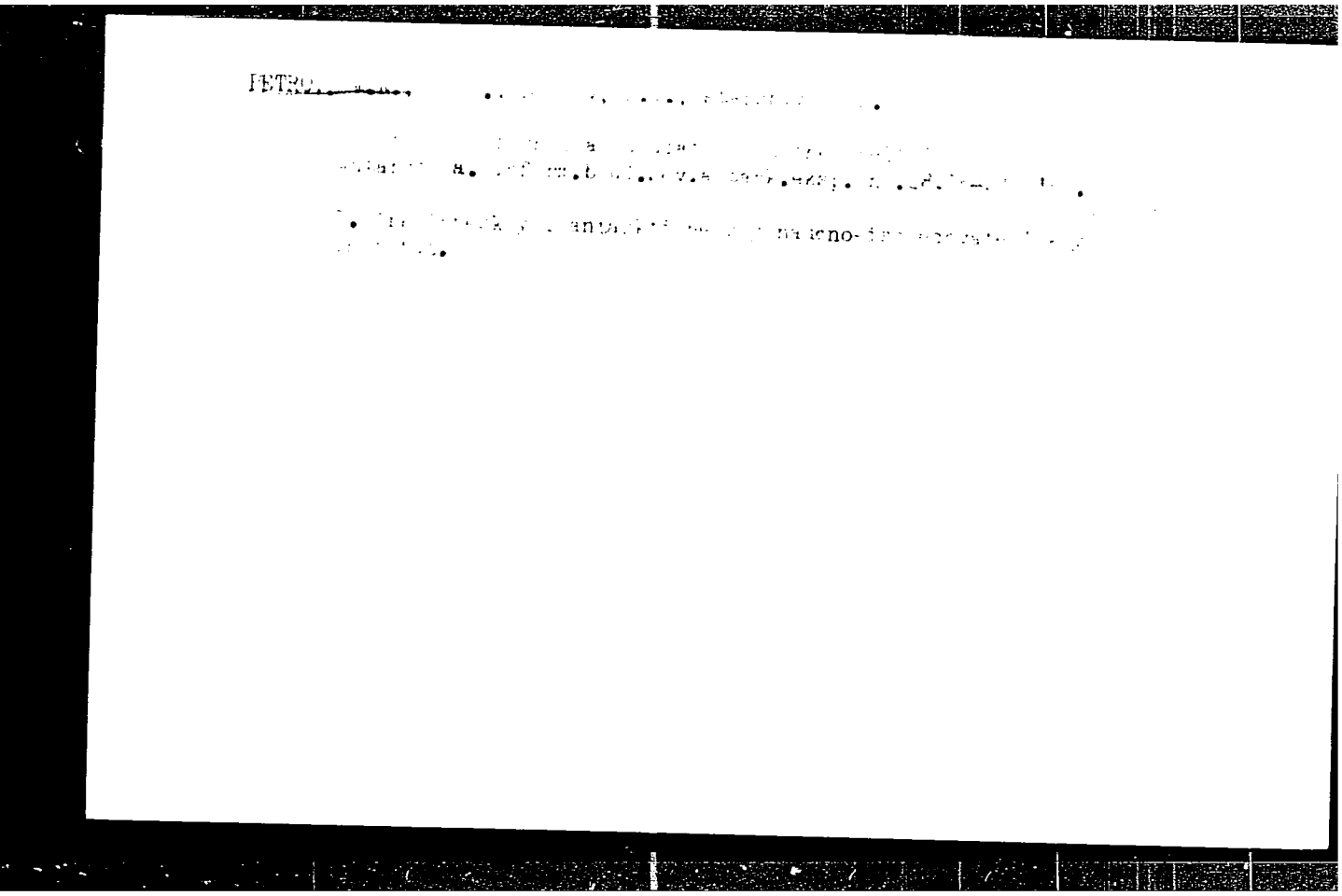


DUBROVIN, L.I., kand.geograf.nauk; PETROV, V.N., inzh.

Average height of the crust surface of Antarctica. Inform. biul. Sov. antark. eksp. no.45:14-16 '64.

(MIRA 18:1)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.



[redacted] A.N., inzh.

[redacted] snow accumulation in Antarctica during [redacted]. Inform. biul. Sov. antark. eksp. no.4:[redacted] 1960. (MIRA [redacted])

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

USSR/Radiophysics - Application of Radiophysical Methods, I-12

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35496

Author: Petrov, V.

Institution: None

Title: Television of the Future (Use of Artificial Earth's Satellite for Worldwide Television Broadcasting)

Original Periodical: Radio, 1956, No 6, 28-31

Abstract: None

Card 1/1

PETROV, Viktor Pavlovich; USPENSKIY, N.M., redaktor; TSIGEL'MAN, L.T., tekhnicheskiy redaktor

[Guided missiles and rockets] Upravliaemye snariady i rakety. Moskva, Izd-vo DOSAAF, 1957. 117 p. (MLRA 10:9)
(Guided missles) (Rockets (Aeronautics))

L 24489-65 ARG/EEO-2/EWT(d)/FBD/FSF(h)/FSS-2/EWT(1)/FBO/EEC(a)/EWP(m)/EWT(m)/FCS/FS(v)-3/EEC(j)/EEC(k)-2/EWG(s)-2/EEC(x)/EWP(f)/EWG(v)/EWP(c)/EWA(d)/EEC-4/EPR/EEC(t)/T-2/EWP(h)/EWA/EEC(c)-2/EED-2/FCS(k)/EWA(h)/FS(b) Pn-4/Pc-4/Pe-3/Pg-4/Pae-4/Pg-4/Pb-4/Ps-4/Pae-2/Ph-4/Pi-4/Pk-4/Pm-4/Pl-4 IUP(c)/AFMD(c)/AEDC(b)/BSD/ASD(a)-5/SSD/AFWL/AM4045984 AEDC(a)/ESD(t)/ BOOK EXPLOITATION ASD(p)-3/AFETR/AFTC(p)/AFTC(a)/APGC(f)/ESD(si) TT/WW/GW/BC

Petrov, Viktor Pavlovich

Rockets for peace and war (Rakety* mira i voyny*) Moscow, Izd-vo DOSAAF, 1963. 170 p. illus. 15,000 copies printed. Under the editorship of: V. P. Belez-nev, Doctor of Technical Sciences; Editor: F. Ye. Godiner; Technical editor: M. Z. Sorkin; Proofreader: R. M. Shpigel'

TOPIC TAGS: rocket, rocket booster, artificial satellite, space ship, ballistic missile, antimissile defense, interceptor satellite, surveillance satellite, orientation

PURPOSE AND COVERAGE: This book is at the popular level and is intended for a wide circle of readers. Information is presented concerning the physical bases of the rocket engine, multistage rocket boosters, artificial satellites, and space ships and rockets, as well as their prospective development. Problems of placing satellites in orbit and methods for their orientation in free flight are analyzed; the classification and brief descriptions of the basic types of contemporary American ballistic rockets and satellites for different purposes are given;

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a series of plans for antimissile defense, interceptor satellites, surveillance satellites, and satellites to be used for worldwide communication are presented. The possibilities of effective utilization of ballistic and interplanetary rockets for peaceful purposes are discussed. Examples of the application of these rockets in meteorology, astronomy, geodesy, and cartography, for minerals prospecting, for international television and communication, etc., are presented. All numerical and factual material and all data concerning fuel have been obtained from the foreign press.

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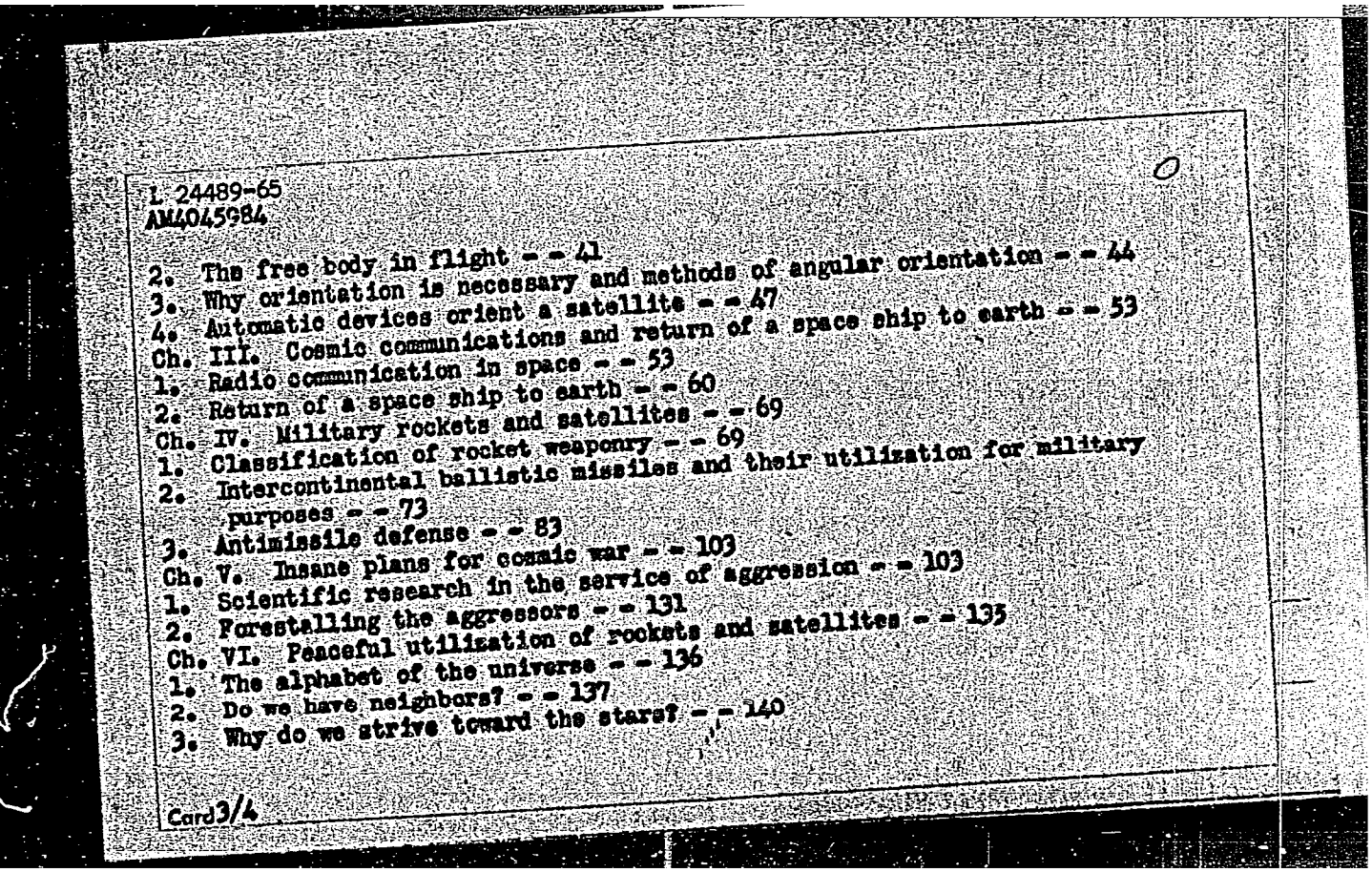

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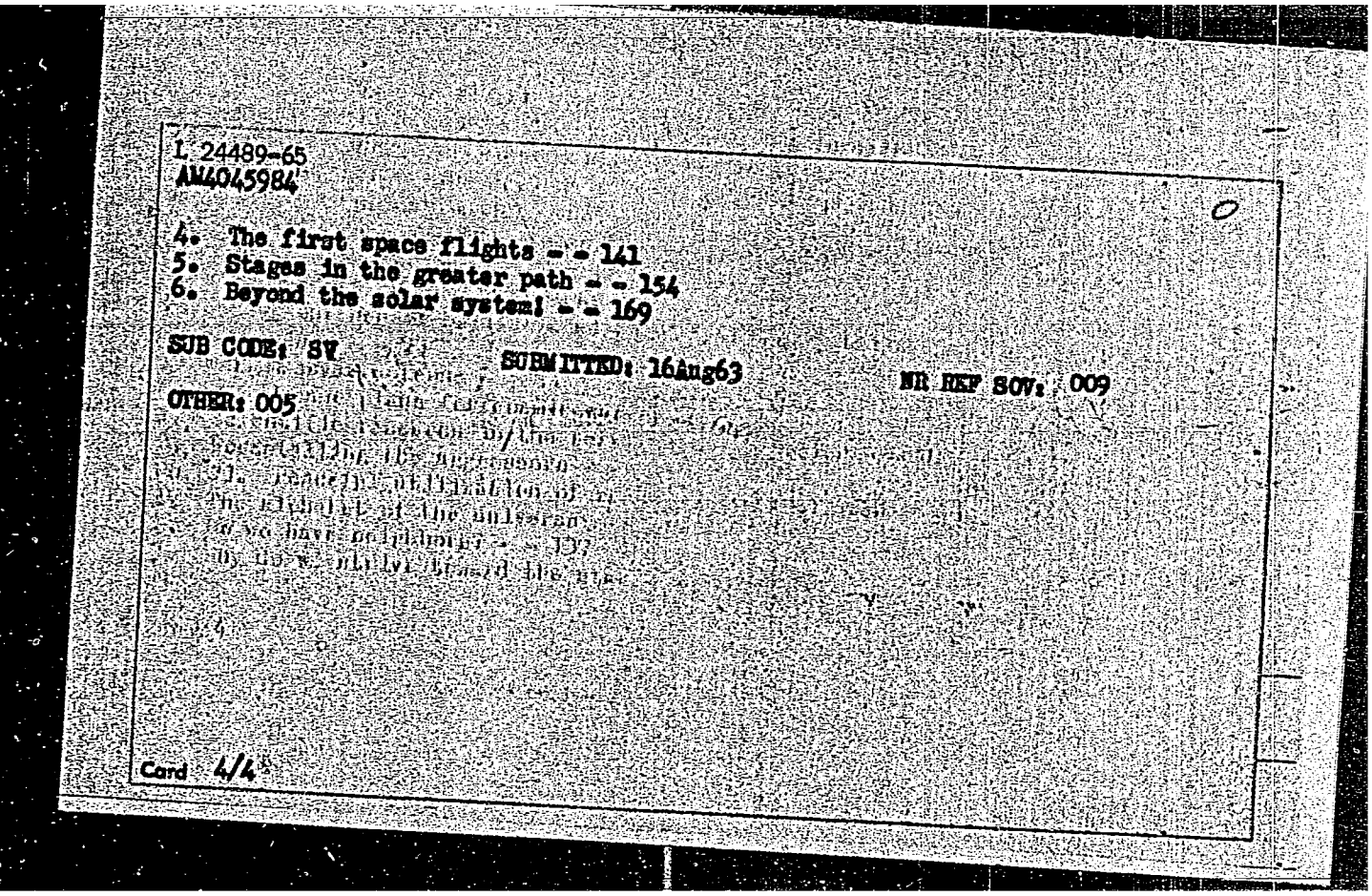

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4. The first space flights - - 141
5. Stages in the greater path - - 154
6. Beyond the solar system! - - 169

SUB CODE: SV SUBMITTED: 16Aug63 NR REF SOV: 009

OTHER: 005

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PHASE I BOOK EXPLOITATION SOV/6474

Petrov, Viktor Pavlovich and Arkadiy Arkad'yevich Sochivko

Upravleniye raketami (Rocket Guidance) 2d ed., rev. and enl. Moscow, Voyenizdat M-va obor. SSSR, 1963. 263 p. 25,000 copies printed.

Eds.: V. L. Sterligov and G. F. Peretrukhina; Tech. Ed.: N. N. Kokina.

PURPOSE: This book is intended for combined-arms officer personnel and others studying the fundamentals of rocketry.

COVERAGE: The book presents the fundamental principles of rocket-weapons control in a form accessible to the nonspecialist. Information on the theory of reaction propulsion and an examination of the more common rocket guidance systems (based on non-Soviet sources) are presented. No personalities are mentioned. There are 28 references, all Soviet.

Card 1/4

PETROV, Viktor Pavlovich, kand. tekhn. nauk; YUREVICH, Petr Platonovich[IUrevych, P.P.]; YEVERSKIY, V.Y.[IEvers'kyi, V.I.], kand. fiz.-mat. nauk, retsenzent; KROSHKIN, M.G. [Kroshkin, M.H.], kand. fiz.-mat. nauk, retsenzent;GAVRILOV,V.M. [Havrylov,V.M.] red.izd-va; BEREZOVYY, V.M.[Berezovyi, V.M.], tekhn.red.

[Conquest of space] Osvoiennia Kosmosu. Kyiv, Derzhtekhvydav URSR, 1963. 168 p. (MIRA 17:3)

29(0) PHASE I BOOK EXPLOITATION SOV/1893

Petrov, Viktor Pavlovich

Rakety i suputnyky (Rockets and Satellites) Kiyev, Derzhtekhvydav, 1958. 261 p. 13,000 copies printed (Series: Naukovo-popularna biblioteka).

Ed.: O. Bondarenko; Tech. Ed.: P. Patsalyuk.

PURPOSE: The book is intended for the general reader.

COVERAGE: This popular-style book presents the principles of reactive motion and gives a classification of reactive engines, guided missiles, and guidance systems. Technical specifications of the main types of rockets, mainly US, are given together with the fundamentals of their design and operation. The first part of the book deals primarily with activities outside the USSR and includes an evaluation of the German V-1 and V-2 rockets. The second part deals with Soviet artificial satellites. Particular attention is paid to scientific advantages offered by the satellites in the study of the upper atmosphere and cosmic space. No personalities are mentioned. There are no references.

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PHASE I BOOK EXPLOITATION 592

Petrov, Viktor Pavlovich

Iskusstvennyy sputnik zemli (Artificial Earth Satellites) Moscow, Oborongiz, 1958. 305 p. (Nauchno-populyarnaya biblioteka)

Ed.: Engineer Lt. Col. Seleznev, V. P., Docent, Candidate of Technical Sciences; Ed. of Publishing House: Kader, Ya. M.; Tech. Ed.: Mezheritskaya, N. P.

PURPOSE: The book is intended for the personnel of the Soviet Army, Air Force, and Navy. The military significance of the artificial earth satellite and of interplanetary space stations is therefore indicated. Excessive technical detail is avoided and the material is presented in fairly popular form for the benefit of the general reader.

COVERAGE: On the basis of domestic and foreign, chiefly American sources, the author discusses the theoretical problems involved in the construction and launching of Soviet artificial satellites, specifically Sputnik I, the world's first. He indicates the path to be followed by scientists in solving the problem of conquering space, mentioning past and future difficulties, and

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pointing out the main problems the artificial satellites will solve. He reviews the successive stages in the conquest of space, beginning with the launching of the unmanned earth satellite and ending with the establishment of interplanetary space stations and the use of space ships. Several models of the earth satellite, celestial rockets, and space stations are described. The principles of control and celestial orientation of the artificial satellite during its orbital flight are reviewed, and a description is given of the most important instruments installed in the satellite. Personalities mentioned are: V. P. Seleznev, Engr. Lt. Col., Candidate of Technical Sciences; G. A. Shuridin, Candidate by Physical-Mathematical Sciences, and T. V. Kharitonov, and A. A. Sochivko, engineers. There are 73 references, of which 48 are Soviet, 20 English, 2 German, 2 Italian, 1 French.

TABLE OF
CONTENTS:

SOV-

AUTHOR: Petrov, V.I., Candidate of Technical Sciences

TITLE: [illegible]

PERIODICAL: [illegible]

ABSTRACT: [illegible]

1. Satellite vehicles--Control

PHASE I BOOK EXPLOITATION SOV/3834

Petrov, Viktor Pavlovich, and Arkadiy Arkad'yevich Sochivko

Upravleniye raketami (Rocket Guidance) Moscow, Voyenizdat, 1959. 207 p. No. of copies printed not given.

Ed.: V.L. Sterligov, Engineer, Major; Tech. Ed.: M.P. Zudina.

PURPOSE: This book is intended for officers of combined-arms units studying fundamentals of rocket engineering and for other readers interested in the subject.

COVERAGE: The book is a popular account of the physical principles on which guidance of rocket weapons is based. It provides data on rocket flight and guidance systems derived from non-Soviet sources. No personalities are mentioned. There are 26 references: 23 Soviet (8 of which are translations or compilations of Western literature), 2 English and 1 German.

TABLE OF CONTENTS:

Card 1/7

ZARIDZE, Georgiy Mikhaylovich; TATRISHVILI, Nina Fominichna; PETROV, V.P., red.; OVCHINNIKOVA, S.V., red.izd-va; IVANOVA, A.G., tekhn.red.

[Magmatic activity in Georgia and associated ore formations] Magmatizm Gruzii i sviazannye s nim rudoobrazovaniia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 253 p. (MIRA 13:2)
(Georgia--Geology, Economic)

PHASE I BOOK EXPLOITATION SOV/5912

Petrov, Viktor Pavlovich, and Arkadiy Arkadiyevich Sochivko

Iskusstvennyye sputniki Zemli i pogoda (Artificial Earth Satellites and the Weather) Leningrad, Gidrometeoizdat, 1961. 182 p. Errata slip inserted. 5000 copies printed.

Ed.: M. M. Yasnogorodskaya; Tech. Ed.: M. I. Braynina.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book discusses in a popular manner the meteorological uses of artificial earth satellites. It describes orientation methods for satellites and their equipment during free flight and methods for transmitting weather data to the earth. Early experimental data obtained by U.S. weather satellites are included. The authors discuss the importance of weather satellites in bringing about full automation of the weather service in the USSR and their prospects for development. The following personalities are mentioned: Professor K. Ya. Kondrat'yev and Candidate of Physics and Mathematics M. G. Kroshkin. No references are given.

Card 1/

PETROV, Viktor Pavlovich

Weather satellites and rockets, by V. P. Petrov and A. A. Sochivko. Washington, USJPRS, 1963. (JPRS 18, 882)
Translation of chapters 3 and 4 (p.60-136) Russian Title: Iskusstvennyye sputniki zemli i pogoda, Leningrad, 1961.

S/026/61/[illegible]
D051/D[illegible]

AUTHORS: Petrov, V.P. (Leningrad), Sochivko, A.A. (Leningrad)

TITLE: Weather and artificial satellites

PERIODICAL: Priroda, no.7, 1961, 25-32

TEXT: In this article, intended for the general reader, the authors describe the role played by artificial satellites in weather forecasting. Most of the information given is obtained from US scurces. The effect of cosmic phenomena on the weather is stressed. Some scientists consider that the process by which a tropospheric cyclone leads to the formation, in the upper layers of the atmosphere, of an anticyclone above which a cyclone is formed etc. extends up to 400 km; all these atmospheric circulations are interconnected. The start of the third sputnik gave for the first time the possibility to study the atmosphere from above. Subsequent satellites and rockets basically changed the previous conceptions of the upper atmosphere. Two very important facts were established:
1. The Earth is surrounded by layers (belts) of intense cosmic radiation (Fig.1).
2. The density of the atmosphere above 500 km from the Earth is 16-40 times greater than considered up to 1955.

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Weather and artificial satellites

S/[illegible]
D051/D112

The first of these discoveries was made by means of cosmic particle counters. The second was made by observing the orbits of artificial Earth satellites. The radiation belts around the Earth explain the fact that above the poles the effective temperature of the upper atmosphere is higher than in moderate latitudes. The temperature changes in the upper atmosphere and the intensity of radiation of the belts depend on solar activity and are connected with the eleven year cycle of change of the general circulation of the atmosphere. The influence of the radiation belts on the general circulation of the atmosphere is strong due to the relatively high density of the upper atmospheric layers. With high-altitude rockets and artificial Earth satellites the intensity of the X-ray, ultraviolet, and other solar radiation absorbed by the terrestrial atmosphere was determined. However, calculations showed that the solar energy absorbed by atmospheric layers above a distance of 200 km from the Earth is insufficient for the thermal flow which heats the upper atmosphere. It was found that charged particles of the radiation belts, cosmic particles from interstellar space, lunar radiation, the energy of meteors etc. considerably contribute to this flow. Already prior to the start of artificial satellites it was observed that the strongest precipitations occur 30-40 days after the intersection of the paths of meteor flows by the orbit of the Earth and that showers of meteors and showers of cosmic dust precede the usual rainfalls

Card 2/8

Weather and artificial satellites

S/026/61/[illegible]
D051/D11[illegible]

Artificial satellites whose equipment and devices are basically intended for the study of processes occurring beyond the limits of the dense atmospheric layers are called geophysical satellites. The most important of these was the third sputnik. Meteorologically, geophysical experiments are valuable, because they serve to improve long-range and superlong-range weather forecasts. The satellites must be precisely orientated in space. The simplest solution of this problem is the "untwisting" of the satellite during launching, in order to give it gyroscopic properties. This stabilization system, used in the Tiros I and II satellites, has the disadvantage that the satellite faces the Earth only during one half of its orbit. However, for recording the reverse side of the Moon the cameras of the Soviet interplanetary station were focused on the Moon's center by means of a very perfect tracking system. The optical elements of this system tracked the limb of the Moon and upon deviation of the orientated axis from the direction towards the Moon's center gave a signal for switching in the orientation system of the rocket. A similar system can be used for the orientation of the devices of a meteorological satellite towards the Earth (Fig.3). Due to the rotation of the Earth about its axis, a complete survey of the Earth's surface can only be made by putting the satellite into an orbit whose plane intersects the poles of the Earth At a revolution time of 1.5 hours one satellite will be able to record within one day the

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entire terrestrial surface. In addition to cloud charts a meteorological satellite also can provide data on the temperature of the Earth's surface and the lower layers of the troposphere. The upper section of Fig.7 gives an approximate energy distribution by wavelengths in the spectrum of the Sun (6,000°K) and the Earth (300°K). For visible light the terrestrial atmosphere is transparent This is confirmed by the nearly complete absence of absorption bands in the atmosphere near the maximum of solar radiation (see lower section of Fig.7 beneath the radiation curve of the Sun). For the radiation emitted from the Earth's surface the atmosphere is nearly opaque (Fig.7). There is only a small "window" in the 9-12 μ region. For these rays the absorption of terrestrial radiation is by 1,000 times weaker than in the 5-7 μ region. Filters were developed allowing the passage of narrow bands of infrared radiation. In satellites the use of filters intended for the 9-12 μ range permits measuring the intensity of terrestrial radiation (the Sun does not emit these wavelengths) and, consequently, determining the temperature of the Earth's surface. Left and right near the "window" the terrestrial radiation is absorbed basically by water vapors. But the vapors themselves emit radiation and by using a filter intended for a small wavelength range near 6 μ it will be possible to determine the temperature of the upper layers of the water va-

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pors, which usually lie not above 13 km. Within the 14 μ range terrestrial radiation is entirely absorbed by carbon dioxide. With a corresponding filter, therefore, the temperature of the upper layers of this gas can be determined. A 9.4-9.8 μ filter permits from a satellite regular observation of atmospheric ozone, the latter having great importance for various terrestrial processes. After further development, infra-red cameras will be used for studying the temperature of the Earth and the atmosphere. There are 7 figures.

PETROV, V.P., kand.tekhn.nauk (Leningrad); SELEZNEV, V.P., kand.tekhn.nauk (Moskva)

Space navigation. Priroda 51 no.8:14-23 Ag '62. (MIRA 15:9)
(Space flight)

PETROV, Viktor Pavlovich; SOCHIVKO, Arkadiy Arkad'yevich; STERLIGOV, V.L., red.; PERETRUKHINA, G.F., red.; KOKINA, N.N., tekhn. red.

[Rocket control] Upravlenie raketami. Izd.2., ispr. i dop. Moskva, Voenizdat, 1963. 263 p. (MIRA 16:4)
(Rockets (Ordnance))--Controls)

GAPEYEV, Aleksandr Petrovich; PETROV, V.P., doktor geol.-miner. na[illegible], otv. red.

[New talc-bearing province of the Lesser Karatau; petrography, genesis, and characteristics of distribution] Novaia tal'konosnaia provintsiia khrebta Malyi Karatau; petrografiia, genezis, zakonomernosti razmeshcheniia. Moskva, Nauka, [illegible]. 174 p.
(MIRA 18:[illegible])

BUSHINSKIY, G.I., otv. red.; LISITSYNA, N.A., red.; PETROV, V.I., red.; YANSHIN, A.L., red.

[Laterites] Laterity. Moskva, Nauka, 1964. 136 p. (Its Doklady sovetskikh geologov. Problema IX)

(MIRA 18:2)

1. Natsional'nyy komitet geologov Sovetskogo Soyuza.

L 28621-65 EPF(c)/EPF(n)-2/EPR/EWP(k)/EWT(1)/EWT(m)/EWP(b)/EWA(d)/EWP(e)/EWP(t)
Pf-4/Pq-4/Pr-4/Ps-4/Pu-4/Pz-6 IJP(c) GG/WH/GW/WW/JD/HW
ACCESSION NR: AP4049998 S/0011/64/000/010/0114/0121

AUTHOR: Delitsin, L.S.; Livshits, L.D.; Markov, V.K.; Petrov, V.P.; Ryabinin, Yu.N.

TITLE: Plastic deformation of quartz at superhigh pressure

SOURCE: AN SSSR. Izvestiya. Seriya geologicheskaya, no. 10, 1964, 114-121

TOPIC TAGS: geology, geological modeling, superhigh pressure, mineral plastic deformation, quartz, silica

ABSTRACT: The authors review the results of an experimental study of the plastic deformation of quartz. They then describe the occurrence of plastic deformation of quartz observed in a metastable state in the region of thermodynamic stability of dense modifications of silica at superhigh pressures and high temperatures. The samples used in the investigation were cut from a large, completely uniform, single crystal of natural quartz not containing inclusions. The samples, optically uniaxial, were in the form of tablets 4 mm in diameter and 2.5 mm in height. Quasi-hydrostatic pressure was created in the test chamber. The experimental method was described earlier (Ryabinin, Yu. N. et al., Izv. AN SSSR, ser. geol., No. 8, 1963). The experiments produced plastic deformation of the samples of quartz monocrystals at superhigh pressures and high temperatures (above

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L 25621-65

ACCESSION NR: AP4049998

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1,000C). The deformation within a single sample was quite complex, as can be judged from the different character of the change of optical orientation in three cases of plastic deformation described. These cases of the appearance of plastic deformation were observed in quartz which, during the experiment, acquired a clearly expressed biaxial character (biaxiality of quartz ~ (+) 84°). Judging from the glide plane, the plastic deformation develops for the most part either parallel to the plane of the optical axis of the initial material or perpendicular to it. "The authors wish to thank I. Lukin and V. F. Cherny*shev for examination of the polished sections and discussion of this paper." Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AN SSSR); Institut geologii rudny*kh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moscow (Institute of the Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, AN SSSR)

SUBMITTED: 25Mar64 ENCL: 00 SUB CODE: ES, SS

NOT REF SOV: 008 OTHER: 013

Card 2/2

TITKOV, Nikolay [illegible], [illegible], Valeriy Petrovich; NE[illegible]INA, Anna [illegible]vna

[Formation of [illegible] during the electrochemical reinforcement of [illegible] rocks] Formirovanie mineralov [illegible] [illegible]eskom zakreplenii [illegible] [illegible] Moskva, Nauka, [illegible]

(MIRA [illegible])

PETROV, Vladimir Nikolayevich; RYZHIK, Z.M., red.; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Electric arc welding in a protective atmosphere] Elektrodugovaia svarka v srede zashchitnykh gazov; obzor. Leningrad, 1963. 82 p. (MIRA 16:6)
(Electric welding) (Protective atmospheres)

L 38691-66 EWT(d)/EWA(c)/EWP(k)/EWP(h)/EWP(1) BC
ACC NR: AT6017532 (A) SOURCE CODE: UR/3166/65/000/130/0003/0097

AUTHOR: Dimaksyan, A. M. (Candidate of technical sciences); Petrov, V. P.; Lesechuk, I. A.

ORG: None

TITLE: Layout and working principle of a grouped system of automatic hydrologic telemetering stations

SOURCE: Leningrad. Gosudarstvennyy gidrologicheskiy institut. Trudy, no. 130, 1965. Primeneniye avtomatiki, radioelektroniki i yadernykh izlucheniy pri gidrologicheskikh issledovaniyakh (Application of automation, radio electronics and nuclear radiation in hydrological studies), 3-97

TOPIC TAGS: hydrologic instrument, telemetry equipment, electronic measurement

ABSTRACT: The authors describe the layout and operating principles of the units, devices and equipment for automation, remote control and signalization in the pilot model of a grouped system of automatic hydrologic telemetering stations developed in 1964 by the Department of Isotopes and Radio Electronics of the State Hydrological Institute in cooperation with the Chair of Telegraphy of the Odessa Electrical Engineering Institute of Communications. The entire system is based on modular construction, and highly reliable ferristor elements are used throughout. The design of the system is described

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L 38691-66
ACC NR: AT6017532

in detail in Trudy GGI, no. 101 (1963) and no. 115 (1964). Systems of this type are designed for automating the following processes: 1. measurement, 2. conversion (coding), 3. information processing (correcting for nonlinearity in the pickup, 4. information transmission, 5. sorting, and 6. accumulating information on punched tape or other types of memory carriers. The electronic elements used in the units and equipment of the system are described, diagrams of each of them are given and their purposes are stated. Diagrams and descriptions are also given for the various subunits used in the system. Orig. art. has: 34 figures.

SUB CODE: 09, 08/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 000

Card 2/2 JC

L 39995-66 EWT(...)

ACC NR: AT6017533 (N) SOURCE CODE: UR/3186/65/000/130/0098/0121

AUTHOR: Petrov, V. P.; Radchenko, A. N.

ORG: none

TITLE: Noise-stable coding of numerical teletype communications in complex automatic hydrometeorological telemetric systems

SOURCE: Leningrad. Gosudarstvennyy gidrologicheskiy institut. Trudy, no. 130, 1965. Primeneniye avtomatiki, radioelektroniki i yadernykh izlucheniy pri gidrologicheskikh issledovaniyakh (Application of automation, radio electronics and nuclear radiation in hydrological studies), 98-121

TOPIC TAGS: signal coding, noise, telemetry system, error correcting code

ABSTRACT: Results of experiments on noise stability in the coding of numerical information in standard telegraph channels are given. Methods are considered for the correction of errors with the use of simple machines in order to prevent more than 35 noise units of the flash type. The method uses a standard telegraphic code of five symbols, of which four are used for transmitting numerical information in decimal form, choosing the fifth symbol when necessary to make the number of digits even. The correction of multiple, or "flash", errors is studied for the case of a start-stop code and an error-correcting code is developed. Orig. art. has: 86 formulas, 14 figures, 3 tables.

SUB CODE: 09/ SUBM DATE: none/ OTH REF: 004

Card 1/1 llb

L 36983-66 EWT(m)/T WE/JXT(CZ)
ACC NR: AT6008032 (N) SOURCE CODE: UR/2752/65/000/063/0057/0066

AUTHOR: Petrov, V. P.

ORG: none

TITLE: Experimental investigation of the system of automatic control of the water and oil temperatures in the power plant of the tanker "Lisichansk."

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Trudy, no. 63, 1965. Tekhnicheskaya ekspluatatsiya morskogo flota (Technical operation of the merchant marine). 57-66

TOPIC TAGS: automatic control, temperature control, marine engine

ABSTRACT: The article gives a short description of the system of automatic control and presents the static and dynamic characteristics, obtained from actual operating tests. The power plant of the tanker consists of one main diesel engine and three auxiliary diesel engines. The article first gives a block diagram of the automatic control system for the temperature of the cooling water. This is followed by a detailed description of the static characteristics of the control system and then of the dynamic characteristics. Next is a description of the

Card 1/2 UDC: 621.431.74-502

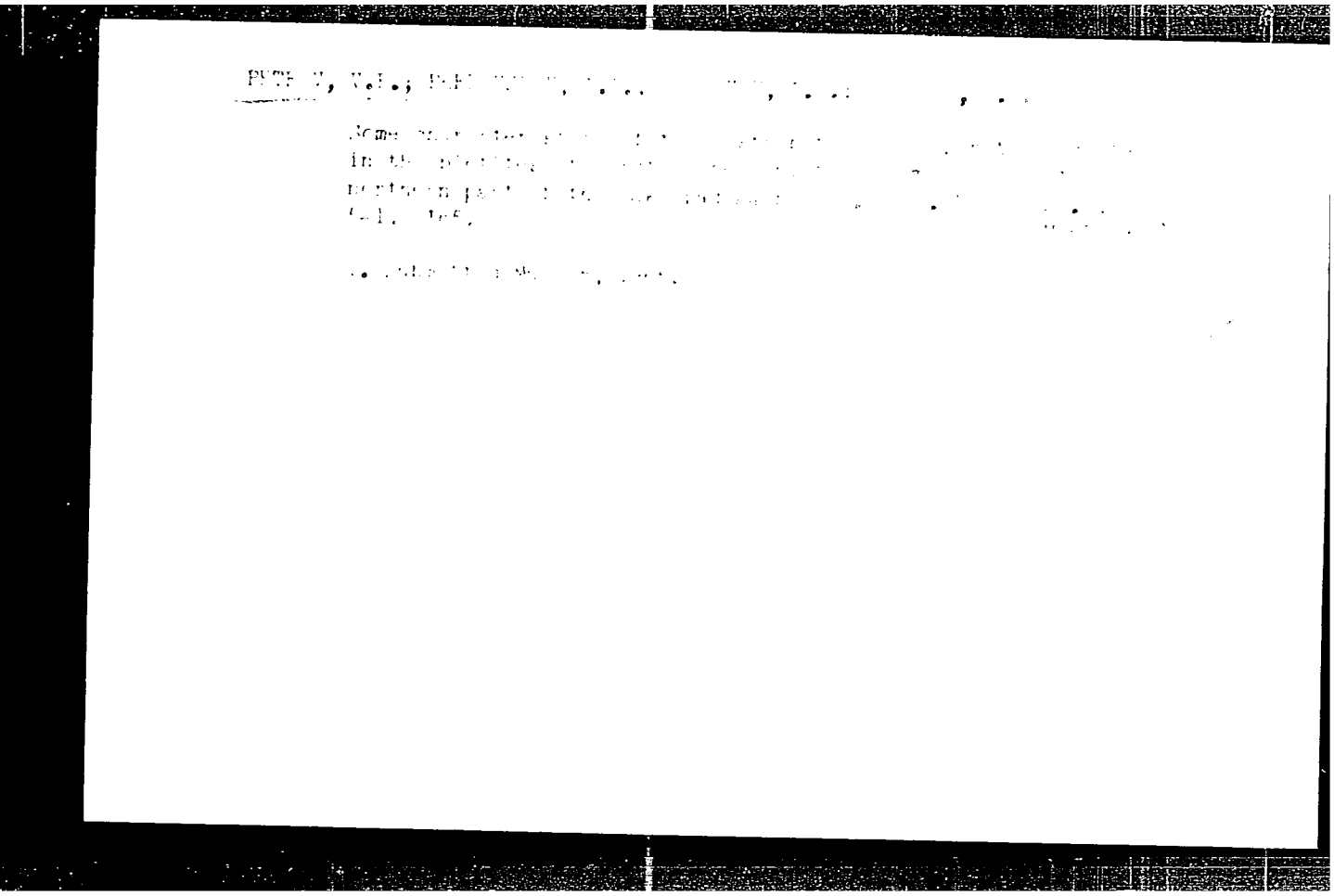
L 36983-66

ACC NR: AT6008032

system for the control of the oil temperature for the main engine. The article concludes with a discussion of the effect of the outside sea water temperature on the control parameter. Orig. art. has: 7 figures and 2 tables.

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 004

Card 2/2



MEDVEDEVA, I.Ye.; PETROV, V.P.; KABANOVA, Ye.S.; MARFUNIN, A.S.; TSVETKOV, A.I.; PILOYAN, G.O.; MARFUNIN, A.S., doktor geol.-miner.nauk, otv. red.; ZAKHAROV, Ye.Ye., prof., glav. red.

[Achievements of science: Geochemistry, mineralogy, petrography, 1963-1964] Itogi nauki: geokhimiia, mineralogiia, petrografiia, 1963-1964. Moskva, Akad. nauk SSSR. In-t nauchnoi informatsii, 1965. 235 p. (MIRA 19:2)

ANODIN, Tikhon Ivanovich; PETRA, V.I., doktor geol.-miner. nauk otv. red.

[Nonmetallic minerals in western Yakutia; the Vilyuy Basin] Nerudnye polezrye iskopaemye Zapadnoi IAkutii; bassein r.Viliuia. Moskva, Nauka, 1965. 259 p. (MIRA 18:11)

BORZUN, V., Vikt[illegible] [illegible]

[Evaluati[illegible] [illegible]
viewpoi[illegible] [illegible] ge[illegible] [illegible]
otsenka [illegible]
Moskva, Nedra, [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240520002-5"

L 57793-65 EEC-4/EEC(b)-2/EED-2/EEC(k)-2/EWT(d)/EWT(l)/EEC(c)-2
Pg-4/Pl-4/Pm-4/Pn-4/Po-4/Pq-4/Pac-4/Pae-2/Peb GW

ACCESSION NR: AR5014859 UR/0271/65/000/006/A003/A003
621.38.019.3

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Sv. t., Abs. 6A13

AUTHOR: Petrov, V.P.; Dimaksyan, A.M.

TITLE: Procedure for calculating the reliability of radioelectronic mechanisms in designing hydrometeorological telemetering stations, systems and instruments

CITED SOURCE: Tr. Gos. gidrolog. in-ta, vyp. 115, 1964, 81-122

TOPIC TAGS: telemetering equipment, reliability calculation, evaluation coefficient, hydrometeorological instrument

TRANSLATION: The report discusses the general concepts of the theory of reliability and cites a procedure for calculating non-reservable systems from λ-characteristics. The authors introduce supplemental equipment evaluation factors: the applicability coefficient, overload coefficient and controllability coefficient. Given are 33 graphs for the dependence of the operating failure rate coefficient on fluctuations in environmental temperature and magnitude of electrical load in relation to various

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ACCESSION NR: AR5014859 0

radioelectronic elements. The proposed reliability calculation method is illustrated by examples. Bibl. with 9 titles; 37 illustrations. Ye. G.

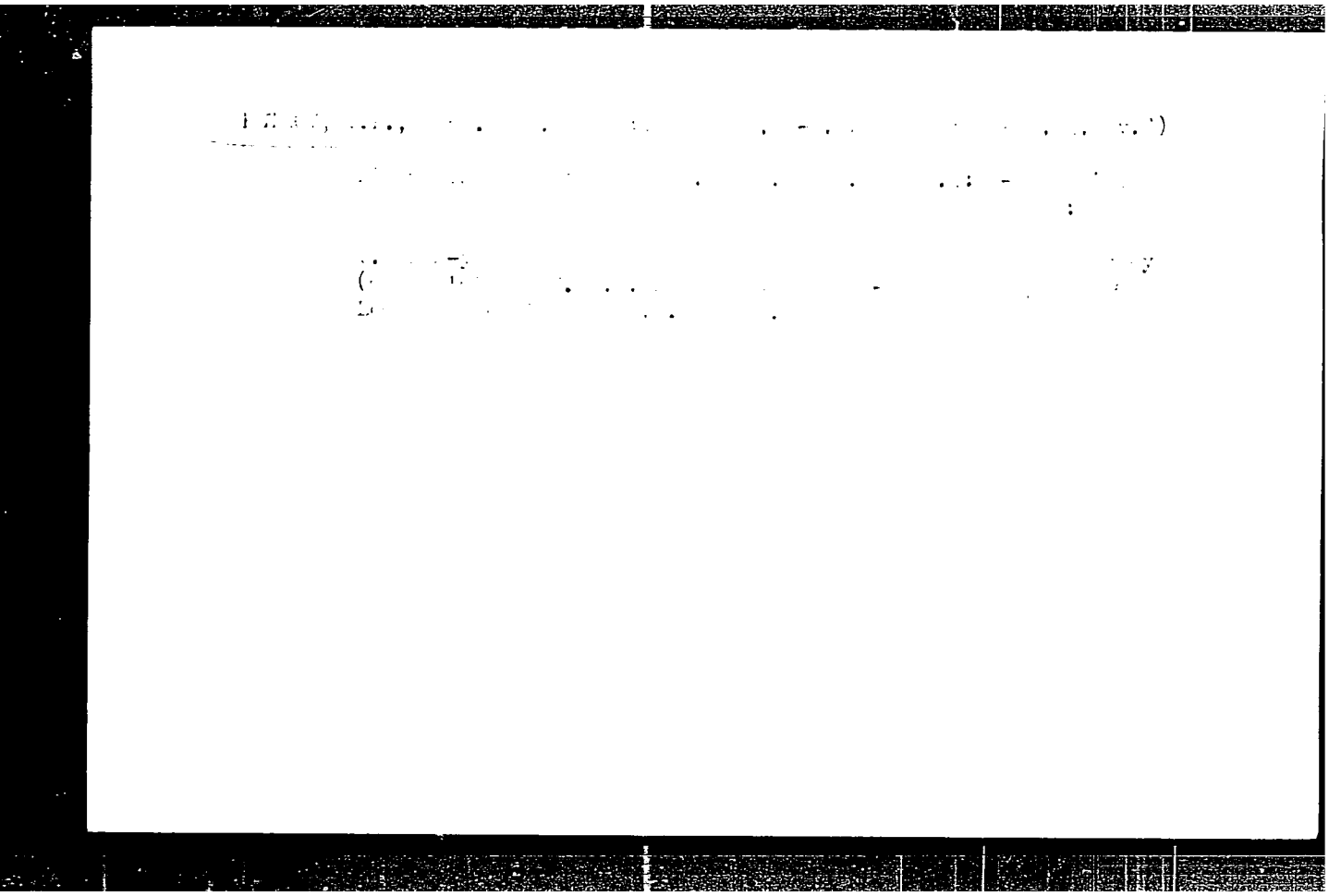
SUB CODE: EC ENCL: 00

Card 2/2

PETROV, V.P.

Seasonal-related occurrence of dysentery in Inepropetrovsk province in recent years. Zhur. mikrobiol., epid. i immun. 35 no. 12:[illegible] D '64. (MIRA 18:3)

1. Oblastnaya sanitarno-epidemiologicheskaya stantsiya [illegible] skoy oblasti.



PREDOVSKIY, A.A.; PETROV, V.P.

Geological position and origin of the conglomerates of Partanen in southern Karelia. Vop.magm.i metam. 2:138-153 '64.

Relationship between Pitkyaranta and Ladoga Proterozoic formations in the northern part of the Lake Ladoga region. Ibid.:154-175

(MIRA 18:3)

L 40556-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EW(1) Pf-4

ACCESSION NR: AP5003936 S/0118/65/000/001/0031/0036

AUTHOR: Dimaksyan, A. M. (Candidate of technical sciences); Petrov, V. P. (Candidate of technical sciences)

TITLE: Supervisory control system for production processes

SOURCE: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 1, 1965, 31-36

TOPIC TAGS: supervisory control system

ABSTRACT: A theoretical discussion of a "universal telemetering computing system (UTCS)" is presented. The system is intended for collecting, processing, and distributing production information in various industries. The system is supposed to perform these operations: (1) On a remote-control demand from a regional station (RS), the UTCS collects, encodes, stores, and transmits to the RS information from all sensors installed at the local station; (2) information is received from each local station and is decoded, sorted, and

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ACCESSION NR: AP5003936

stored at the RS with time markings; (3) The system collects, encodes, transmits, and distributes all emergency information. Block diagrams of the UTCS system and its individual units are discussed. [The UTCS system is obviously in the blueprint stage. Abstracter's note]. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 000 OTHER: 000

Card 2/2

PETROV, V.P., doktor geologo-mineralogicheskikh nauk; NASEDKIN, V.V., inzh.-geolog; POLINKOVSKAYA, A.I., kand. tekhn. nauk

Distribution of perlites on the territory of the U.S.S.R.; their geological characteristics and technological properties. Sbor. trud. ROSNIIMS no.25:6-18 '62 (MIRA 17:8)

PETROV, V.P.; CHEKIN, S.S.

Conference on ancient weathering surfaces, 1962. Kora vyvetr. no.6.308-311 '63. (MIRA 17:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.

PRILEPIN, M.T.; [illegible]; PETROV, V.P.

Determining the effective length of a light wave by [illegible] measurements. [illegible]

PETROV, V.P., kand. tekhn. nauk

Increasing the precision of encoders. Mekh. i [illegible]. [illegible].
17 no.4:47-50 Ap '63. (MIRA [illegible])

ACCESSION NR: AP4033975 S/0006/64/000/004/0017/0021

AUTHORS: Prilepin, M. T.; Lazanov, P. Ye.; Petrov, V. P.

TITLE: On the determination of an effective light wavelength for light telemetric measurements

SOURCE: Geodeziya i kartografiya, no. 4, 1964, 17-21

TOPIC TAGS: light telemetry, triangulation geometry, radio geodesy, surveying, cartography/ EOD 1 telemeter, STs 70 incandescent lamp, Kerr cell, FEU 17A photomultiplier, FEU 70 photomultiplier, FEU 7 photomultiplier

ABSTRACT: The authors undertook to investigate which wavelength requires the determination of propagation velocity in order to gain the most reliable light telemetric measurements. Telemeter EOD-1 with incandescent lamp STs-70 (known spectral characteristic) as a light source was used to quantify a "working" spectral bandwidth and effective light wavelength. Preliminary calibrations were performed to determine spectral distribution of the energy of the light stream by means of obtaining the spectral characteristics of sending and receiving systems, the Kerr cell modulator, and reflector. A plot was made showing comparative spectral sensitivities versus emission wavelength for a tungsten beam, for

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spectral translucence over 40 km (20 km reflected), and light energy from telemeter EOD-1 received by photomultiplier FEU-17A. Joint consideration of the three sensitivity curves yielded a fourth that indicated maximum effectiveness between the wavelengths of 4200 and 6400 A. The determination of λ_{eff} (effective wavelength) was formulated mathematically first by calculating the effective refraction index n_{eff}

$$n_{eff}=\frac{\sum_{i=1}^{i=p} n_\lambda k_\lambda \Delta\lambda}{\sum_{i=1}^{i=p} k_\lambda \Delta\lambda}$$

where p is the number of wavelength increments corresponding to $\Delta\lambda$, n_λ is the refraction index for the interval, and k_λ is a relative sensitivity constant read from the fourth curve mentioned above. In turn the relationship

$$n_\lambda = 1 + A + \frac{3B}{\lambda^2} + \frac{5C}{\lambda^4}$$

was used to solve for the effective wavelength corresponding to the effective refraction index found. A,B, and C are dispersion coefficients. For the optical apparatus mentioned λ_{eff} was found to be 5270 Å. Similar theoretical and experimental results yielded λ_{eff} = 5570 and 5400 Å for photomultipliers FEU-70 and

ACCESSION NR: AP4033975

FEU-7 respectively. A schematic diagram of the experimental apparatus is presented. Orig. art. has: 4 equations and 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: ES NO REF SOV: 006 OTHER: 001

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RYABININ, Yu.N.; PETROV, V.P.; MARKOV, V.K.; LIVSHITS, L.D.; DELITSIN, I.S.

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