

KUZNETSOV, B. F.

The 2 STSN-6 sugar-beet planter for even seeding. Btut, takh,
-skom. Inform. Gos. nauch. (issl. inst. nauch. inform.
no.12:53-55 '62. (MIRA 16:1)
(Planters(Agricultural machinery))

SLUTSKER, Ya.I., inzh.; KUZNETSOV, B.F., inzh.

Precision beet-seed planter. Mashinostroenie no.3:96-98
My-Je '63. (MIRA 16:7)

1. Zavod "Krasnaya zvezda", g. Korovograd (for Slutsker).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokho-
zyaystvennogo mashinostroyeniya (for Kuznetsov).
(Planters(Agricultural machinery))

KUZNETSOV, B. G., Cand Med Sci -- (diss) "Concerning the Anatomy of the Intraorganic Ramifications of the Blood Vessels and of the Hepatic Bile Ducts in Man." Gorky, 1957. 15 pp, (Gork State Med Inst im S. M. Kirov), 200 copies. (KL, 7-58, 112)

- 50 -

USSR / Human and Animal Morphology (Normal and Pathological).
Circulatory System. Blood Vessels.

S

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2952

Author : Kuznetsov, B. G.

Inst : ~~Gor'kiy Medical Institute~~

Title : Anatomy of Intra-Organic Branchings of Afferent
Hepatic Blood Vessels and Their Relationship with
Bile Ducts and Hepatic Veins

Orig Pub : Uch. zap. Gor'kovsk. med. in-ta, 1957, vyp 1, 121-135

Abstract : The anatomy of intrahepatic vessels was studied on
81 specimens of liver by methods of corrosion and
roentgenovasography. The porta hepatis is represented
by the transverse sulcus together with the posterior
portion of the fossa venae umbilicalis. The shape of
the porta hepatis may be the open type (54.4%), closed

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APPROVED FOR RELEASE: 06/19/2000
USSR / Human and Animal Morphology (Normal and Pathological).
Circulatory System. Blood Vessels.

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2952

type (14%) or transitional type (31.6%). The division
of the portal vein into main branches may also be of
three types which reflects the various variants of the
joining of the umbilical and the portal veins of the
fetus; in the embryonal form the portal vein and the
terminal branch of the umbilical vein are joined by
an anastomosis, in the definitive form both veins join
to form a single trunk over the entire length, and in
the transitional form the veins join for a small dis-
tance only. The branching of the hepatic artery may be
of seven types, depending on the number of branches
and the amount of afferent vessels; in 1/3 of the cases,
the hepatic artery anastomoses with additional arteries
at the level of the hepato-duodenal ligament. The

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S

Д. УЗНЕ
KARAYEV, A.I.; AYVAZIAN, L.A.; KUZNETSOV, B.G.

Effect of stimulating pulmonary receptors on the glycogen, sugar,
and lactic acid content of the blood. Uch. zap. AGU no.6:63-71
'57. (MIRA 11:1)
(LUNGS--INNERVATION) (BLOOD--ANALYSIS AND CHEMISTRY)

KUZNETSOV, B.G., Cand Med Sci--(diss) "On the anatomy of ~~the~~ ^{ramifications} ~~the~~ ^{branching} intraorgan
of blood vessels and biliary ducts of the liver in humans."

Ivanovo, 1958. 16 pp (Ivanovo State Med Inst), 200 copies (IL,47-58,135)

71-

KARAYEV, A.I.; KUZNETSOV, B.G.

Effect of stimulating the receptors of salivary glands on the
sugar and lactic acid content of blood [in Azerbaijani with
summary in Russian]. Dokl.AN Azerb.SSR 14 no.11:905-916
'58. (MIRA 11:12)
(SALIVARY GLANDS--INNERVATION) (BLOOD--ANALYSIS AND CHEMISTRY)

KARAYEV, A.I.; GASANOV, G.I.; KUZNETSOV, B.G.

Effect of radioactive phosphorus (P^{32}) on the course and nature of
aseptic inflammation. Izv. AN Azerb. SSR. Ser. biol. i med. nauk
no.5:119-124 '60. (MIRA 14:9)
(PHOSPHORUS--ISOTOPES) (INFLAMMATION)

KUZNETSOV, B.G.

Effect of the removal and denervation of the pancreas on interoceptive reflexes (affecting) the sugar content of the blood.. Izv.AN Azerb.SSR.Ser.biol.i med.nauk. no.5:93-100 '62. (MIRA 15:9)
(PANCREAS--INNERVATION) (BLOOD SUGAR)

KUZNETSOV, B.G.

Effector role of pancreas in interoceptive metabolic reflexes.

Izv.AN Azerb.SSR.Ser.biol.i med.nauk no.6:97-100 '62.

(MIRA 15:12)

(REFLEXES) (PANCREAS)

KUZNETSOV, B.G.

Effect of previous glyceimic reactions on interoceptive metabolic reflexes. Trudy Sekt.fiziol.AN Azerb.SGR 7:115-119 '63.

(MIRA 17:10)

YESEPKINA, N.A.; PETRUN'KIN, V.Yu.; KUZNETSOV, B.G.; UMETSKIY, V.N.;
VASIL'YEV, B.A.

Space harmonics of the antenna pattern of the large Pulkovo radio
telescope. Izv. GAO 23 no.3:116-121 '64.

(MIRA 17:11)

PETRUN'KIN, V.Yu.; YESEPKINA, N.A.; KUZNETSOVA, G.V.; KUZNETSOV, B.G.

Effect of rotation of the principal cross sections of the directivity diagram of an antenna with a variable-profile reflector. Izv. GAO 23 no.3:160-161 '64.

(MIRA 17:11)

112-57-7-14566

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 7, p 118 (USSR)

AUTHOR: Kuznetsov, B. G.

TITLE: Automatic Regulation of Diesel-Locomotive Power
(Avtomaticheskoye regulirovaniye moshchnosti teplovozov)

PERIODICAL: V sb.: Materialy nauch. -tekh. soveshchaniya po tyagovomu
elektrooborudovaniyu (Collection: Materials of the Scientific and Engineer
Conference on Traction Electric Equipment), November, 1953, Riga,]
pp 88-93

ABSTRACT: A version of the automatic regulating system for the Diesel
on the second section of a TE-3 locomotive is described. (See Ref
zhurnal, Elektrotehnika, 1957, Nr 3504).

Card 1/1

Kuznetsov, B. G.

VASIL'YEV, V.A., inzhener; ~~KUZNETSOV, B.G., inzhener.~~

Electric equipment for the TE-3 diesel locomotive. Vest. elektroprom
28 no.1:21-29 Ja '57. (MIRA 10:4)

1. Khar'kovskiy elektroturbinnyy zavod, Ministerstva elektrotekhnicheskoy promyshlennosti.
(Diesel locomotives)

KUZNETSOV, Boris Grigor'yevich, inzh.; MITIN, Vladimir Ivanovich, inzh.;
DENISOVA, T.B., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Electric equipment of locomotives; operation and repair] Teplovoznaiia
elektroapparatura; ekspluatatsiia i remont. Moskva, Gos. transp. shel-
dor. izd-vo, 1958. 150 p. (MIRA 11:7)
(Locomotives—Maintenance and repair)

STEPANOV, Aleksandr Dmitriyevich; EZRIN, Grigoriy Semenovich; VERKHOLYAD, Vasilii Yefremovich; KUZNETSOV, Boris Georgiyevich; TRAKHTMAN, L.M., kand.tekhn.nauk, retsentsent; KAMENETSKIY, B.G., kand.tekhn.nauk, red.; NIKITIN, A.G., red.isd-va; MODEL', B.I., tekhn.red.

[Electric drive of diesel locomotives] Elektricheskaya peredacha teplovozov. Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit. lit-ry, 1959. 292 p. (MIRA 12:8)
(Diesel locomotives) (Electric driving)

PHASE I BOOK EXPLOITATION SOV/5293

Nauchno-tehnicheskaya konferentsiya po razvitiyu proizvoditel'nykh sil Khar'kovskogo ekonomicheskogo administrativnogo rayona, 1958.

Voprosy mashinostroyeniya; trudy konferentsii... (Problems of Machine Building; Transactions of the Scientific Technological Conference on the Development of Productive Forces of the Khar'kov Economic Administrative Region) no. 3. Kiyev, Izd-vo AN UkrSSR, 1960. 182 p. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainской SSR. Sovet po izucheniyu proizvoditel'nykh sil UkrSSR.

Editorial Board: Resp. Ed.: A.A. Vasilenko, Academician of the Academy of Sciences UkrSSR; A.A. Gorshkov, Corresponding Member, Academy of Sciences UkrSSR; I.M. Postnikov, Doctor of Technical Sciences; S.M. Kutsenko; A.I. Adamenko, Candidate of Technical Sciences; G.M. Davydov, Candidate of Economical Sciences; Ed. of Publishing House: S.D. Lepkiy; Tech. Ed.: R.A. Buniy.

PURPOSE: This collection of articles is intended for scientific personnel, engineers, technicians, sovnarkhoz workers, and planning organizations.

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Problems of Machine Building (Cont.)

SOV/5293

COVERAGE: The articles deal with problems in technology and techniques in the manufacture of engines, hydraulic turbines, diesel locomotives, tractors, combines, electrical machinery, etc. Considerable attention is given to the following: the development of various types of equipment used for automation in the coal industry; equipment development for the production and use of rectifiers; the development of new accessories for measuring and controlling heat-engineering parameters; and the introduction of advanced methods into founding and die forging. No personalities are mentioned. References accompany some of the articles. There are 20 references: 16 Soviet, 2 German, 1 French, and 1 English.

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Baranovskiy, A.M. [First Deputy Chairman of Gosplan for UkrSSR]. Problems in the Technological Progress of the National Economy in the Ukrainian SSR	5

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Problems of Machine Building (Cont.)

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Shneye, Ya. I. [Professor at the Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnical Institute)]. Present Trends in the Development of Gas Turbines 17

Proskura, G.F. (deceased) [Academician AS UkrSSR, Laboratoriya gidravlicheskiykh mashin AN UkrSSR (Hydraulic-Machinery Laboratory AS UkrSSR)], Hydrodynamic Principles in the Development of Hydraulic Turbines 27

Kuznetsov, B.G. [Deputy Chief Designer at the Khar'kovskiy zavod teplovoznogo elektrooborudovaniya (Khar'kov Plant for Electrical Equipment for Diesel Locomotives)]. Trends in the Development and Improvement of Drive Mechanisms in Diesel-Electric Locomotives 36

Glagolev, N.M. [Doctor of Technical Sciences at Khar'kov Polytechnical Institute]. The Present State of and Outlook for the Development of Engine Building 44

Koval', I.A. [Chief Designer at the GSKBD (Gosudarstvennoye Spetsial'noye Konstruktorskoye Byuro Dvigatelay - State Special Engine-Design Bureau) in the "Serp i Molot" Plant]. Work Done by the "Serp i Molot" Plant in Khar'kov and by Its GSKBD in the Design of New Tractor and Combine Engines 61

Card 3/7

Problems of Machine Building (Cont.)

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- Kashuba, B.P. [Chief Designer at the Khar'kovskiy traktorny zavod (Khar'kov Tractor Plant)]. The All-Purpose T-75 Caterpillar Tractor 68
- Garf, M.E., and O.Yu. Kramarenko [Candidates of Technical Sciences at the Institut liteynogo proizvodstva AN UkrSSR (Institute of Founding AS UkrSSR)]. Investigating the Dynamic Strength of Certain Constructions in the Tractor and Transportation Industries 75
- Postnikov, I.M. [Doctor of Technical Sciences at the Institut elektrotekhnik AN UkrSSR (Electrochemical Institute AS UkrSSR)]. Basic Prospects for Research in the Field of Design of New Types of Electric Machinery 87
- Perel'muter, M.M. [Candidate of Technical Sciences at the Khar'kov Branch of "Tyazhpromelektroproyekt"]. Prospects for the Development of Electric Drives 92

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Problems of Machine Building (Cont.)

SOV/5293

- Zil'berman, B.Z. [Candidate of Technical Sciences at the Khar'kov Branch of "Tyazhpromelektroproyekt"]. The Use of Computers for Planning Production Processes 96
- Sorochenko, V.Ye. [Chief Equipment Designer at the Khar'kovskiy elektromekhanicheskiy zavod (Khar'kov Electromechanical Plant)]. Trends in the Development of Electrical-Apparatus Manufacture at the Khar'kov Electromechanical Plant 99
- Yanchuk, G.M. [Candidate of Technical Sciences at Zavod "Krasnyy Metallist" (The Krasnyy Metallist Plant)]. Equipment for Automation in Coal Mining 105
- Ogan'yan, Ya.P. [Engineer at the Khar'kov Branch of "Tyazhpromelektroproyekt"]. The Use of Mechanical Rectifiers in Electrolytic Processes 115
- Lomakin, V.P. [Engineer at the Khar'kov Electromechanical Plant]. The Manufacture of Mechanical Rectifiers 127

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Problems of Machine Building (Cont.)

SOV/5293

- Didenko, K.I. [Chief Designer at the Zavod kontrol'no-izmeritel'nykh priborov (Control- and Measuring-Instrument Plant)]. The Development of New Accessories for the Measurement and Control of Heat-Engineering Parameters 131
- Gorshkov, A.A. [Corresponding Member AS UkrSSR, Institute of Founding AS UkrSSR]. The Introduction of Advanced Methods Into Founding 134
- Apatov, D.I. [Chief Metallurgist of the Mechanical Section of the Khar'kov Sovnarkhoz]. Methods for Raising the Technical Level and Development of Founding 141
- Malysh, Yu.I. [Chief Metallurgist for the Administration of Agricultural Machine Building at the Khar'kov Sovnarkhoz]. Trends in Mechanization and Automation in Foundries and the Reduction of the Manufacturing Cost of Castings 148
- Kharchenko, P.F. [Candidate of Economic Sciences at the Institut ekonomii AN UkrSSR (Institute of Economics AS UkrSSR)]. The Economic Effectiveness of Introducing New Methods in Founding 156

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SOV/5293

- Levitskiy, P.A. [Docent at the Khar'kov Polytechnical Institute]. Concentration and Specialization in Founding 164
- Kostin, L.G. [Docent at the Khar'kov Polytechnical Institute]. Prospects for the Introduction of Die Rolling Into the Mills of the Khar'kov Economic Region 170
- Khodosko, D.L. [Docent at the Khar'kov Polytechnical Institute]. Methods for Reducing the Manufacturing Cost of Forgings 177
- Fel'dman, I.I. [Docent at the Khar'kov Polytechnical Institute]. Problems in the Modernization of Press-Forging Equipment 180

AVAILABLE: Library of Congress

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VK/wrc/gmp
8-3-61

• KUZNETSOV, B.G.

PHASE I BOOK EXPLOITATION SOV/5518

Gakkel', Yekaterina Yakovlevna, Doctor of Technical Sciences, Vladimir Arsen'yevich Kozhevnikov, Engineer, Boris Georgiyevich Kuznetsov, Engineer, Andrey Vladimirovich Lapin, Candidate of Technical Sciences, Mikhail Andreyevich Nikulin, Candidate of Technical Sciences, and Grigoriy Semenovich Ezrin, Engineer.

Elektricheskiye mashiny i elektrooborudovaniye teplovozov (Electric Machines and the Electrical Equipment of Diesel-Electric Locomotives) Moscow, Transzheldorizdat, 1960. 218 p. 10,000 copies printed.

Ed. (Title page): Ye. Ya. Gakkel'; Ed.: N. M. Khutoryanskiy, Candidate of Technical Sciences; Tech. Ed.: Ye. N. Bobrova.

PURPOSE: This textbook was approved in 1958 by GUUZ (Glavnoye upravleniye uchebnymi zavedeniyami - Main Administration of Schools) of the Ministry of Railroads, for use by students in institutes of railroad transportation.

COVERAGE: The book examines the purpose, arrangement, and operation of the elements of electrical transmission in Diesel-electric (D-E)
Card ~~1/8~~

Electric Machines (Cont.)

SOV/5518

locomotives, and in auxiliary machinery and apparatus. Information on the structure of electrical machines and apparatus and examples of their design are given. The circuits of modern Soviet D-E locomotives including the new TE10 and TE50 locomotives, are described. The circuit of the TE-3 lot-produced D-E locomotive is examined in detail. Primary materials included in the book come from the texts of courses given by teachers of the Leningradskiy institut inzhenerov zheleznodorozhnogo transporta (Leningrad Institute of Railroad Transportation Engineers), and from the Khar'kovskiy zavod "Elektrot'yazhmash" (Khar'kov Heavy Electrical Machinery Plant). Chs. I and VII were written by Ye. Ya. Gakkel'; Ch. II by M. A. Nikulin and Ye. Ya. Gakkel'; Ch. III by A. V. Lapin; Ch. IV by G. S. Ezrin (sec. 7 by V. V. Strekopytov, Engineer); Ch. V by B. G. Kuznetsov (secs. 9 and 10 by Ye. Ya. Gakkel'); and Ch. VI by V. A. Kozhevnikov. The authors thank A. Ye. Alekseyev, Corresponding Member, AS USSR, K. I. Rudaya, Candidate of Technical Sciences, and A. D. Stepanov, Doctor of Technical Sciences, for their advice, and Ye. F. Kholmovskaya and I. F. Pushkarev, Engineers, and A. N. Korotkova, Laboratory Assistant, who helped with the manuscript. There are 29 references, all Soviet.

Card ~~2~~/8

KUZNETSOV, B.G., inzh.; MITIN, V.I., inzh.; NOVOSEL'SKIY, B.S.,
inzh., retsenzent; DENISOVA, T.V., inzh., red.;
BOBROVA, Ye.N., tekhn. red.

[Electrical equipment of diesel locomotives] Teplovoznaia
elektricheskaja apparatura. Izd.2., dop. Moskva, "Transport"
1964. 190 p. (MIRA 17:2)

KUZNETSOV, Boris Grigor'evich, 1903

KUZNETSOV, Boris Grigor'evich, 1903- Communism and future engineering.
Moskva, Izd-vo Akademii nauk SSSR, 1940. 66 p. (50-52975).

T26.R9K3

CA		PROCESSES AND PROPERTIES	
KUZNETSOV, B. G.		Kuznetsov, B. G.; Lomonosov, Lobachevskiy, Mendeleev. Moscow: Academy of Sciences. Printed by the 2nd Printing House of the Pub. House of the Academy of Sciences. 1946. 223 pp.; 22 R.	
ASB-3.4 METALLURGICAL LITERATURE CLASSIFICATION		CITATION NUMBER	
FORM NUMBER	ISSUE DATE	RELATIONS	ISSUE NUMBER
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

KUZNETSOV, B. G.

"The Sun, Life and Chlorophyll (25th Anniversary of the Death of K. A. Timiriazev) (p. 137)
by Komarov, V. L., Maksimov, N. A. and Kuznetsov, B. G. (Moscow)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XIX, No. 2, 1945.

[Faint, illegible handwritten text]

KUZNETSOV, Boris Grigor'evich, 1903

KUZNETSOV, Boris Grigor'evich, 1903 The patriotism of Russian naturalists and their contribution to science. Moskva, 1949. 228 p. (Istoricheskaia seriia, No. 37) (50-29813)

Q127.39K78

KUZNETSOV, B. G.

Kuznetsov, B. G. - "The phasic development theory and some general problems in the history of natural science," *Izvestiya Akad. nauk SSR, History and philosophy series*, 1949, No. 1, p. 52-69

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

KUZNETSOV, B. G.

23926

KUZNETSOV, B. G. Oprioritete Lomonosova V Otkrytii Zakona Sokhraneniya
Energii. Izvestiya Akad. Nauk SSSR Seriya Istorii I Filosofii, 1949,
No. 3, S. 201-08.

SO: Letopis, No. 32, 1949.

KUZNETSOV, B. G.

"I. P. Pavlov and the Effectiveness of the Soviet System," Byul. Mosk. Obshch. Ispytat. Prirody, Otdel Biol. (Bulletin of the Moscow Society of Naturalists, Biological Section), 54, No. 5, 1949.

KUZNETSOV, BORIS GRIGOREVICH.

(What the Russian natural scientists contributed to science. Tr. from the Russian.)

Praha, Czechoslovakia, 1951.

Monthly list of EAST EUROPEAN ACCESSIONS (EEAI), LC, Vol. 8, No. 7, July 1959, Unclas.

~~KUZNETSOV, Boris Grigor'evich, 1903~~

KUZNETSOV, Boris Grigor'evich, 1903 The patriotism of Russian Naturalists and their contribution to science. Izd. 2., ispr. i dop. Moskva, 1951. 272 p. map. (52-34156)

2127.R9K78 1951

KUZNETSOV, Boris Grigor'evich, 1903-

Frederic Joliot-Curie, scientist and fighter for peace Moskva, Gos. izd. kul'turno-prosvetitel'no' lit-ry, 1952. 78 p. (52-67845)

QC16.J65K8

KUZNETSOV, B.G.

S.I.Vavilov as a science historian. Trudy Inst.ist.est. 4 :5-17 '52.
(MLBA 6:7)
(Vavilov, Sergei Ivanovich, 1891-)

KUZNETSOV, B.G.

The problem of the earth's real movement in Galilei's "Dialogue."
Trudy Inst. ist. est, i tekhn. no.1:249-266 '54. (MIRA 8:9)
(Galilei, Galileo, 1564-1642)

KUZNETSOV, B.G.; FIGUROVSKIY, N.A., professor, redaktor; VESMLOVSKIY,
I.N., redaktor; ZEMLYAKOVA, T.O., tekhnicheskij redaktor.

[The evolution of scientific concepts on the universe in 17th
to 18th century physics] Razvitie nauchnoi kartiny mira v
fizike XVII-XVIII vv. Moskva, Izd-vo Akademii nauk SSSR. 1955.
343 p. (MIRA 8:12)

(Physics)

KUZNETSOV, B. G.

"Maxwell's Electro-dynamics" from Works of the Historical Inst. on Natural Sciences and Engineering, Vol. 5, p. 136, 1955.

ZUBOV, Vasilii Pavlovich; ~~KUZNETSOV, B.G.~~, otvetstvennyy redaktor; PEREL', Yu.G., redaktor isdatel'stva; ASTAF'YEVA, G.A., tekhnicheskiy redaktor

[Historiography of the natural sciences in Russia; from the 18th to the middle of the 19th century] Istorografiia estestvennykh nauk v Rossii; XVIII v. - pervaya polovina XIX v. Moskva, Izd-vo Akademii nauk SSSR; 1956. 575 p. (MLBA 9:10)
(Science--History)

KUZNETSOV, Boris Grigor'evich; KOROVIN, G.M., redaktor; MURASHOVA, N.Ya.,
tehnicheskii redaktor

[Lomonosov's creative career] Tvorcheskiy put' Lomonosova. Moskva,
Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 380 p. (MLRA 10:3)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

KUZNETSOV, B.G.

KOMAROV, V.L., akademik; pod nablyudeniym akademika N.A.Maksimova,
B.K.Shishkina, S.Yu.Lipshitsa, A.G.Chernova; KUZNETSOV, B.G.,
red.; ENCHMEN, E.S., red.; AUZAN, N.P., tekhn.red.

[Selected works] Izbrannye sochineniia. Moskva, Izd-vo Akad.
nauk SSSR. Vol.11. 1948. 707 p. (MIRA 11:1)

1. Chlen-korrespondent AN SSSR (for Shishkin).
(Science)

KUZNETSOV, BORIS GRIGOR'EVICH

KUZNETSOV, Boris Grigor'evich, prof.; LARIN, S.M., red.; KADER, Ya.M.,
~~rod.izd-va~~; MEDNIKOVA, A.H., tekhn.red.

Dmitrii Ivanovich Mendeleev. Moskva, Voen.izd-vo M-va obor. SSSR,
1957. 69 p. (MIRA 11:2)
(Mendeleev, Dmitrii Ivanovich, 1834-1907)

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KUZNETSOV B.G.
GRIGOR'YAN, A.T.; KUZNETSOV, B.G.

"Selected works on natural sciences" by Leonardo da Vinci. Vop. 1st.
est. i tekhn. no. 3: 247-251 '57. (MIRA 11:1)
(Vinci, da, Leonardo, 1452-1519)

KUZNETSOV, B. G.

AUTHOR: None given 26-10-39/44

TITLE: A Brief Review of New Books (Korotko o novykh knigakh)

PERIODICAL: Priroda, 1957, No 10, pp 122-123 (USSR)

ABSTRACT: "Nuclear Processes in the Stars", a collection of lectures given at Liege in September 1953. No author.
I.I. Revizin, "Plastic Materials in Medicine"
V. Glazer, "Principles of Electronic Optics" (Transl. fr. German)
E. Birshtekher, "Microbiology of Crude Oil" (Transl. fr. English)
B.G. Kuznetsov, "Principles of the Theory of Relativity and Quantum Mechanics in their Historical Development"
G.B. Alterman; A.M. Zharskiy; P.A. Krivkov; F.V. Nevolin, "Production of Synthetic Fat Acids, Alcohols and Fat Substitutes in the Soviet Zone of Germany."
M.P. Bedinggauz, "Preserving Natural Colors in Plant Drying".
Jim Corbett, "The Cannibals of Kumaon" (Transl. fr. English)

AVAILABLE: Library of Congress
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KUZNETSOV, B.G.

Genesis and development of the special theory of relativity.
Trudy Inst.ist.est.i tekhn. 17:363-388 '57. (MLRA 10:7)
(Relativity (Physics))

~~KUZNETSOV, B.G.~~

Development of the study of electricity in Russian science of the
18th century, Trudy Inst. ist. est. i tekhn. 19:313-385 '57.
(Electricity--Research--History) (MIRA 11:2)

KUZNETSOV, B.G., professor.

Scientist and revolutionary; on G.M.Krshishanovskii's 85th birthday.
Priroda 46 no.1:47-48 Ja '57. (MLBA 10:2)
(Krshishanovskii, Gleb Maksimilianovich, 1862-)

KUZNETSOV, B.G.

AUTHORS: Grigor'yan, A.T., Dorfman, Ya.G. and Kuznetsov, B.G 3-5-34/38

TITLE: A Serious Work on the History of Physics (Ser'yeznyy trud po istorii fiziki)

PERIODICAL: Vestnik vysshey shkoly, 1957, Nr 5, pp 87-90 (USSR)

ABSTRACT: This article is a review of a new book, published in 1948 by Uchpedgiz, "The History of Physics" (Istoriya fiziki) by P.S. Kudryavtsev. The first volume of this book appeared in 1948. Now a second edition of Volume I and a second volume have been published simultaneously. The critics state that this book is a great and useful work and constitutes a serious attempt to cover the history of physics. It must therefore be considered as a valuable contribution to Soviet science literature. The first volume of the new edition shows some improvements compared with its first edition, but there are also a number of shortcomings, in particular, in the periodization, and in the composition and distribution of illustrations. The second volume is very much appreciated by the critics because of the great importance of contribution of Russian scientists which is given great prominence. There are however some faults.

Card 1/2

A serious Work on the History of Physics

3-5-34/38

ASSOCIATION: The Institute of History and Natural Science and Technics, AN
USSR (Institut istorii yestestvoznaniya i tekhniki AN SSSR)

AVAILABLE: Library of Congress

Card 2/2

KUZNETSOV, Boris Grigor'iyevich; POLAK, L.S., otvetstvennyy red.; LARIN, S.M.,
red, izd-va; MAKUNI, Ye.V., tekhn. red.

[Principles of classic physics] Printsipy klassicheskoi fiziki.
Moskva, Izd-vo Akad. nauk SSSR, 1958. 322 p. (MIRA 11:3)
(Physics)

YEREMEYeva, S.I.; VINOKUR, M.M.; NIKOLAYEV, D.S.; RAYEVSKAYA, M.A.; KAUFMAN, I.M., red.; CHERNYAK, A.Ya., red.; KUZNETSOV, B.G., prof., nauchnyy red.; KHELEMSKAYA, L.M., tekhn. red.

[Great physicists of the world; a bibliography] Vydaiushchiesia fizi-ki mira; rekomentadl'nyi ukazatel'. Moskva, 1958. 435 p.

(MIRA 11:8)

1. Moscow. Tsentral'naya politekhnicheskaya biblioteka.
(Bibliography--Physicists)

~~KUZNETSOV, Boris-Grigoriyevich; FAYNBOYM, I.B., red.; SAVCHENKO, Ye.V.,
tekh.red.~~

[Albert Einstein; on the 80th anniversary of his birth] Al'bert
Einshtein; k 80-letiiu so dnia rozhdeniia. Moskva, Izd-vo
"Znanie," 1959. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniui
politicheskikh i nauchnykh znani. Ser.9, Fizika i khimiia, no.18)
(MIRA 12:9)

(Einstein, Albert, 1879-1955)

KUZNETSOV, Boris Grigor'yevich; GRIGOR'YAN, A.T., otv.red.; LARIN, S.I.,
~~red. izd-va; SHEVOLENKO, G.N., tekhn.red.~~

[Principle of relativity in ancient, classical, and quantum
physics] Printsip otnositel'nosti v antichnoi, klassicheskoi
i kvantovoi fizike. Moskva, Izd-vo Akad.nauk SSSR, 1959.
231 p. (MIRA 12:9)

(Relativity (Physics))

ARTOBOLVSKIY, I.I., akademik; KUDRYAVTSEV, P.S., prof.; OGORODNIKOV, K.F.,
prof.; RZHONSNITSKIY, B.N., kand. tekhn. nauk; DOROGOV, A.A., kand.
tekhn. nauk; VASIL'YEV, I.G., kand. tekhn. nauk; ISLAMOV, O.I., kand.
geol.-miner. nauk; LEONOV, N.I., prof.; RANKEVICH, Ye.A., doktor geol.-
miner.nauk; KUZNETSOV, B.G., prof.; MARIYENBAKH, L.M., prof.;
RUBINSHTEYN, M.I., prof.; KALMYKOV, K.F., kand. biol. nauk;
KONFEDERATOV, I.Ya., prof.; KOZLOV, A.G.; ZUBOV, V.P., prof.;
IMSHINETSKIY, A.A.; DORFMAN, Ya.G., prof.; SHUKHARDIN, S.V., kand.
tekhn.nauk; KEDROV, B.M., prof.; DANILEVSKIY, V.V., akademik; SHATSKIY,
N.S., akademik; BYKOV, K.M., akademik.

Speeches. Vop. ist. est. i tekhn. no.6:111-141 '59.

(MIRA 12:6)

1.Chlen-korrespondent AN SSSR (for Imshinetskiy). 2. AN USSR
(for Danilevskiy).

(Science) (Technology)

KUZNETSOV, B.G.

Ways of developing a quantum-relativistic logic. Trudy Inst. ist.
est. 1 tekhn. 22:69-105 '59. (MIRA 12:10)
(Quantum theory)

KUZHETSOV, B.G.; FRANKFURT, U. I.

History of the law of the conservation and transformation of
energy. Trudy Inst.ist.est.i tekhn. 28:339-376 '59.

(MIRA 13:5)

(Force and energy)

KUZNETSOV, B.G., otv.red.; GRIGOR'YAN, A.T., otv.red.; LARIN, S.I.,
red.izd-va; GOLUB', S.P., tekhn.red.

[History of French science; a collection of articles] Iz istorii
frantsuzskoi nauki; sbornik statei. Moskva, 1960. 180 p.
(MIRA 13:9)

1. Akademiya nauk SSSR. Institut istorii yestestvoznaniya i
tekhniki.

(France--Science)

LAPIROV-SKOBLO, Mikhail Yakovlevich; KUZNETSOV, B.G., red.

Edison. Moskva, Molodaia gvardiia, 1960. 252 p. (Zhizn' same-
chatel'nykh liudei. Ser.biografii, no.15(305)).

(MIRA 14:7)

(Edison, Thomas Alva, 1847-1931)

PHASE I BOOK EXPLOITATION

SOV/4048

Kuznetsov, Boris Grigor'yevich

Besedy o teorii otноситel'nosti (Discussions on the Theory of Relativity)
Moscow, Izd-vo AN SSSR, 1960. 222 p. (Series: Akademiya nauk SSSR.
Nauchno-populyarnaya seriya) Errata slip inserted. 50,000 copies printed.

Ed.: I.I. Artobolevskiy, Academician; Ed. of Publishing House: S.I. Larin:
Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for intelligent laymen and scientists who wish
to gain an insight into the theory of relativity.

COVERAGE: The book discusses the special and general theories of relativity and
the physical data necessary to comprehend them. In addition, several applica-
tions of the theory of relativity to atomic and nuclear physics are presented.
No personalities are mentioned. There are no references.

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Discussion on the Theory of Relativity

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- 1. Space and time in moving inertia systems
- 2. Conserving the duration and delay of time
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V. Gravity

- 1. Principle of equivalence
- 2. Curvature of space and time
- 3. Experimental verification of the general theory of relativity
- 4. The world as a whole

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216

AVAILABLE: Library of Congress

Card 3/3

AC/rn/gmp
8-12-60

KUZNETSOV, B.G., MATVEYEV, A.N. [translator]

"Quantum field theory" by H. Umezawa. Reviewed by B.G. Kuznetsov. Vop.ist.est.i tekhn. no.9:159-160 '60.

(MIRA 13:7)

(Quantum field theory)
(Umezawa, H.)

FRANKFURT, Usher Ioynovich; KUZNETSOV, B.G., otv. red.; LARIN, S.I., red.
izd-va; VOLKOVA, V.V., tekhn. red.

[Essays on the history of the special theory of relativity]
Ocherki po istorii spetsial'noi teorii otnositel'nosti. Mo-
skva, Izd-vo Akad. nauk SSSR, 1961. 193 p. (MIRA 14:10)
(Relativity)

KUZNETSOV, B.G.

M.V. Lomonosov's scientific conceptions. Izv. Sib. otd. AN
SSSR no.11:12-18 '61. (MIRA 15:1)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

KUZNETSOV, B.G., prof.

Physics and lyrics in Lomonosov's work. Nauka i zhizn' 28
no.11:68-69 N '61. (MIRA 14:12)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

KUZNETSOV, Boris Grigor'yevich; LARIN, S.I., red. izd-va; GUSEVA,
A.P., tekhn. red.

[Einstein] Einshtein. Moskva, Izd-vo Akad. nauk SSSR, 1962.
405 p. (MIRA 15:6)

(Einstein, Albert, 1879-1955)

KUZNETSOV, Boris Grigor'yevich; LARIN, S.I., red. izd-va; RYLINA, Yu.V.,
tekhn. red.

[Evolution of the fundamental concepts of electrodynamics]Evo-
lyutsia osnovnykh idei elektrodinamiki. Moskva, Izd-vo Akad.
nauk SSSR, 1963. 292 p. (MIRA 16:2)

(Electrodynamics)

KUZNETSOV, Boris Grigor'yevich; LARIN, S.I., red. izd-va; GUSEVA,
A.P., tekhn. red.

[Einstein] Einstejn. 2. izd., ispr. i dop. Moskva,
Izd-vo Akad. nauk SSSR, 1963. 412 p. (MIRA 16:7)
(Einstein, Albert, 1879-1955)

KUZNETSOV, Boris Grigor'yevich; LARIN, S.I., red. 1zd-va; LAUT,
V.G., tekhn. red.

[Development of physical ideas from Galileo to Einstein
in the light of modern science] Razvitie fizicheskikh
idei ot Galileia do Einshteina v svete sovremennoi nauki.
Moskva, Izd-vo Akad. nauk SSSR, 1963. 510 p.

(MIRA 16:6)

(Physics--Research)

KUZNETSOV, Boris Grigor'yevich; ARTOBOLVSKIY, I. I., akademik,
otv. red.; LARIN, S. I., red. izd-va; GUSEVA, A. P., tekhn.
red.

[Talks on theory of relativity] Besedy o teorii otnositel'-
nosti. Izd. 2. Moskva, Izd-vo AN SSSR, 1963. 219 p.
(MIRA 16:9)

(Relativity (Physics))

KUZNETSOV, Boris, Origor'yevich, prof.; FAYNBOYM, I.B., red.;
RAKITIN, I.T., tekhn. red.

[Physics and logic] Fizika i logika. Moskva, Izd-vo
"Znanie," 1964. 30 p. (Novoe v zhizni, nauke, tekhnike.
Seria 9: Fizika, matematika, astronomia, no.1)
(MIRA 17:2)

KUZNETSOV, B.G., otv. red.

[Development of modern physics] Razvitie sovremennoi fiziki. Moskva, Nauka, 1964. 3 p. (MIRA 17:10)

3. Akademiya nauk SSSR. Institut istorii yestestvoznaniya i tekhniki.

KUZNETSOV, B.G., prof.; POMERANCHUK, I.Ya., akademik; SMORODINSKIY, Ya.A., prof.; TAMM, I.Ye., akademik; SHAPIRO, I.S., prof.; CHERNOV, A.G.; FAYNBOM, I.B., red.

[Problems in the theory of elementary particles; fourth talk] Problemy teorii elementarnykh chastits, beseda chetvertaia. V besede uchastvuiut: L. Kuznetsov i dr. Moskva, Izd-vo "Znanie," 1964. 24 p. (Novoe v zhizni, nauke, tekhnike. IX Seria: Fizika, matematika, astronomia, no.20) (MIRA 17:10)

GOL'DANSKIY, V.I.; KUZNETSOV, B.G., prof.; MIGDAL, A.B.; FRANK, I.M.; CHERNOV,
A.G.; FAYNBOY, I.B., red.
[The constitution of matter; first talk] Stroenie veshchestva;
beseda pervaya. [By] V.I. Gol'danskiy i dr. Moskva, Izd-vo "Znanie,"
1964. 38 p. (Novoe v zhizni, nauke, tekhnike. IX Seriya: Fizika,
matematika, astronomia, no.5) (MIRA 17:5)

1. Chleny-korrespondenty AN SSSR (for Gol'danskiy, Migdal, Frank).

KUZNETSOV, Boris Grigor'yevich

[Essays on Einstein] Etiudy ob Einshteine. Moskva, Nauka,
1965. 381 p. (MIRA 18:11)

L 11092-66 EWT(1)/T/FBD GW/WS-2/WR
ACC NR: AP6027233 SOURCE CODE: UR/0109/66/011/008/1405/1412

AUTHOR: Yesepkina, N. A.; Kaydanovskiy, N. L.; Korol'kov, D. V.; Kuznetsov, B. G.; Khaykin, S. E.

ORG: none

TITLE: Effects of atmosphere on characteristics of small radio telescopes ^{SS} _B

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1405-1412

TOPIC TAGS: radio telescope antenna, radar antenna, *ATMOSPHERIC PROPERTY; RADIO WAVE ABSORPTION*

ABSTRACT: A study is conducted of atmospheric effects on the performance of a high-resolution radio telescope antenna with a variable profile. Factors influencing the antenna dimensions, such as wavefront phase distortions, existence of a gradient of index of refraction, and radio wave absorption in the ground layer of the atmosphere are considered. It is noted that phase distortion can be minimized if the average radius of curvature of the reflector is much greater than the height of irregularities in the atmosphere. By assuming a 10^{-4} relative accuracy of the antenna reflecting surface and mean atmospheric conditions, antenna gain was calculated for various azimuth angles. Nearly optimal performance conditions were found for the vertical dimensions of a reflector equal to $0.5 \times 10^3 \lambda$, and horizontal dimensions of an antenna chosen to make the attenuation equal to 30%. With such a choice of

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UDC: [522.2:523.164]+621.371.24

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ACC NR: AP6027233

dimensions, the effective area of the antenna is 2×10^5 , 1.3×10^4 , 0.9×10^3 m²
for $\lambda = 10, 3$ and 1 cm, respectively. Orig. art. has: 6 figures and 2 formulas. [IV]

SUB CODE: 09, 17/ SUBM DATE: 12Apr65/ ORIG REF: 012/ OTH REF: 003/ ATD PRESS: 5052

Card 2/2 hs

KUZNETSOV, Boris Grigor'yevich

[Talks on the theory of relativity] Besedy o teorii ot-
nositel'nosti. 3. izd. Moskva, Nauka, 1965. 221 p.
(MIRA 18:3)

30426
S/109/61/006/012/001/020
D266/D305

9.1911 (1127)

AUTHORS: Yesepkina, N.A., Kaydanovskiy, N.L., Kuznetsov, B.G.,
Kuznetsova, G.V., and Khaykin, S.E.

TITLE: Investigating the radiation pattern of highly direc-
tive antennas whose reflecting surface is adjustable

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 12, 1961,
1947 - 1960

TEXT: The purpose of the paper is to derive mathematical expressi-
ons for the radiation pattern and for the effective area of a cer-
tain class of antennas. The antenna investigated consists of a lar-
ge number of elements (rectangular metal plates of height h and
width a) whose position and inclination are adjustable. The elements
are in no mechanical contact with each other which facilitates grea-
ter accuracy of manufacturing. They can be adjusted in such a way
that the main lobe of the vertical radiation pattern is in a speci-
fied direction (θ_0 in Fig. 1). This condition is satisfied if the
radius vector of O the center of the elements is given by the follow-

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Investigating the radiation pattern ... D266/D305

ing formula

$$\rho = \frac{p}{1 + \cos \theta_0 \cos \varphi} = \frac{R_0 - a_0 \cos \theta_0}{1 + \cos \theta_0 \cos \varphi} \quad (1)$$

where p - constant, φ - angle between the radius vector and the x axis (see Fig. 1). If $0 < \theta_0 < \pi/2$ (1) represents an ellipse, for $\theta_0 = 0$ a parabola, and for $\theta_0 = \pi/2$ a circle. It follows from (1) that the distance between the primary source and the reflector depends also on θ_0 . The inclination of the metal plates is determined by the angles β and χ (see Fig. 1) which are related to θ_0 and as follows

$$\sin \beta = \frac{\sin \theta_0}{\sqrt{2(1 + \cos \theta_0 \cos \varphi)}} \quad (3)$$

and

$$\tan \chi = \frac{\sin \varphi}{\cos \theta_0 + \cos \varphi} \quad (4)$$

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Investigating the radiation pattern ... S/109/61/006/012/001/020
D266/D305

In a plane perpendicular to the direction of the main lobe, the waves are in phase (this must be always the case because the antenna was designed according to this criterion) and the shape of the illuminated area in this plane is an incomplete ring. The distribution of the electric field (both polarizations are present) in the aperture is calculated by geometrical optics and the far field is obtained with the aid of wave optics. The arising integrals are integrated out leading to an infinite series of Bessel functions of the first kind. The radiation pattern is calculated for the reflector current as well. No analytical solutions are found in this case, but some numerical calculations indicate similar results to those obtained by the aperture method. Aperture efficiency is also determined and monotonically decreasing function of θ is found. In conclusion the authors express their gratitude to V.B. Braude for his assistance. There are 15 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: S. Silver, Microwave Antenna Theory and Design, M.I.T. Rad. Lab. Series.

SUBMITTED: February 22, 1961
Card 3/0 3

KUZNETSOV, B. G., Cand of Phys-Math Sci -- (diss) "Generalized Virtual Permutations,"

Tomsk, 1959, 4 pp (Tomsk State University im V. V. Kubyshev) (KL- 7-60, 106)

KUZNETSOV, B. G. (Tomsz)

"On Variational Methods in Gas Dynamics."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

S/124/61/000/012/019/038
D237/D304

AUTHOR: Kuznetsov, B. G.
TITLE: On Beutmann's second variational principle
PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 12, 1961,
51, abstract 12B326 (Tr. Tomskogo un-ta, 1959,
144, 117-124)

TEXT: A steady motion is considered of non-viscous gas in some region of n -dimensional space, when the surface of discontinuity may be contained within that region, and it is assumed that the boundary problems emerging during investigation of such flows are equivalent to some variational problems. This enables a formal generalization of some results, true for 2- and 3-dimensional gas flows, to n -dimensional gas flows. In particular, the hypothesis of Yu. V. Rudnev (Dokl. AN SSSR, 1948, 59, no. 5) on plane vortex motions is generalized to n -dimensional gas flows and to flows with a variable resistance pressure. [Abstracter's note: Complete translation.] ✓

Card 1/1

Chair of Theoretical Mechanics, Tomsk State U.

YESEPKINA, N.A.; KUZNETSOV, B.G.; KHAYKIN, S.E.

Effect of fluctuations of the atmospheric refraction index on
the characteristics of superlarge antennas. Izv. GAO 23 no.3:
155-159 '64. (MIRA 17:11)

DORIN, V.A.; KUZNETSOV, B.I.

Device for perforating orifices in electron microscope preparation
sieves. Zav.lab. 29 no.8:1012 '63. (MIRA 16:9)

1. Leningradskiy fiziko-tekhnicheskii institut imeni A.F. Ioffe
AN SSSR.

(Electron microscopy)

L 12933-63

EWT(1)/FBD/FCC(w)/BDS/EEC-2/EED-2/ES(v)

AFFTC/AFMDC/APGC/ASD/

ESD-3 Pa-4/Pi-4/Pj-4/Pk-4/Pl-4/Pm-4 PT-2/GW/WR

ACCESSION NR: AP3003845

S/0020/63/151/003/0532/0535

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102

AUTHOR: Kotel'nikov, V. A. (Academician); Dubrovin, V. M.; Dubinskiy, B. A.; Kislak, M. D.; Kuznetsov, B. I.; Lishin, I. V.; Morozov, V. A.; Petrov, G. M.; Rzhiga, O. N.; Sy*tsko, G. A.; Shakhovskoy, A. M.

TITLE: Radar observations of Venus in the Soviet Union in 1962

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 532-535

TOPIC TAGS: radar observation, Venus observation, average reflected signal spectrum, reflection coefficient, broadband component, frequency-modulated reflected signal, reflected signal envelope, noise envelope

ABSTRACT: From 20 October to 21 December 1962, radar observations of Venus were made, each of a duration of 4.5 to 7 min. The radar employed was the same used in 1961 observations but with its sensitivity improved by a factor of 6 by means of a paramagnetic ruby amplifier placed at the receiver input and through an increase in transmitter power. In order to eliminate the average noise level in the received signal, the frequency of the transmitted signal was shifted 62.5 cps every 4.096 sec. The frequency spectrum of the reflected signals was recorded on magnetic tape and investigated by means of a 20-channel analyzer. The average

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spectrum of reflected signals plotted on the basis of the sum of measurements at both frequencies radiated by the transmitter is shown in Fig. 1a of Enclosure. The spectrum was analyzed by filters with a passband of 1 cps. The frequency values of analyzer filter tunings f in relation to the frequency of central filter f_0 are plotted along the abscissa, while value p , representing the ratio of reflected signal power in each filter band to the signal power in the central filter band, is plotted along the ordinate. Dotted lines show the RMS value of measurement errors caused by noise. Except for the central filter, which yields a higher signal level, the reflected signal spectrum may be approximated by the exponential function

$$p = 0.37 \exp(-0.42|f-f_0|).$$

The reflection coefficient of Venus measured on the basis of reflected signal energy within 20 cps varied during the two-month period between 12 and 18%. In the 1-cps band reflected energy was lower than total energy by a factor of 2.5 to 3. The spectrum of the broadband component of the reflected signal observed previously was also observed. Here the transmitted signal consisted of constant periodic transmissions whose frequencies differed from each other by 2000 cps and whose duration was 4.096 sec. The analyzer filter passband was 100 cps. The measurements showed a strong probability of the presence of the broadband component

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ACCESSION NR: AP3003845

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in the 300-cps band. The average spectrum of frequency-modulated reflected signals which was analyzed by filters with passbands of 1 and 4 cps is shown in Fig. 1b. The same quantities as in Fig. 1a are plotted along the coordinate axes, and range axis ΔR is indicated under the assumption that the spectrum maximum corresponds to reflection at a point situated at the shortest distance from Earth in the center of the visible disk of Venus. The data of Fig. 1b may be approximated by the hyperbola

$$p = 0.625 (f - f_0 + 0.625)^{-1}.$$

Fig. 2a shows the diagram of the envelope of the reflected signal obtained on 24 November 1962 during a 4.5-min study of the unmodulated carrier. The receiving channel passband was 6 cps before the linear detector, and the integrating circuit time constant was 6 sec after it. For comparison, Fig. 2b shows the noise envelope diagram for an analogous channel shifted a frequency by 62.5 cps containing no signal. "The authors thank the following persons for their assistance: L. V. Apraksin, R. S. Bondarenko, V. O. Voytov, M. M. Dedlovskiy, N. M. Dmitriyev, V. S. Dovgello, V. I. Krivda, V. M. Mekhorin, G. A. Podoprigora, H. M. Sinodkin, G. I. Slobodenyuk, Z. G. Trunova, A. V. Frantsesson, and D. M. Tsvetkov."
Orig. art. has: 4 figures and 2 formulas.

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Institute of Radio Engineering and Electronics

L: 14255-63 EWT(1)/FBD/FCC(w)/BDS/ECC-2/EED-2/ES(v) AFFTC/APGC/ASD/
ESD-3 Pe-4/Pi-4/Pj-4/Pk-4/Pl-4/Pm-4 PL-2/WR

ACCESSION NR: AP3004417

S/0020/63/151/004/0811/0814 09
98

AUTHOR: Kotel'nikov, V. A.; Dubrovin, V. M.; Dubinskiy, B. A.; Kislik, M. D.;
Kuznetsov, B. I.; Petrov, G. M.; Rabotyagov, A. P.; Rzhiga, O. N.; Shakhovskoy,
A. M.

TITLE: Radar observations of the planet Mars²⁴ in the Soviet Union

SOURCE: AN SSSR. Doklady*, v. 151, no. 4, 1963, 811-814

TOPIC TAGS: Mars radar observations, Mars reflected-signal spectrum, Mars Doppler-frequency shift, Mars rotation time, Mars reflection coefficient

ABSTRACT: Radar observations¹² of Mars' northern hemisphere from 14°30' to 14° latitude and from 310 to 360° and from 0 to 140° longitude were carried out in the Soviet Union on 6-10 February 1963 at a frequency of approximately 700 Mc. The polarization of radiated waves was circular, with antenna polarization changing to linear during reception. The energy of the signal incident on the visible surface of Mars was 1.2 v. Both transmission and reception lasted approximately 11 minutes. The signal had the shape of alternate rectangular transmissions and intervals of a duration of 4.096 sec each, at two frequencies

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differing by 62.5 cps. The signals were recorded on a magnetic tape together with a 2000-cps oscillation, which served as a scale. Receiver sensitivity was calibrated before and after operation on the basis of Cassiopeia-A discrete-source radiation. The correction for frequency shift due to the Doppler effect was regulated by an electronic digital frequency meter. In all, 99 observations were made, and the signal reflected from Mars was reliably detected on the nights of February 7—8 (28 observations) and February 8—9 (20 observations). The results of spectral analysis of these 48 observations, carried out with 4-cps filters and a storage time of 8.5 hr, are shown in Fig. 1 of the Enclosure. In the reflected signal spectrum, there is a narrowband component whose energy exceeded by 4 times the RMS measurement error caused by noise. The average reflection coefficient, determined as the ratio of the reflected-signal energy to received-signal energy under the assumption that Mars was an even, ideally conductive sphere, was found to be 7%. "The authors thank L. V. Apraksin, V. O. Voytov, M. M. Dadlovskiy, G. A. Zhurkina, A. M. Lukin, M. M. Sinodkin, B. A. Stepanov, A. V. Frantsesson, D. M. Tavetkov, and I. A. Sharabarin for their assistance." Orig. art. has: 3 figures, 1 table, and 1 formula.

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... the values obtained for the astronomical ... and the radar frequency em-
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ABSTRACT: The radar ranging of Jupiter was undertaken in order to investigate the propagation of radiowaves over long distances, and for the determination of reflecting properties of Jupiter's surface. The power received by the planet's surface was 13 w. The time for double passage of the signal was 1 hr, 6 sec, and the frequency was about 700 mc. Two consecutive signals differed by 62.5 cycles. The duration of the signals and the pauses was about 4 sec. The Doppler effect caused by the relative motion and rotation of Earth was compensated by an arrangement which linearly changed the heterodyne of the sender. The noise was

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automatically subtracted from the accumulated signal during the absence of the signal. The reflection coefficient of Jupiter was found to be about 10%. "The authors are grateful to B. A. Dubinskiy, G. A. Zhurkina, Yu. N. Marokhovskiy, G. A. Simonor, D. M. Tsvetkov, and V. F. Chernov for participation in the preparation and in making the measurements." Orig. art. has: 1 figure.

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