DOBROVOL'SKIY, N.N.; ZARIF'YANTS, Yu.A.; KISELEV, V.F.; LEZHNEV, N.N.;
    FEDOROV, G.G.

    Properties of the surface of a freshly  left graphite. Part 4.
    Zhur. fiz. khim. 38 no.2:506-509  F '64.            (MIRA 17:8)

    1. Moskovskiy gosudarstvennyy universitet Nauchno-issledovatel'-
    skiy institut shinnoy promyshlennosti.

LEZHNEV, N.N.; KOZYREV, B.M.; GARIF'YANOV, N.S.; RYZHMANOV, Yu.M.;
NOVIKOVA, I.S.

Probable mechan'sm underlying the reaction of carbon black with
phenyl-2-naphthylamine and mercaptobenzothiazole (captax). Dokl.
AN SSSR 159 no.5:1127-1130 D '64                    (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti
i Kazanskiy fiziko-tekhnicheskiy institut AN SSSR. Predstavleno
akademikom M.M. Dubininym.

L 27621-65    EWT(m)/EPF(c)/EWP(t)/T/EWP(j)/EWP(b)    Pc-4/Pr-4    IJP(c)    JD/RM
ACCESSION NR:  AP5005392
                                          S/0138/65/000/002/0016/0019

AUTHOR:  Lezhnev, N. N.; Yampol'skiy, B. Ya.; Lyalina, N. M.; Volodina, V. V.

TITLE:  Simulation of the effect of carbon-black structures on the reinforcement
of rubber
                                27

SOURCE:  Kauchuk i rezina, no. 2, 1965, 16-19

TOPIC TAGS:  rubber strengthening, carbon black structure, simulating system,
carbon black dispersion, strengthening mechanism

ABSTRACT:  A study has been made of structure formation of carbon-black dispersions
in xylene and in raw rubber solutions — systems which simulate filled rubbers.
The experiments were conducted with unmodified and modified common carbon blacks.
The structure formation processes were determined from measurements of electrical
conductivity and ultimate shearing stress.  It was shown that carbon-black disper-
sions form quasi-equilibrium coagulation systems with thixotropic properties.  The
addition of small amounts of rubber to carbon-black dispersions sharply increased
the strength of the structures.  The strengthening of the systems was attributed
not only to adsorption of the polymers onto the black, but also to the formation
of macromolecular structures which are oriented along the carbon-black chains to

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L 27621-65
ACCESSION NR: AP5005392

form a supramolecular network. Chemical or physical modification of the carbon-
black surface changed the surface energy and sharply affected the structure of the
dispersions and their mechanical properties. Orig. art. has: 5 figures and 1
table.

[BO]

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific
Research Institute of the Rubber Industry); Moskovskiy Gosudarstvennyy universitet
im. M. V. Lomonosova (Moscow State University)

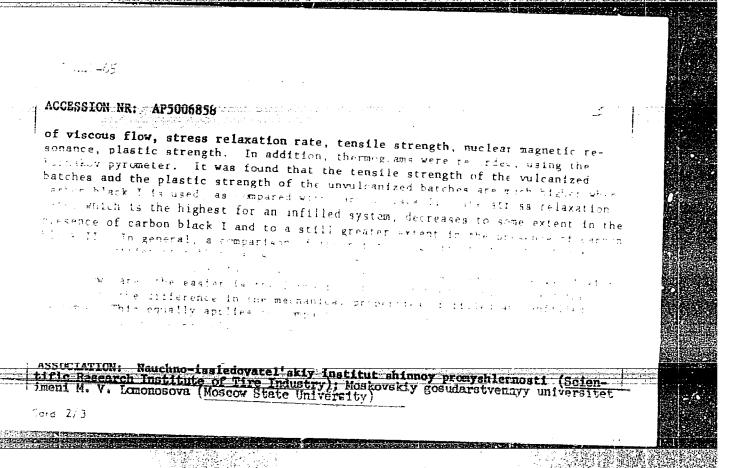SUBMITTED: 00                    ENCL: 00           SUB CODE:      MT

NO REF SOV: 007                  OTHER: 002          ATD PRESS: 3190

Card 2/2

ACCESSION NR:  AP5006858

S/0020/65/160/004/0861/0863

AUTHOR: Lezhnev, N. N.; Yampol'skiy, B. Ya.; Lyalina, N. M.; Dreving, V. P.;
Kogotkova, L. I.

TITLE:  Investigation of the structural properties of carbon black-reinforced
rubbers

SOURCE:  AN SSSR, Doklady, v. 160, no. 4, 1965, 861-863

TOPIC TAGS:  rubber reinforcement, carbon black, vulcanized rubber, unvulcanized
rubber, graphitization, stress relaxation rate, activation energy, nuclear mag-
netic resonance, molecular interaction, polymer

ABSTRACT:  The present work was carried out because of lack of clarity on the
mechanism of the reinforcing effect of active rubber fillers.  Vulcanized and un-
vulcanized rubber-carbon black systems were investigated.  The rub____ ____ ____
butadiene-styrene, natural, stereoregular

ACCESSION NR: AP5006856

of viscous flow, stress relaxation rate, tensile strength, nuclear magnetic re-
sonance, plastic strength. In addition, thermograms were recorded, using the
pyrometer. It was found that the tensile strength of the vulcanized
batches and the plastic strength of the unvulcanized batches are much higher when
carbon black I is used, as compared with
which is the highest for an infilled system, decreases to some extent in the
presence of carbon black I and to a still greater extent in the
II. In general, a comparison
the easier
the difference in the mechanical properties
This equally applies

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scien-
tific Research Institute of Tire Industry); Moskovskiy gosudarstvennyy universitet
imeni M. V. Lomonosova (Moscow State University)

Card 2/3

ACCESSION NR:  AP5006858

SUBMITTED·  1Ju164                    ENCL:  00            SUB CODE:  ME

NO REF SOV   008                      OTHER   00

Card  3/3

LEZHNEV, N.N.; YAMPOL'SKIY, B.Ya.; LYALINA, N.M.; VOLODINA, V.V.

Studying the influence of the carbon black structures on the effect of rubber reinforcement in model systems. Kauch. i rez. 24 no.2:16-19 F '65.                                                  (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i Moskovskiy gosudarstvennyy universitet.

LEZHNEV, N.N.; TERENT'YEV, A.P.; NOVIKOVA, I.S.; KOBZEVA, T.A.

Using the bromination method for the testing of carbon black. Kauch.
i rez. 24 no.9:16-20 '65.                                      (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i
Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

L 00676-67   EWT(m)/EWP(j)   IJP(c)   JWD/RM

ACC NR:  AP6017860          (A)          SOURCE CODE:  UR/0069/66/028/003/0420/0423

AUTHOR:  Lozhnev, N. N.; Lyalina, N. M.; Zelenev, Yu. V.; Bartenev, G. M.

ORG:  Scientific Research Institute of the Tire Industry, Moscow (Nauchno-issledova-tel'skiy institut shinnoy promyshlennosti)

TITLE:  Influence of the nature of carbon black surface on the relaxation properties of extended rubbers

SOURCE:  Kolloidnyy zhurnal, v. 28, no. 3, 1965, 420-423

TOPIC TAGS:  butadiene styrene rubber, carbon black, filler, stress relaxation, polymer structure

ABSTRACT:  The influence of the surface character of carbon black fillers on the formation of the reinforced structure of rubber and hence on the molecular mobility and relaxation properties of the rubber was studied.  Rubbers based on stereoregular poly-butadiene rubber Yuropren-cis-1,4 (SKD) and butadiene-styrene rubber Yuropren-1500 (BSK) extended with various types of carbon black were employed.  Stress relaxation curves of the rubber were recorded on a relaxometer at 20 and 70°C.  It was found that the more active the carbon black from the standpoint of its reinforcing effect, the more level is the shape of the relaxation time spectrum, i.e., the greater the role of long relaxation times of the extended systems, owing to a limited mobility of the macromolecules of the reinforced polymer structures.  The increase in the number of re-

Card  1/2                                          UDC:  541.183.1

L-00676-67

ACC NR:   AP6017860

laxing elements with short relaxation times of the extended systems indicates the pre-
sence of carbon black - polymer bonds, comparable in strength to intermolecular bonds,
since the carbon black surface has an assortment of adsorption centers with various
energies (more or less weaker than the energy of intermolecular interaction). The re-
inforced structure of the polymer is created in the presence of strong adsorption cen-
ters. The data obtained confirm the concepts advanced in the literature, according to
which the reinforced filler - polymer coagulation structures are mosaic in character.
Indeed, the most active from the standpoint of reinforcing effect is carbon black
characterized by the presence of a small number of highly active adsorption centers on
a background of relatively low activity. It is concluded that in an extended rubber
the polymer is present in the form of two structures, one unchanged and the other re-
inforced, and that there is no distinct boundary between them. Orig. art. has: 2
figures, 1 table, and 3 formulas.

SUB CODE: 11/   SUBM DATE: 03Jan65/   ORIG REF: 012/   OTH REF: 003

Card   2/2   vlr

LEZHNEV, V.R.

Semiautomatic milling machine for milling helical flutes in
instruments.  Stan. i instr. 36 no.7:22-23  Jl '65.

(MIRA 18:8)

LEZHNEV, V.R.

Precision stamping of lathe tools with induction heating. Stan.i
instr. 34 no.5:37-38 My '63.                              (MIRA 16:5)
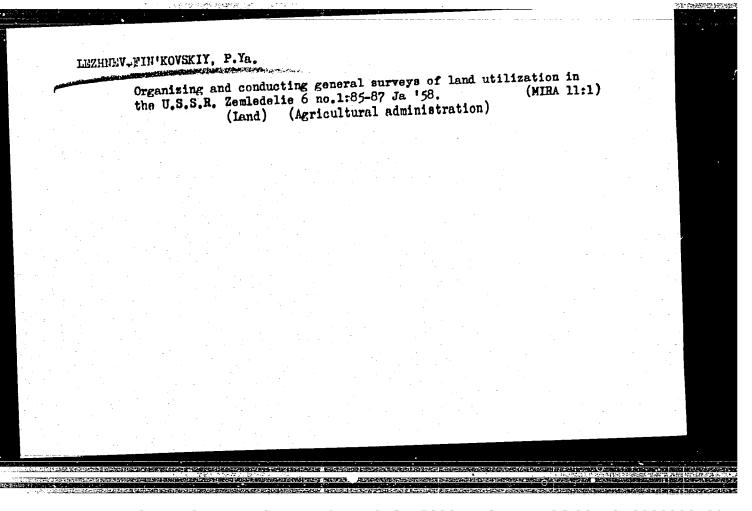                                     (Forging)

(MIRA 16:5)

LEZHNEV, V.R.

Automatic line for manufacturing band saws for cutting metals.
Stan.i instr. 33 no.5:18-21 My '62.                    (MIRA 15:5)
            (Automation)          (Band saws)

LEZHNEV, Yu.V.

Central Institute for Information and Documentation in the German
Democratic Republic. NTI no.6:50  '64.                    (MIRA 17:9)

LEZHNEV, Yu.V.

Principles for the organization of a system of institutions
disseminating science information in the member countries of
the Mutual Economic Assistance Council.  NTI no.12:38-41  '64.
(MIRA 18:3)

1. LEZIIMEV-FIN'KOVSKIY, P. Ya.

2. USSR (600)

4. Agriculture

7. In the technical Council of the Ministry of Agriculture for the U. S. S. R.
   Sov. agron., 10, No. 11, 1952

9. <u>Monthly List of Russian Accessions</u>, Library of Congress, February 1953. Unclassified.

LEZHNEV-FIN'KOVSKIY, P.Ya.

Organizing and conducting general surveys of land utilization in
the U.S.S.R. Zemledelie 6 no.1:85-87 Ja '58.          (MIRA 11:1)
        (Land)   (Agricultural administration)

OVEZGEL'DYYEV, O.; LEZHNEVA, A.

Relation of $E_s$ to the F-region of the ionosphere. Izv. AN Turk. SSSR. Ser. fiz.-tekh., khim. i geol. nauk no.3:119-120 '64
(MIRA 18:1)

1. Otdel razvodochnoy geofiziki i seysmologii AN Turkmenskoy SSR.

AMIROVA, S.A.; PECHKOVSKIY, V.V.; PROKHOROVA, V.G.; OSTROVSKAYA, T.V.;
LEZHNEVA, A.A. (Perm')

Oxidation of iron-vanadium spinel by oxygen.  Zhur. fiz. khim.
38 no.4:916-920  Ap '64.
(MIRA 17:6)

1. Permskiy politekhnicheskiy institut.

AMIROVA, S.A.; PECHKOVSKIY, V.V.; PROKHOROVA, V.G.; ZHEBELEVA, T.V.; LEZHNEVA, A.A.

Oxidation of manganese-vanadium spinel by oxygen. Zhur. fiz. khim. 38 no.1:108-114 Ja'64. (MIRA 17:2)

1. Permskiy politekhnicheskiy institut.

ACCESSION NR: AP4034578                          s/0076/64/038/004/0916/0920

AUTHOR: Amirova, S. A. (Perm'); Pechkovskiy, V. V. (Perm'); Prokhorova, V. G. (Perm'); Ostrovskaya, T. V. (Perm'); Lazhneva, A. A. (Perm')

TITLE: Oxidation of iron-vanadium spinel by oxygen.

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 4, 1964, 916-920

TOPIC TAGS: iron vanadium spinel, oxidation, thermogram, iron orthovanadate containing system, vanadium pentoxide containing system, iron orthovanadate, solid subtraction solution, vanadium hematite solution, fusion temperature, solubility, alkali additive, oxidation acceleration

ABSTRACT: This investigation of the oxidation of iron-vanadium spinel by oxygen included a study of the composition and properties of the phases formed, and the effect of small amounts of alkali additives on the oxidation process. Thermograms for the iron-vanadium spinel system, for iron orthovanadate and for the iron orthovanadate-vanadium pentoxide system were constructed. In the oxidation of the spinel the formation of a solid subtraction solution (exotherm at 236-336C, spinel crystal structure is retained but the cell parameters decreased) proceeds

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1

ACCESSION NR: AP4034578

decomposition of the spinel. Three phases are formed by the oxidation of the spinel (exotherm at 462-573C): vanadium pentoxide, iron orthovanadate and the phase $R_2O_3$ which represents a solid solution of vanadium in hematite. The endotherms 619-641 and 790-850C correspond to the fusion of the eutectic of vanadium pentoxide and iron orthovanadate and the pure $FeVO_4$. The solubility of iron orthovanadate in 10% $H_2SO_4$ was determined. The addition of 0.5% KCl to the spinel greatly accelerates its oxidation but does not affect the oxidation products. Orig. art. has: 2 tables and 4 figures.

ASSOCIATION: Permskiy politekhnicheskiy institut (Permsk Polytechnical Institute)
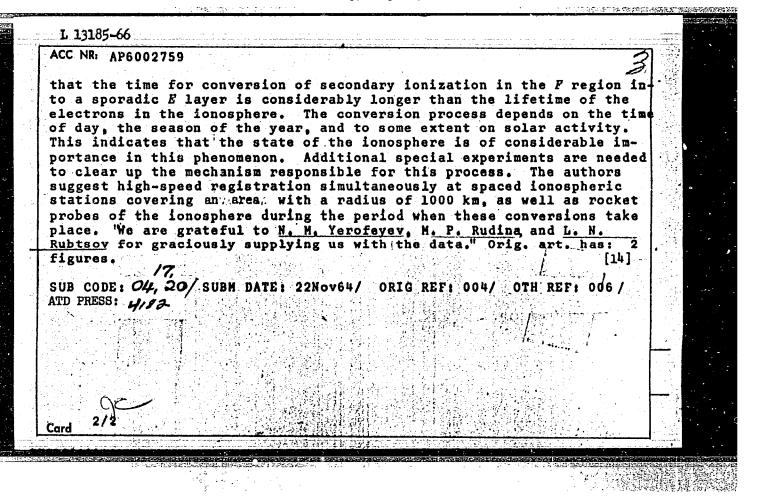
SUBMITTED: 28Apr63                              ENCL: 00

SUB CODE: MM,.GC          / NO REF SOV: 003          OTHER: 001

Card    2/2

L 27267-65   EWT(m)/EPF(c)/EWA(d)/T/EWP(t)/EWP(b)    Pr-4    IJP(c)    JD/JG/WB

ACCESSION NR: AP4011442          S/0076/64/038/001/0108/0114

AUTHORS: Amirova, S.A. (Perm'); Pechkovskiy, V.V. (Perm'); Prokhorova, V.G. (Perm'); Zhebeleva, T.V. (Perm'); Lezhneva, A.A. (Perm')

TITLE: Oxidation of manganese-vanadium spinel by oxygen

SOURCE: Zhurnal fiz. khim. v. 38, no. 1, 1964, 108-114

TOPIC TAGS: manganese vanadium spinel, manganese vanadium spinel oxidation, spinel decomposition, manganese metavanadate, manganese pyro vanadate

ABSTRACT: The oxidative annealing of manganese-vanadium spinel was investigated from 0 to 1000C, using thermographic analysis simultaneously with x-ray, crystallooptic and chemical methods. The first stage of the oxidation is the chemisorption of oxygen on the surface of the spinel grains and the formation of a solid solution. Decomposition of the spinel at both high and low temperatures proceeds according to the following equations: $2MnO \cdot V_2O_3 + 2O_2 = Mn_2V_2O_7 + V_2O_5$; $Mn_2V_2O_7 + V_2O_5 = 2Mn(VO_3)_2$. The

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L 27267-65

ACCESSION NR: AP4011442

products are acid soluble and almost insoluble in water. The melt-
ing points of manganese metavanadate and pyrovanadate are given as
805 and 1023C respectively. Small additions of potassium chloride
intensify the rate of oxidation. Orig. art. has: 2 equations, 10
figures and 1 table.

ASSOCIATION: Permskiy politekhnicheskiy institut (Perm Polytechnical
                Institute)

SUBMITTED: 05Mar63                              ENCL: 00

SUB CODE: MM                  NR REF SOV: 005    OTHER: 004

Card   2/2

YEROFEYEV, N.M.; LEZHNEVA, A.V.

Statistical nature of the fluctuations of ionospheric parameters.
Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol. nauk no.4:
26-34 '61.                                           (MIRA 14:12)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
                        (Ionospheric research)

L 13185-66     EWT(1)/FCC/EWA(h)        GW

ACC NR: AP6002759            SOURCE CODE:   UR/0203/65/005/006/1111/1113

AUTHOR:  Ovezgel'dyyev, O.; Lezhneva, A. V.

ORG:  Department of Geophysics and Seismology, AN TurkmSSR (Otdel geo-
fiziki i seysmologii AN TurkmSSR)

TITLE:  Relationship between $E_s$ and the $F$ region of the ionosphere

SOURCE:  Geomagnetizm i aeronomiya, v. 5, no. 6, 1965, 1111-1113

TOPIC TAGS:  E layer, F layer, ionosphere, solar activity, ionospheric
propagation

ABSTRACT:  This paper gives the results of analysis of experimental da-
ta on conversion of part of the $F$ region into the sporadic $E$ layer for
the period from 1959 to 1963.  The conversion or transition process
takes place in the daylight hours from 0800 to 1700 hours, with a maximum at at
about 1200-1300 hours LT.  There are strong indications that the process
is local in nature.  This transition phenomenon takes place with consi-
derably less frequency during years of maximum solar activity.  Analy-
sis shows no definite correlation between the conversion process and
ionospheric or geomagnetic activity, which seems to indicate that the
phenomenon is independent of magnetic activity altogether.  It is found

UDC:  550.388.2

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L 13185-66

ACC NR: AP6002759                                                    3

that the time for conversion of secondary ionization in the $F$ region in-
to a sporadic $E$ layer is considerably longer than the lifetime of the
electrons in the ionosphere.  The conversion process depends on the time
of day, the season of the year, and to some extent on solar activity.
This indicates that the state of the ionosphere is of considerable im-
portance in this phenomenon.  Additional special experiments are needed
to clear up the mechanism responsible for this process.  The authors
suggest high-speed registration simultaneously at spaced ionospheric
stations covering an area, with a radius of 1000 km, as well as rocket
probes of the ionosphere during the period when these conversions take
place. "We are grateful to N. M. Yerofeyev, M. P. Rudina, and L. N.
Rubtsov for graciously supplying us with the data." Orig. art. has:  2
figures.                                                              [14]

SUB CODE: 04, 20/ SUBM DATE: 22Nov64/  ORIG REF: 004/  OTH REF: 006 /
ATD PRESS: 4/82

Card   2/2

IEZHNEVA, G., prepodavatel' obshchestvovedeniya

Newspapers in the social science classes.  Prof. -tekh. obr. 21 no.3:
22 Ag '64.                                        (MIRA 17:9)

1. Gorodskoye professional'no-tekhnicheskoye uchilishche No.5,
Lei .igradskaya obl.

LEZHNEVA, K.A.; BORISOVA, T.I.; SLIN'KO, M.G.

Anodic oxidation of sulfur dioxide on gold and platinum-gold
alloys.  Kin.i kat. 2 no.6:854-861 N-D '61.       (MIRA 14:12)

1.  Fiziko-khimicheskiy institut imeni L.Ya. Karpova.
                    (Sulfur dioxide)
            (Oxidation)       (Platinum-gold alloys)

LEZHNEVA, N.A.; KRUGLOV, E.A.; Prinimala uchastiye RATOVSKAYA, A.A.

Polarographic determination of bicyclic aromatic hydrocarbons in petroleum products. Khim. i tekh.topl. i masel 10 no.11: 58-61 N '65.                                          (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

LEZHNEVA, O.A.

Scientific activity of E.Kh.Lents in the field of physics. Trudy Inst.ist.
est. 4:104-139 '52.                                                  (MLRA 6:7)
(Lenz, Heinrich Friedrich Emil, 1804-1865)

LEZHNEVA, O.A; RZHONSNITSKIY, B.N. [authors]; TSVERAVA, G.K., inzheuer (Boksito-
gorsk) [reviewer].

"Emilii Khristianovich Lents." O.A.Lezhneva, B.N.Rzhonsnitskii. Reviewed
by G.K.TSverava. Elektrichestvo no.6:92-93 Je '53.                (MLRA 6:7)
        (Lents, Emilii Khristianovich, 1804-1865)  (Lezhneva, O.A.)
                                                   (Rzhonsnitskii, B.N.)

LEZHNEVA, O. A.

"Problems on Electro-dynamics in Soviet Physics in the First Part of the 19th Century" from Works of the Historical Inst. on Natural Sciences and Engineering, Vol. 5, p. 94, 1955.

LEZHNEVA, O.A., kandidat fiziko-matematicheskikh nauk.

Works of Charles Coulomb in the field of electricity and
magnetism. Elektrichestvo no.11:79-82 N '56.            (MLRA 9:12)

1. Institut istorii estestvoznaniya i tekhniki Akademii nauk
SSSR.
                (Coulomb, Charles Augustin, 1736-1806)

LEZHNEVA, O.A., kandidat fiziko-matematicheskikh nauk.

Charles Augustin Coulomb. Nauka i zhizn' 23 no.8:57  Ag '56.
(Coulomb, Charles Augustin de, 1736-1802)     (MIRA 9:9)

LEZHNEVA, O.A.

Life and works of Charles Augustin de Coulomb. Trudy Inst. ist. est.
i tekh. 19:386-396 '57.                                    (MIRA 11:2)
            (Coulomb, de, Charles Augustin, 1736-1806)

AUTHOR:        None given                          SOV/3-58-12-30/43

TITLE:         Intervuz Scientific and Methodical Conferences (Mezhvuzovs-
               kiye nauchnyye i metodicheskiy konferentsii). A Conference
               on the History of Physics (Konferentsiya po istorii fiziki)

PERIODICAL:    Vestnik vysshey shkoly, 1958, Nr 12, p 77 (USSR)

ABSTRACT:      The recent Intervuz Conference on the History of Physics,
               held at the Tambovskiy pedagogicheskiy institut (Tambov Peda-
               gogical Institute) was attended by 50 scientific workers of
               pedagogical institutes of the RSFSR, Ukraine, Georgia, Baltic
               Republics, Moldavia, the MGU and the Institut istorii yestest-
               voznaniya i tekhniki AN SSSR (Institute for the History of
               Natural Science and Engineering of the AS USSR). The Direc-
               tor of the latter, Professor N.A. Figurovskiy, spoke on the
               role of the conference as the first successful attempt to
               unite the efforts of Soviet Historians of Physics on an All-
               Union scale. The scientific worker of the Institute for the
               History of Natural Science and Engineering of the AS USSR, O.A.
Card 1/2       Lezhneva , told the conference of the first theories of elec-

(                                              SOV/25-59-9-37/49

AUTHOR:         Lezhneva, O., Candidate of Physico-mathematical
                Sciences

TITLE:          A Book on a German Scientist

PERIODICAL:     Nauka i zhizn', 1959, Nr 9, pp 74 - 75  (USSR)

ABSTRACT:       This is a review of the book "Max Planck 1858-1958",
                edited by Academician A.F. Ioffe and Candidate of Phy-
                sico-mathematical Sciences A.T. Grigoryan and pub-
                lished by the Publishing House of the AS USSR, Moskva,
                1958.  The book also contains articles by the fol-
                lowing Soviet scientists: L.S. Polak, L.D. Landau,
                A.F. Kapustinskiy, B.B. Golitsin and of the German
                physicists Max Laue (German Federal Republic) and
                Gustav Herz (GDR).  The author of this article refers
                to the book "Ukazatel' osnovnykh trudov Makca Planka
Card 1/2        i literatury o nem" (Index of the Main Works of Max

A Book on a German Scientist                    OSV/25-59-9-37/49

Planck and the Literature on him) by M.G. Novlyanskiy.
There is 1 photograph and 1 Soviet reference.

Card 2/2

LEZHNEVA, O.A.

History of the discovery of electromagnetism and and electromagnetic
induction. Trudy Inst. ist. est. i tekh. 22:132-148 '59.

(MIRA 12:10)

(Electromagnetism)

24(0)                                              SOV/53-67-1-9/12

AUTHOR:        Lezhneva, O. A.

TITLE:         Hundredth Birthday Anniversary of Djagadis Chandra Bose   (K stoletiyu
               so dnya rozhdeniya (Dzhagadis Chandra Boze))

PERIODICAL:    Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 1,
               pp 171 - 176 (USSR)

ABSTRACT:      Bose was born on November 30,1858, at Rarukhal (Dakka)(accord-
               ing to other sources he was born at the town of Maymensingh)
               in East Bengal. He studied at the English College of Saint
               Xavier in Calcutta, and, after having taken the degree of
               Bachelor of Arts at the age of 20, he continued his studies
               in England at the universities of London and Cambridge. He
               studied physiology, embryology, botanics, chemistry, and
               physics (under Raleigh). At the age of 25 he returned to
               Calcutta as Bachelor of Sciences and became Professor of
               Physics at the Presidency College (1885). The successful verifi-
               cation of the Maxwell theory of electrodynamics by Hertz
               (Gerts) also gave rise to Bose's first publications and lectures.
               Among others, he delivered a lecture, which attracted much
Card 1/2       attention, on the properties of electromagnetic waves (Liver-

Hundredth Birthday Anniversary of Djagadis Chandra Bose)        SOV/53-67-1-9/12

pool, 1896). He investigated the properties of individual
parts of the electromagnetic spectrum, especially the millimeter
range (absorption, reflection, refraction,propagation). About
1900 Bose worked in the field of plant physiology, and at the
Congress of Physicists held at Paris he spoke about the mole-
cular phenomena caused by electric stimulants in inorganic and
living matter. Since that time, Bose remained faithful to plant
physiology until he died (23/11/1937), in which field he was
prominent. As delegate for India he attended numerous congresses
in Europa and in America. On November 30, 1917, the present Bose
Research Institute was inaugurated at Calcutta, of which the
physicist D. M. Bose had been the director since 1947. In
connection with Bose's research work the Russian scientists
A. S. Popov, P. N. Lebedev, P. P. Lazarev, K. A. Timiryazev,
A. F. Samoylov and M. V. Lomonosov are mentioned. There are
1 figure and 10 references, 4 of which are Soviet.

Card 2/2

LEZHNEVA, O.A.

First formulations of the laws of electrodynamics. Vop.ist.est.i
tekh.  no.10:76-79  '60.                                          (MIRA 14:3)
                        (Electrodynamics)

LEZHNEVA, O.A.

"The Atlantic cable" by B.Dibner.  Reviewed by O.A.Lezhneva.
Vop.ist.est.i tekh. no.10:164-165  '60.                  (MIRA 14:3)
   (Atlantic Ocean--Cables, Submarine)  (Dibner,B.)

LUK'YANOV, P.M.; LEZHNEVA, O.A.

Celebration in Kiev, Leningrad, and Arkhangel'sk of the 250th
anniversary of the birth of M.V. Lomonosov.  Vop. ist. est. i
tekh. no.13:181-182  '62.                           (MIRA 16:5)

(Lomonosov, Mikhail Vasil'evich, 1711-1765)

LEZHNEVA, O.A., kand.fiziko-matem. nauk

Fresnel's light waves.  Priroda  52  no.8:82-84  Ag  '63.
(MIRA 16:9)

1. Institut istorii yestestvoznaniya i tekhniki AN SSSR, Mos.
(Light, Wave theory of)  (Fresnel, Augustin Jean, 1788-1827)

KUDRYAVTSEV, P.S., prof., otv. red.; FIGUROVSKIY, N.A., prof.,
red.; IVANENKO, D.D., prof., red.; SPASSKIY, B.I., dots.,
red.; YAKOVLEV, V.A., dots., red.; MINCHENKO, L.S., kand.
fiz.-mat. nauk, red.; BRAUDE, M.V., kand. filos. nauk, red.;
LEZHNEVA, O.A., kand. fiz.-mat. nauk, nauchn. red.

[Problems on the history of physics and its teaching; reports
and materials] Voprosy istorii fiziki i ee prepodavaniia; do-
klady i materialy.  Tambov. Tambovskii pedagog. in-t. 1961.
225 p.                                        (MIRA 17:4)

1. Mezhvuzovskaya konferentsiya po istorii fiziki. 1st. Tambov.

BAYDAKOVA, Z.L.; LEZHNEVA, O.M.; RADZIKHOVSKAYA, R.M.

Vaccination against rat and mouse sarcoma and Brown-Pearce carcinoma
of rabbits. Vop.onk. 1 no.5:10-14 '55.                    (MLRA 10:1)

1. Iz otdela virusologii (zav. - L.A.Zil'ber) Instituta epidemiologii
i mikrobiologii imeni N.F.Gamaleya (dir. - G.V.Vygodchikov). Adres
avtorov: Moskva D-182, Shchukinskaya ul., d.33. Institut epidemiologii
i mikrobiologii im. N.F.Gamaleya.
        (VACCINES AND VACCINATION,
            Brown-Pearce carcinoma & sarcoma in mouse & rats)
        (NEOPLASMS, experimental,
            Brown-Pearce carcinoma & mouse & rat sarcoma, vacc.)
        (SARCOMA, experimental,
            vacc.)

KRYUKOVA, I.N.; LEZHNEVA, O.M.

Cultivation of Rous sarcoma and Shope papilloma viruses in Ehrlich ascites tumor and in M-1 rat sarcoma. Vop.onk. 5 no.7:3-5 '59.
(MIRA 12:12)

1. Iz otdela immunologii i onkologii (zav. - deystvitel'nyy chlen AMN SSSR prof. L.A. Zil'ber) Instituta epidemiologii i mikrobiologii im. N.F. Gamaleya AMN SSSR (dir. - prof. S.N. Muromtsev). Adres avtorov: Moskva, D-18a, Shchukinskaya ul., d.33, Institut epidemiologii i mikro-biologii im. Gamaleya AMN SSSR.
(PAPILLOMA - virology)
(SARCOMA - virology)
(NEOPLASMS - experimental)

LEZHNEVA, O.M.

Effort to detect humoral antineoplastic antibodies in mice
immune to isogenic sarcomas induced by methylcholanthrene.
Biul. eksp. biol. i med. 59 no.4:90-91  Ap '65.
(MIRA 18:5)

1. Otdel immunologii i onkologii (zav. - prof. L.A. Zil'ber)
Instituta epidemiologii i mikrobiologii imeni Gamalei (dir. -
prof. O.V. Baroyan), Moskva.

L 27112-66

ACC NR: AP6017476                          SOURCE CODE: UR/0020/65/162/006/1440/1443

AUTHOR: Lezhneva, O. M.; Iyevleva, Ye. S.; Zil'ber, L. A. (Active member AMN SSSR)

29

ORG: Institute of Epidemiology and Microbiology im. N. F. Gamalaya
(Institut epidemiologii i mikrobiologii)

B

TITLE: Humoral antibodies against methylcholanthrene-induced sarcomas

SOURCE: AN SSSR. Doklady, v. 162, no. 6, 1965, 1440-1443

TOPIC TAGS: antibody, mouse, tumor, x ray irradiation, fluorescence

ABSTRACT: The authors report on the results of using the immunofluorescence
method to detect humoral antibodies in mice repeatedly immunized with methyl-
cholanthrene-induced sarcomas in a syngenic system. MX-6 C57BL/10 Sn and
MX-8 CC57W sarcomas were induced in mice of the C57Bl/10Sn and CC57W strains,
respectively, with methylcholanthrene. Antisera were obtained from mice of
the same strains immunized with syngenic (isologous) tumors previously X-
irradiated with a total dose of 15,000 r. When dead cells in smears were
etained, all the cells exhibited very diffuse fluorescence. However, the
diffuse fluorescence was much less intense in preparations treated with
antiserum. Many cells had brilliant fluorescence in the form of a ring
around the periphery. Nonspecific fluorescence was observed on sections
after they were treated with normal sera. The fluoresence was concentrated

Card 1/2

L 27112-66

ACC NR:    AP6017476

around the periphery of the cells.  The sections treated with mouse antiserum produced much less fluorescence.  Thus, the indirect method of fluorescent antibodies enabled the authors to detect antibodies in the sera of mice repeatedly immunized with X-irradiated tumor tissue.

The staining of tissue sections produced undesirable nonspecific fluorescence.  The clearest results were obtained with living cells. Although fluorescent cells were always found in the control suspensions, the differences between the experimental and control cells were quite significant.  Orig. art. has:  1 table.  /JPRS/

SUB CODE:  06, 20  /  SUBM DATE:  26Nov64  /  ORIG REF: 001/ OTH REF:  013

Card 1/

ARUTYUNOV, I.Kh.; STOLOV, A.I.; LEZHNEVA, V.A.

Efficient field crops growth stimulant from petroleum refinirg
wastes. Nefteper. i neftekhim. no. 11:22-24 '63.
(MIRA 17:5)

1. Groznenskiy neftemaslozavod i Grozneneskiy nauchno-
issledovatel'skiy institut.

*LEZHNEVA, Ye.I.*

KOROTONOSHKO, Nikolay Ivanovich; CHAMOV, A.N., inzh.red.; LEZHNEVA, Ye.I.,
red.izd-va; MODEL', B.I., tekhn.red.; EL'KIND, V.D., tekhn.red.

[Automobiles for difficult terrain] Avtomobili vysokoi prokhodi-
mosti. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry.
1957. 227 p.                                                (MIRA 11:3)
        (Automobiles)    (Tractors)

GILELES, Lev Khatskelevich; KOKIN, Georgiy Mikhaylovich, prof.; MITIN,
Boris Yefimovich; ROZHANSKIY, Vilen Anatol'yevich; VASIL'YEVA,
I.A., red.; LEZHNEVA, Ye.I., red.; UVAROVA, A.F., tekhn.red.;

[The MAZ-501 logging truck; construction, service, and repair]
Avtomobil'-lesovoz MAZ-501; ustroistvo, obsluzhivanie i remont.
Pod red. G.M.Kokina. Moskva, Gos.nauchno-tekhn.izd-vo mashino-
stroit.lit-ry, 1959. 362 p.                              (MIRA 12:5)
    (Motortrucks--Maintenance and repair) (Lumbering--Machinery)

LEZHNIKOV, S.P.

Asymmetry of the connections of the glossopharyngeal nerve in newborn infants. Trudy KirgNOAGE no.2:138-141 '65.

(MIRA 18:11)

1. Iz kafedry normal'noy anatomii (zav. - prof. N.N.Lavrov) Kirgizskogo gosudarstvennogo meditsinskogo instituta.

LEZHNIN, A.

How we tie in the teaching of economic geography with students' industrial training.  Geog. v shkole 23 no.4:68-70 Jl-Ag '60.
(MIRA 13:10)

1. 26-ya shkola g.Kostromy.
   (Kostroma--Economic geography--Study and teaching)
        (Education, Cooperative)

BUDNIKOV, V.I.; KAZANSKIY, Yu.P.; LEZHNIN, A.I.; YADRENKIN, V.M.

Bentonite of the Kuznetsk Basin. Trudy SNIIGGIMS no.25:36-44 '62.
(MIRA 16:4)

(Kuznetsk Basin—Bentonite)

EWT(1)

ACCESSION NR:   AP5006511                                     S 0056/65/048/002/0622/0631

AUTHOR:  Leznov, A. N.; Kirzhnits, D. A.

TITLE:  Contribution to field theory with nonlocal interaction.  IV.  Questions of convergence, causality, and gauge invariance

v. 48, no. 2, 1965,

gauge invari-

with the

Card  1/2

L 39451-65                                                                              3
ACCESSION NR:    AP5006511

... is not exceed a certain limiting value.  A nonlocal electrodynamics is
... ... are ... ... ... ... ... ... ... ...

grateful to ... ... ... ... ... ...
work, and to F. A. Lifshits for fruitful discussions.    Orig. art. has ... ...
and 6 formulas.

ASSOCIATION:  Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics
..., Academy of Sciences SSSR

SUBMITTED:  31Jul64                 ENCL:    00                 SUB CODE:    GP

Card 2/2

LEZHN'OVA, Ol'ga Aleksandrovna, kandidatna fiziko-matematicheskite nauki i starshi nauchen sutrudnik

Physical investigations of Lomonosiv, in commemoration of the 250th anniversary of his birth. Fiz mat spisanie BAN 4 no.3:186-199  '61.

1. Institut po istoriia na estestvosnaniete i tekhnikata pri AN na SSSR.

LEZHOVA, A.S.

Artashes Grigor'evich Malaev. Arkh. anat. gist. i embr. 36 no.4:
111-112 Ap '59.
    (OBITUARIES,
        Malaev, Artashes G. (Rus))

(MIRA 12:7)

VOZIN, V.R.; LEZHOYEV, V.K.

Stratigraphic association of certain genera Lamellibranchiata of the
Norian stage in the Adycha Valley.  Nauch.soob. IAFAN SSSR no.2:24-28
'59.                                                    (MIRA 14:3)

            (Adycha Valley—Lamellibranchiata, Fossil)

- 18 -

B

POLAND / General Biology.  Genetics.  Animal Genetics.

Abs Jour    : Ref Zhur - Biologiya, No 4, 1959, No. 14452

Author      : Leziak, Kazimierz
Inst        : Not given
Title       : Studies on Retarded Pregnancy in Inbred Mice
              (Brother and Sister Matings).  1.  Effect of
              Inbreeding on the Course of the Sexual Cycle
              in Mice

Orig Pub    : Folia Biol. (Polska), 1958, 6, No 1, 63-70

Abstract    : Out-bred females usually become pregnant after
              mating in the course of the first or second
              sexual cycle, while the period necessary for
              the pregnancy to occur is 4-5 times longer
              in inbred females of the same lineage.  In
              order to determine the causes of this phe-
              nomenon, an experiment with three groups of

Card 1/3

58

POLAND / General Biology.  Genetics.  Animal Genetics.

Abs Jour    : Ref Zhur - Biologiya, No 4, 1959, No. 14452

white mice was carried out.  1) 43 females of
the A lineage (the 18th generation of brother
x sister crossbreedings); 2) 20 females of
the B lineage (14th generation of brother x
sister crossbreedings); 3) out-bred females.
All the females were 3 months old and were
kept under identical conditions.  In 87 per-
cent of the out-bred females the length of
the sexual cycle did not exceed 4 days, and
in 13 percent 5 or 6 days.  In the course of
9 days of the observation period in 6.9 per-
cent of the females of the A lineage, estrus
did not occur; and in 6.9 percent, dioestrus
did not occur.  A sexual cycle lasting for
up to 4 days was established in 42.5 percent
of the females of the A lineage and in 57.8

Card 2/3

LEZIAK, Kazimierz

Studies on retarded pregnancy in mice from inbred matings (sib mating).
II. Resorption of fetuses. Folia biol 7 no.3:267-275 '59. (EEAI 9:11)

1. Department of Experimental Biology of the Institute for Zootechny
at Pulawy.
(MICE)     (FETUS)     (INBREEDING)     (PREGNANCY)

LEZIAK, Kazimierz

Percentual weight of the alimentary tract and the breast muscle
in quick and slow growing chicken.  Rocz nauk roln zootechn 84
no.3:631-637  '64.

1. Zootechnical Institute, Krakow.

BRZEZINSKI, Jan; LANDECKA, Blanka; LEZIAK, Zygmunt; STOJALOWSKI, Kazimierz

Results of pneumothorax therapy in Lublin and in the Lublin District. Gruzlica 24 no.8:653-658 Aug 56.

1. Z Kliniki Gruzlicy Pluc A.M. w Lublinie Kierownik doc. dr. H. Mysakowska.
(PNEUMOTHORAX, ARTIFICIAL
compl. & results)

MALIK, Zygmunt

Treatment of spontaneous pneumothorax with pleural drainage. Pol. tyg. lek. 17 no.6:216-218  5 F '62.

1. Z Kliniki Ftyzjatrycznej AM w Lublinie; kierownik: doc. dr H. Mysakowska.

(PNEUMOTHORAX ther)   (DRAINAGE)

LEZIAK, Zygmunt; PRZEMYSKA, Barbara

Acute suicidal isonicotinic acid hydrazide poisoning. Pol. tyg. lek.
17 no.7:263-265  12 F '62.

1. Z Kliniki Ftyzjatrycznej AM w Lublinie; kierownik: doc. dr med.
Helena Mysakowska.

(ISONIAZID toxicol)   (SUICIDE)

LEZIN, A. A.

Functional Analysis

Theorems of inclusion and problem of the continuity of functions, Dokl. AN SSSR
88, No. 5, 1953.

9.  Monthly List of Russian Accessions, Library of Congress, ____May____ 1953, Unclassified.

SOROKO, V.V., kand.tekhn.nauk; LEZIN, N.Ya., inzh.

Small vibrating loader. Gor. zhur. no.10:66-68 O '61.
(MIRA 15:2)

(Mining machinery)

VOL'FSON, F.I.; LEZIN, S.I.

Basic structural characteristics of lead-zinc deposits in the El'brus ore province. Geol. rud. mestorozh. no.1:55-69 Ja-F '60.
(MIRA 13:7)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR.
(Kuban Valley--Lead ores) . (Kuban Valley--Zinc ores)

LEZIN, V., inzh.; LUSNIKOV, V., inzh.

New tanker. Rech. transp. 19 no.11:19-20 N '60.     (MIRA 13:11)

1. Verkhne-Volzhskaya inspektsiya Rechnogo Registra.
        (Tank vessels)          (Shipbuilding)

LEZIN, V.A.

Morphometry of the lakes in Karaganda Province.    Trudy Otd. geog.
AN Kazakh. SSR no.11:135-143  '65.                 (MIRA 18:8)

SEROV, Ye.P., kand. tekhn. nauk; SMIRNOV, O.K., kand. tekhn. nauk;
    LEZIN, V.I., inzh.

Effect of mass flow rate on the stability boundary of a
flow in parallel connected steam generating pipes. Trudy
MEI no.63:153-162 '65. (MIRA 18:12)

LEZIN, Vladimir Il'ich, inzh.; LIPOV, Yuriy Mikhaylovich, kand.
tekhn. nauk, dots.; SELEZNEV, Mikhail Antonovich, kand.
tekhn. nauk, dots.; SYROMYATNIKOV, Valentin Matveyevich,
inzh.; SEROV, Ye.P., kand. tekhn. nauk, dots., red.;
VOLOBUYEVA, I.V., red.

[Superheaters of boiler units] Paroperegrevateli kotel'-
nykh agregatov. Moskva, Energiia, 1965. 287 p.
(MIRA 18:4)

119-3-1c/14

AUTHOR:     Lezin, V. M.

TITLE:      Automatic Switch of an Impulse Line
            (Avtomaticheskiy vyklyuchatel' impul'snoy linii)

PERIODICAL: Priborostroyeniye, 1958, Nr 3, pp. 27-28 (USSR).

ABSTRACT:   The switch disconnects a measuring instrument in the case when
            the maximum value is reached in the tubular impulse line and
            switches it on again when the pressure in the line has decreased.
            The switch consists of a bilateral valve with a diaphragm feed
            line. It is illustrated on a diagram.
            The switch (BA) has the following technical characteristics:
            Measuring range in mm of the water column: 1oo, 16o, 25o, 4oo,
            63o, 1ooo, 16oo, 25oo.
            Switch pressure                              1 - 1,1
            Tolerable excess pressure in
            the tubular line in kg/cm²                   up to 3
            Total weight in kg                           ~5
            There are 2 figures, and 0 references.

AVAILABLE:  Library of Congress.
Card 1/1
            1. Switches--Applications    2. Switches--Characteristics

TARASENKO, A., general-mayor inzhenerno-tekhnicheskoy sluzhby; LEZIN, V., zasluzhennyy ratsionalizator Gruzinskoy SSR

Driving, firing, control. Tekh. i vooruzh. no.4:73-75 Ap '64. (MIRA 17:9)

LEZIN, V.V., prof.; MINAYEV, L.M.; KOROL'KOV, V.A.; SHESTOVA, L.M.,
      red.; MARTYNOVA, M.N., tekhn. red.

["Common Market" and workers of capitalist countries]
"Obshchii rynok" i trudiashchiesia kapitalisticheskikh
stran. Moskva, Izd-vo VPSh i AON pri TsK KPSS, 1963. 289 p.
                                 (MIRA 17:2)

1. Moscow. Akademiya obshchestvennykh nauk.

KIM, G.F., otv.red.; VAYNTSVAYG, N.K., red.; LEZIN, V.V., red.;
    SAMSONOV, G.Ye., red.; TYAGAY, G.D., red.; SHABSHINA F.I.,
    red.; ANGORA, T.M., red.izd-va; GAMAZKOV, K.A., red.izd-va;
    TSVETKOVA, S.V., tekhn.red.

[Southern Korea; economic and political conditions from 1945
through 1958]  IUzhnaia Koreia; ekonomicheskoe i politicheskoe
polozhenie, 1945-1958 gg.  Moskva, Izd-vo vostochnoi lit-ry,
1959.  270 p.                                        (MIRA 13:2)

1. Akademiya nauk SSSR. Institut vostokovedeniya.
        (Korea, South--Economic conditions)
        (Korea, South--Politics and government)

Lezin, Yu.S.

I-7

Category : USSR/Radiophysics - Radio-wave Reception

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4582

Author   : Lezin, Yu.S.
Title    : Elimination of "Reverse Operation" in Amplitude-Phase Detector Under the Influence of Fluctuating Noise.

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 3, 329-334

Abstract : The author determines the probability of the occurrence of "reverse operation" (reversal of polarity of the output voltage) in an amplitude-phase detector, used for the detection of signals in phase radio telegraphy, under the influence of fluctuating noise. Analysis is carried out for the amplitude-phase detector circuit, proposed by D.V. Ageyev in 1948, and analyzed in detail by Yu. S. Lezin. It is proven, that if the level of fluctuation noise at the input of such a detector is several times smaller than the signal level, the probability of "reverse operation" being produced by this noise is negligibly small.

Card     : 1/1

the phase-angle of the voltage in the electric current network, that the phase shift between the latter and the voltage exceeds $\frac{\pi}{2}$ on the anode of the previously opened tube. The voltage at the output of the detector remains unchanged, by which the occurrence of "inverse operation" is confirmed. Therefore investigation of the modifications of the phase angle of the electric mains circuit on the occasion of perturbations forms the core of the investigation of those conditions on which "inverse operation" can be eliminated in an amplitude-phase-detector. At first the case in which only single impulse perturbations are active is investigated. The spectrum of the impulse perturbation within the domain of the transmission band of the receiver is assumed to be uniform. The bell-shaped impulse perturbation ... this kind are a ... waves having a length of more than 30 m.

electric mains circuit meets with unsurmountable ... product of the velocity of its modification at the moment when perturbation occurs and the duration of the perturbation is assumed to be the approximated value of the modification of the phase angle. Next, the velocity of the modification of the phase angle of the voltage in the electric mains circuit is determined, after which the conditions for the complete elimination of "inverse operation" are examined. For this purpose it is necessary that the transmission band of the electric mains circuit of the amplitude-phase detector be at least from 7 to 9 times smaller than that of the receiver.
In the course of a further investigation of the effect caused by group-impulse perturbations, it was found that in order to reduce the probability of the occurrence of "inverse operation" considerably, it is necessary, by all means available, to decrease the transmission band of the electric mains circuit of the detector with respect to that of the receiver.
INSTITUTION:

LEZIN, Yu. S.

"Noise Immunity of Amplitude Radiotelegraphy in Reception by the Test Method,"    pp 81-84, ill, 4 ref

Abst:      It is shown that the highest noise-free stability is observed for phase radiotelegraphy, less in the case of synchronous amplitude radio- telegraphy, and the least for ordinary amplitude radiotelegraphy.

SOURCE:    Trudy Gor'kovskogo Politekhn. In-ta im. A. A. Zhdanova Min. Vyssh. Obrazov. Radiotekhn. Fak. (Works of the Gor'liy Polytechnic Institute im. A. A. Zhdanov of the Ministry of Higher Education, Radio Engineering Faculty), Volume 12, No 2, Gorky, 1956

Sum 1854

LEZIN, Yu. S.


"On Noise Immunity With an Integral Method of Reception of Radiotelegraph Signals,"    pp 85-88, ill, 6 ref


Abst:        Noise immunity of radiotelegraph communications with an integral method of reception of radiotelegraph signals is determined and compared with noise immunity in reception by a method of sampling in the middle of a simple message.


SOURCE:    Trudy Gor'kovskogo Politekhn. In-ta im. A. A. Zhdanova Min. Vyssh. Obrazov. Radiotekhn. Fak.    (Works of the Gor'kiy Polytechnic Institute im. A. A. Zhdanov of the Ministry of Higher Education, Radio Engineering Faculty), Volume 12, No 2, Gorky, 1956


Sum 1854

AUTHOR:      Lezin, Yu. S.                                    269

TITLE:       Noise-suppression characteristics in various types of
             radiotelegraphy. (O pomekhoustoychivosti pri
             razlichnykh vidakh radiotelegrafii).

ABSTRACT:        Interference problems in radiotelegraphy reception
             have been investigated earlier in (1-3).  In (1)
             amplitude and phase transmission were compared assuming
             similar methods of detection; in (2) no adequate
             theoretical assumptions were made and in (3) signal-to-
             noise characteristics of amplitude and frequency-modulated
             signals were discussed very cursorily only.  It is
             proposed, therefore, to investigate the problem more
             thoroughly for various methods of transmission, to compare
             S/N ratios for the same interference powers and to
             evaluate the gain in power for various types of trans-
             mission.  As in (1-3) the author uses the method given
             by V. S. Melnikov (ref.5: Melnikov, V.S., Engineering
             methods of the development of radiotelegraphy communication
             systems, Compendium, "60 years of Radio", Svyaz'izdat,
             M., 1955, p.182).   In this method, the final information
             relating to the transmitted signal is obtained by means
             of analysis of the receiver detector output voltage at

             for same signal level and pass-bands for AM and FM, the
             signal-to-interference ratio at the output of FM detector
             should be 1.5 times that of the AM detector output.  In
             phase-shift transmission, the noise produces distortion
             of the transmitted information when the phase of the

Noise-suppresion characteristics in various types of 269
radiotelegraphy. (Cont.)

phase-discriminator input signal is shifted by an angle

$$\frac{\pi}{2} < \varphi < \frac{3\pi}{2}$$

as shown in (9,10). The final expression for the
distortion probability of phase-modulated signals is
derived as:

$$P = \frac{1}{2} \left[ 1 - \Phi\ (N) \right]$$

of the same form as that derived by G. F. Montgomery (3),
where  $\Phi(N)$  is the probability integral for

$$N = \frac{E_s}{\sqrt{2\sigma}}$$ ,  $E_s$  being the amplitude of the "on"

or "off signals.    The author concludes the article by a
discussion of the advantages of the phase-shift trans-
mission and states that the above analysis can be
successfully applied to other types of binary-coded
transmissions.   4 graphs illustrating the equations
derived are given.  There are 11 references, of which 9
are Russian.

LEZIN, Yu.S.

Synthesis of filters optimal for pulses of a definite form. Nauch.
dokl.vys.shkoly; radiotekh. i elektron. no.2:23-28   ' 58.

(MIRA 12:1)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut i radiotekhni-
cheskiy fakul'tet Gor'kovskogo politekhnicheskogo instituta imeni A.A.
Zhdanova.

(Electric filters)

9(3)

AUTHOR:     Lezin, Yu.S.

TITLE:     Optimum Filters for Pulse Signal Sequences (Ob optimal'nykh fil'trakh dlya posledovatel'nostey impul'snykh signalov)

PERIODICAL:     Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1958, Nr 3, pp 20-24 (USSR)

ABSTRACT:     The author investigates the construction of optimum filters for rectangular, trapezoidal and triangular signal pulse sequences and white noise. The optimum filtering effect is expressed as a criterion of a Fourier transformation /Ref 1/. The author presents the spectrums of rectangular and trapezoidal pulse sequences. He shows block diagrams for filters of rectangular, trapezoidal and triangular pulse sequences. The calculation of the signal-to-noise ratio at the outlet of the individual filter elements, which were built in accordance with the author's work, are beyond the purpose of this paper and will be the subject of a future investigation. There are 3 block

Card 1/2

Optimum Filters for Pulse Signal Sequences      SOV/162-58-3-3/26

        diagrams, 2 graphs and 3 Soviet references.

ASSOCIATION:  Nauchno-issledovatel'skiy radiofizicheskiy institut
              i radiotekhnicheskiy fakul'tet pri Gor'kovskom poli-
              tekhnicheskom institute (Scientific Research Insti-
              tute for Radio Physics and Radio Engineering Depart-
              ment at the Gor'kiy Polytechnical Institute)

SUBMITTED:    April 22, 1958


Card 2/2

9.2550

SOV/58-59-12-28014

Translation from:  Referativnyy zhurnal, Fizika, 1959, Nr 12, p 217 (USSR)

AUTHOR:     Lezin, Yu.S.

TITLE:      On the Passage of a Pulse Signal[6] and Noise Through the Optimum
            Filter.

PERIODICAL: Tr. Gor'kovsk. politekhn. in-ta, 1958, Vol 14, Nr 5, pp 45 - 51

ABSTRACT:   The square of the signal's peak value, the noise capacity and
            their ratio at the output of the optimum filter's various elements,
            were computed.  The coefficient of the signal transmission, the
            noise and the signal-to-noise ratio were determined by these
            elements.  It is proven that at a sufficiently wide input spectrum,
            the increase in the signal-to-noise ratio by the optimum filter, is
            equal to twice the product of the input spectrum width by the
            duration of the pulse.  This increase occurs as a result of a
            maximum match of the characteristics of the optimum filter elements.
            A diminution of the noise by the optimum filter is accomplished by
Card 1/2    the integrator causing a strong correlation of the noise oscillation,

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On the Passage of a Pulse Signal and Noise Through the Optimum Filter

which, being substracted after the time, equal to the pulse duration, attenuates considerably. Conclusions, formed above, apply to the filter, optimum to the square radio-pulse, as well.

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Yu. S. LEZIN

Б. С. Цыбаков

   О пропускной способности многолучевых каналов связи.

Ю. М. Мартынов

   К теории корректирующих кодов.

**10 июня**
**(с 10 до 16 часов)**

А. В. Бакарешко,
Б. С. Файнман,
Г. С. Тихонов

   Метод последовательного анализа в задачах обнаружения сигнала в многоканальных системах.

Н. Л. Теплов

   Элементы теории максимальной помехоустойчивости систем с дискретными сигналами.

Б. Н. Митяшев

   О помехоустойчивости одного способа определения временного положения импульсов.

Г. А. Серков

   К вопросу об оптимальной обработке экспериментальных данных.

**10 июня**
**(с 16 до 22 часов)**

Ю. С. Лезин

   О пороговых сигналах при некогерентном накоплении с исчерпывающей весовой функцией.

В. Е. Гуревич

   Новые принципы анализа спектров.

Г. А. Можаев

   Помехоустойчивость приемника с внутренним восстановлением. Случай простейшего потока помеховых сигналов.

Н. Н. Куперман

   О помехоустойчивости координатно-весового метода передачи телевизионных сообщений.

**11 июня**
**(с 10 до 16 часов)**

А. В. Бакарешко

   Нарастающая вероятность обнаружения импульса конечной вероятной длительности.

Л. Н. Фишман

   Нелинейное радиоприемное устройство импульсных сигналов.

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow,
8-12 June. *1959*

9(9)  
AUTHOR:    Lezin, Yu.S.

SOV/142-2-1-14/22

TITLE:        Noise Suppression in Duplex Phase Radio Tele-
graphy (O pomekhoustoychivosti pri dvukratnoy
fazovoy radiotelegrafii)

PERIODICAL:  Izvestiya vysshikh uchebnykh zavedeniy - radiotekh-
nika, 1959, Vol 2, Nr 1, pp 107-108 (USSR)

ABSTRACT:  Duplex phase telegraphy (dvukratnaya fazovaya tele-
grafiya - DFT) was suggested by A.A. Pistol'kors
more than 25 years ago.  There is a growing interest
in phase radio telegraphy and in its practical reali-
zation in the "Kineplex" system /Ref 4/.  The author
therefore presents a calculation of the information
distortion probability for the DFT, since such cal-
culations were not included in the papers published
on this subject.  He demonstrates the signal and
noise interaction in the DFT by a diagram, shown in
figure 1.  He determines the average information
probability $P_{DFT}$ according to the formula:

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Noise Suppression in Duplex Phase Radio Telegraphy

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$$P_{DFT} = \frac{1}{2} (P_1 + 2P_{1+3} + P_3) \text{ , whereby } P_1, P_{1+3}, P_3$$

are the probabilities for coincidence of the sum
vector ends in sectors AOB, BOC and COD, shown in
figure 1. The author compares the DFT with the
simplex phase telegraphy (odnokratnaya fazovaya
telegrafiya - OFT) and other telegraphy systems.
He emphasizes the advantages of the DFT over the
OFT and the other systems, especially in case of a
small signal-to-noise ratio. The author expresses
his gratitude to Candidates of Technical Sciences
N.T. Petrovich and N.P. Bobrov for their interest
in his work. There are 1 diagram, 1 graph, and 6
references, 1 of which is English and 5 Soviet.

ASSOCIATION: Kafedra radiopriyemnykh ustroystv Gor'kovskogo poli-
tekhnicheskogo instituta imeni A.A. Zhdanova (Chair

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SOV/142-2-1-14/22

The Noise Suppression in Duplex Phase Radio Telegraphy

of Radio Receiving Devices of the Gor'kiy Polytech-
nical Institute imeni A.A. Zhdanov)

SUBMITTED:    June 12, 1958

Card 3/3

30130
S/194/61/000/007/055/079
D201/D305

*6.9200*

AUTHOR:          Lezin, Yu.S.

TITLE:           Threshold signals with incoherent build-up with an
                 exponential weighting junction

PERIODICAL:      Referativnyy zhurnal. Avtomatika i radioelektronika,
                 no. 7, 1961, 5-6, abstract 7 I52 (V sb. 100 let so
                 dnya rozhd. A.S. Popova, M., AN SSSR, 1960, 79-83)

TEXT:    Probabilities are determined of correct reception of false
signalling of a periodical sequence of pulse signals with gaussian
background noise, using an incoherent build-up arrangement with an
exponential weighting function.  The build-up arrangement consists
of an incoherent amplitude detector and of an adding circuit with
feedback.  The feedback circuit has a delay-line of time T (the
quasi-period of the pulse repetition frequency) and a transfer coe-
fficient m < 1.  At the output of the storing arrangement the volt-
age is                                                                    $\chi$

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Threshold signals...

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$$U(t) = \sum_{k=0}^{\infty} u(t - kT)\, m^k, \quad m = \exp^{(-\alpha T)}.$$

The determination of the exact law of distribution $3P$ (2R) $U(t)$ is complicated. The approximate solutions may be obtained by the cumulants of the n-th order of the input voltage. If the latter are known - the cumulants of the output voltage may be determined with the required accuracy of distribution law of the output voltage. The distribution law $U(t)$ is presented either as the Edgeworth or Lagnerre function expansion. With square law detection the difference of $U(t)$ expansion, compared with normal distribution is so great that the Edgeworth series converges slowly. The Lagnerre series permits $m = 0.9$ to limit the analysis to the first term only. In this case the integral distribution law $U(t)$ is represented by $\chi^2$ distribution, which makes it possible to determine the probability D of correct reception and F of the false signalling. With linear storage with $m = 0.8 - 0.95$ the $U(t)$ is distributed nearly

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normally.  This is why, in evaluating D and F only the first term of the Edgeworth series has to be taken into account.  For a sufficiently high number of pulses $N > 50$ the threshold signals in the square-law and linear detection are practically identical.  $\angle$ Abstracter's note: Complete translation $\angle7$

$\cancel{\lambda}$

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258.5
S/142/60/003/006/005/016
E033/E135

9,7000

AUTHOR:      Lezin, Yu.S.

TITLE:       Distribution of random voltages at the output of a
             non-coherent accumulator apparatus with exponential
             weighting function

PERIODICAL:  Izvestiya vysshikh uchebnykh zavedeniy,
             Radiotekhnika, 1960, Vol.3, No.6, pp. 592-597

TEXT:        The object of this article is to find the laws for the
distribution of the output voltages of a non-coherent accumulator
with an exponential weighting function when the input consists of
pulse trains accompanied by noise.  The apparatus (Fig.1) consists
of a non-coherent (amplitude) detector followed by the accumulator.
The accumulator is an integrating device with a feedback loop
consisting of a delay line (with a delay  T  approximately equal
to the quasi-period of the expected pulsed signal) and a circuit
with a transfer coefficient of  m,  the value of which is constant
and less than unity.   The latter prevents self-oscillation.  The
pulse transfer function of the accumulator is an exponentially-
decaying train of unit pulses, repeating over the time  T :
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