USSR

KUDRYAVTSEV, F. S., and LAGUNOV, L. F., Candidate of Technical Sciences

UDC 628.517.4:534.739.09

"Chambers for Measuring the Noise of Machines"

Moscow, Mashinostroitel', No 6, Jun 72, pp 22-23

Abstract: The All-Union Central Trade Union Council in the All-Union Scientific Research Institute of Work Safety has developed a technological project of typical phonometric chambers for measuring the noise of machines and equipment. The open field method with the use of soundproofed chambers gives most exact results and permits the measurement of a whole complex of sound characteristics including directivity. The main parameters and characteristics of four typical soundproofed chambers are described by reference to tabulated data and the design of a chamber with reflecting floor. In cases where the directional noise emission characteristics need not be determined and where it is sufficient to measure in a frequency range of 126 Hz and higher, the machines can be investigated in reverberation chambers. The main parameters and characteristics of four typical reverberation chambers and their construction are shown. In comparison with soundproofed chambers, the reverberation chambers are of much simpler design, their dimensions are smaller, and the cost of their construction is several times lower. Two illustrations, two tables.
1/1

USSR

KUDRYAVTSEV, F. S., Engineer, LAGUNOV, L. E., Candidate of Technical Sciences, SOLOV'YEV, R. V., Engineer, and KOZLOVA, N. G., Engineer

UDC 621.515:628.517.2

"Exhaust-Noise Muffler for a Compressor Station"

Abstract: The compressor station of the Gor'kiy Motor Vehicle Plant has three turbine compressors, each with a capacity of 500 m³/min and one with a capacity of 250 m³/min; the air exhaust ducts leading out of the compressor-station building are directed toward the office building of the plant management, situated in the immediate vicinity. The frequency spectrum of the exhaust noise of a 500 m³/min compressor, measured at a distance of 2 m from the wall of this office building, was above the permissible maximum; it was necessary to reduce the noise level at 1,000, 2,000, 4,000, and 8,000 hz by 57, 59, 60, and 57 db, respectively. A muffler of simple design was constructed, the exhaust air being passed through layers of rubble and crushed stone. The muffler was designed for suppression of the noise created by a single compressor, since the air was exhausted by each compressor in turn. The calculations involved in designing the muffler are presented, and the
1/2

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USSR

KUDRYAVTSEV, F. S., et al., Vestnik Mashinostroyaniya, No 7, June 1972, pp 31-32

muffler is described. It was impossible to conduct tests on the efficiency of the muffler near the office building, i.e., at the point for which all the calculations had been made, due to noise created by the air intake ducts, for which the appropriate mufflers had yet been installed. However, results of measurements conducted near the muffler, and calculations based on these measurements, show that this exhaust-noise muffler provides the required noise reduction over the entire frequency range. 3 figures, 2 references.

2/2

1/2   013
TITLE--AKERLOEF-THOMAS RULE AND THEORY OF ACTIVITES -U-   UNCLASSIFIED   PROCESSING DATE--23OCT70

AUTHOR--LAGUNOV, M.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 452-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTE, ACTIVITY COEFFICIENT, CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1425

STEP NO--UR/0076/70/044/002/0452/0455

CIRC ACCESSION NO--AP0116872
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0116872   UNCLASSIFIED   PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AKERLOEF-THOMAS EQUATION IN
THE FORM: LOG GAMMA LOG GAMMA SUBR EQUALS BM, WHERE GAMMA IS THE
ACTIVITY COEFF., R INDICATES AN ELECTROLYTE USED AS STANDARD, B IS A
CONST., AND M IS MOLALITY, WAS USED TO ANALYZE THE RELATION BETWEEN THE
LOGARITHMS OF THE ACTIVITY COEFFS. OF 1-1 STRONG ELECTROLYTES AND THEIR
CONCN. AT CONCN. INTERVALS OF 0.5-0.7 AND AT 2.8-3.4 MOLES-1000 H SUB2
O A CHANGE IN THIS RELATION WAS OBSERVED. A SIMILAR CHANGE WAS ALSO
NOTED AT CONCNS. OF 10.5-14.5 MOLES-1000 G H SUB2 O IN THE CASE OF THE
MOST READILY SOL. ELECTROLYTES. THE SHAPE OF THE CURVE OF THIS RELATION
IS EXPLAINED BY THE CHANGES IN THE INTERACTION ENERGY BETWEEN THE IONS
WHEN THE SOLVATION LAYERS AROUND THE IONS CHANGE FROM 2 TO 3 AND FROM 4
TO 5.   FACILITY: VSES. NAUCH.-ISSLED. INST. LYUMINATOROV,
STAVROPOL, USSR.

UNCLASSIFIED

USSR

LAGUNOV, YU. V., GLADKIKH, V. A., PETRUNOV, V. S., RUDENKO, V. K., VOYTANIK, S. T., KLIMKOVICH, N. S., PORADA, A. N., and CHERNYSH, F. I.

UDC 669.71.046.44

"Investigation of the Kaolin Sintering Process"

Metallurgiya i koksokhimiya. Mezhved. resp, nauchno-tekhn. sb, (Metallurgy and Coke Chemistry -- Interdepartmental Republic - Collection of Scientific and Technical Works), 1970, vyp, 21, pp 47-55 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3 G143 by authors)

Translation: The authors work out the parameters of the sintering process for kaolins of the Glukhovetskoye, Prosyanaya, and Novoselotskoye deposits in a laboratory sintering cup of square section with a sintering area of 0.1 m² and with an exhauster having an efficiency of 0.5 ml/sec. Fe concentrate was used as an additive to lower the melting point of the sintering charge. The hygroscopic moisture content of both primary and secondary kaolins intended for sintering should range from 13 to 18%. The sintering of both primary and secondary kaolins is shown to be possible in principle. 5 tables.

1/1

USSR   UDC 669.71.053.24(088.8)

KHITRIK, S. I., GASIK, M. I., VUKOLOV, YE. A., ELINKEVICH, N. A.,
PORADA, A. N., LACUNOV, YU. V., POLONSKIY, S. M., IORDANOVA,
Z. A., MALYSHEV, V. I., YEMLIN, B. I., KASHKUL', V. V., MASHKOV,
V. P. TSEYMAKH, N. L., YEM, A. P., CHERNYSH, F. I., and KOLNOGU-
ZENKO, V. A., Dnepropetrovsk Metallurgical Institute

"Method of Smelting Abrasive Electrolytically Produced Corundum"

USSR Author's Certificate No 263635, filed 15 Oct 65, published
10 Jun 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11
G101 P)

Translation: A method is proposed for smelting abrasive elec-
trolytically produced corundum in a thermal furnace which involves
deep fusion of alumina-containing charge with reducing agents.
To increase the abrasive properties of corundum and to obtain
in it a Ti oxide content of $< 1\%$, smelting is carried out on
kaolin presintered with Fe-ore additive or scale in the amount
of 20-30 wt % of the charge.

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LAGUNOV, V. M.

A MEGAVOLT ENERGY DENSITIES

Article by Yu. A. Abramyan, V. A. Kornilov, V. M. Lagunov, A. G. Ponomarenko, and Corresponding Member of the USSR Academy of Sciences, G. I. Solukhin, Institute of Theoretical and Applied Mechanics of the Siberian division of the Academy of Sciences, Novosibirsk; Moscow, Doklad Akademii Nauk SSSR, Fizika, Vol 201, No 1, 1971, submitted 15 June 1971.

In connection with the development of research devoted to the creation of pulsed sources of energy, a number of physical problems arise, in which it is proposed to use energy of a powerful $10^{12}-10^{14}$ watt relativistic electron beam for heating of plasma, coherent acceleration of ions, and also for the generation of intense X-ray and ultra high frequency radiation...

[II - USSR - F]

LAGUNOV V. M.

ATO 032096

NUCLEAR SCI. ABST. 2 - 70   UR 0000

6510   (NP-tr-1861)   EXPERIMENTS WITH STRONG SHOCK-
WAVES ON "VODA I."   Kapitonov, V. A.; Kornilov, V. A.; Lagu-
nov, V. M.; Nesterikhin, Yu. E.; Pivyrin, A. N.; Tikhomariralio.
A. G.; Fedorov, V. M.   (Akademiya Nauk SSSR, Novosibirsk. In-
stitut Yadernol Fiziki).   Translated for Culham Lab., Abingdon,
Eng., from Preprint No. 236.   11p.   (CTO-658).   Dep. CFSTI
(U. S. Sales Only).
   Experiments are described on the excitation of strong collision-
less shock waves (M ≈ 5) with subsequent containment of the
plasma by the magnetic field of the shock loop. A magnetic piston
of ~ 20 kOe was produced within ~ 100 × 10⁻⁴ sec by a current
generator forming a long line with water insulation for 250 kV
and wave impedance of 1 Ω. (auth)

21

19700282

USSR

LAGUNOV, V. N., Institute of Mathematics, Siberian Department, Academy of
Sciences, USSR, Novosibirsk

"The Asymptotic Properties of Some Nonlinear Games of Pursuit"

Abstract: A likeness is established between pursuit games with the simple movement of point objects in an n-dimensional Euclidian space E^n, $n \geq 2$, and a capture radius $\mathcal{L} \geq 0$ and analogous games for some classes of permissible movements of the objects (when i = 1 of the pursuing objects = 1, when i of the pursued = 2) under the assumption that the initial distance between the objects and $\mathcal{L}$ is sufficiently great. 8 bibliographic entries.

1/1

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USSR   UDC 616.36-092.9-085.849.19

LAGUNOVA, I. G., SAVCHENKO, Ye. D., GARVEY, N. N., LIKHOVETSKAYA, L. L.,
SHAMAYEVA, G. G., KLIMOV, A. D., and MOGUTOV, V. I., Moscow, Scientific
Research Institute of Roentgenology and Radiology, Ministry of Health RSFSR

"The Effects of Neodymium Laser Irradiation on the Rat Liver"

Abstract: Single irradiation of a 2 by 5 mm abdominal area over the rat liver
with pulsed neodymium laser rays with initial energy of 100-200 joules and
incident density of 1000-4000 joules/cm^2 causes local injury to the liver
tissue, ranging from degenerative changes to complete necrosis. Destruction
of blood vessels occurs in the central zone and paralytic vasodilation with
edema in the peripheral zone. Proliferation of fibroblasts begins after 5
days, and a capsule is formed around the injured area. Connective tissue
cells and bile capillaries grow toward the necrotic center along with blood
vessels. Eventually, hepatocytes, lymphocytes, and macrophages appear. On
the 20th day, the necrotic area is filled with patches of new hepatic paren-
chyma. After stronger irradiation (3000-4000 joules/cm^2), the injury is more
severe and recovery slower.
1/1

USSR

UDC 621.38:61

LACHINOVA, I. G., LIKHOVETSKAYA, L. L., VISHNEVSKIY, A. A., ROZENFEL'D, E. B., RAZYGRIN, B. A., VANYUKOV, M. P., and MALYSHEV, B. N.

"Irradiation of Metastases of Melanoma By Pulsed Laser"

V. sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch. 2O3 (Use of Lasers in Contemporary Technology and Medicine. Parts 2-3 -- Collection of Works), Leningrad, 1971, p 102 (from RZh Elektronika i yeye Primeneniye, No 2, Feb 72, Abstract No 2A508)

TRanslation: Melanomas are first among primary malignant tumors which metastasiz to the skin. Use of laser emission in such cases is advisable in view of the possibility of simultaneous irradiation of several dozen tumor sites. Type GOS-500 and GOS-1000 pulsed neodymium lasers operating in a free pulse generation modes were used for irradiation. The output energy of the pulse fluctuated from 100 to 500 joules. The total density of the incident energy at the metastatic tumor varied from 1,000 to 5,000 joules/cm^2. Summary.

1/1

USSR   UDC 616-006.81-033.2-085.849.19

LAGUNOVA, I. G., VISHNEVSKIY, A. A., Jr., LIKHOVETSKAYA, L. L., ROZENFEL'D,
E. B., and RAZYGRIN, B. A., Institute of Surgery imeni A. V. Vishnevskiy,
Academy of Medical Sciences USSR, and Moscow Scientific Research Institute
of Roentgenology and Radiography

"Possibility of Treating Melanoma Metastases With Laser Radiation"

Abstract: In a 22-year-old female with multiple metastatic melanomas that
did not respond to X-irradiation or chemotherapy, neodymium laser radiation
resulted in the rapid destruction of 52 of 58 tumors (90%). During the
following 4 months recurrences occurred in only 3 nodes. There were eight
radiation sessions extending over a period of 6 weeks, with 10 to 20 tumors
treated each time. The patient's condition remained satisfactory throughout.
The eschar produced by the radiation fell off spontaneously 14 to 25 days
later, revealing a pink soft scar at the tumor site which fell off after 1
to 2 months. The color of the underlying tissue was the same as that of the
surrounding skin. Neither combination of X- and laser rays nor multiple-
field irradiation produced as good immediate results as did laser radiation
alone.
1/1

USSR

GASANLI, Sh. M., YEMEL'YANENKO, O. V., LAGUNOVA, T. S., and
NASLEDOV, D. N.

"The Nature of Negative Reluctance in Gallium Arsenide"

Abstract: Experiments are described for investigating n-type GaAs
crystals doped with such substances as donors, acceptors, without
full compensation of the donors, amphoterics, ferromagnetics, to
clarify the effect of the individual impurity on the negative re-
luctance of the specimen. The experimental results are compared
with the results of current theory, and the effect of impurity com-
pensation on the negative reluctance is considered. The following
elements were used for the doping: S, Se, Sn, Si, Cu, Ni, and Cr;
these were introduced into the GaAs specimens at concentrations of
0.001-0.5%, the electron concentration after doping was 10^{13}-10^{14}
per cm^3, and the mobility was 1000-6000 cm^2/V-sec at room tempera-
ture. It was found that the negative reluctance is independent of
the doping substance and is a function only of the concentration of
small donor levels.
1/1

Polymers and Polymerization

USSR   UDC 678.049.9

VASILENOK, YU. I., KONOPLEV, B. A., LAGUNOVA, V. N., SIDONOV, A. M.,
POSHARSKIY, A. F., AVEZDINA, E. A., and ADRSYCHIKOV, YU. P.

"Novel Antistatic Agents for Plastic"

Abstract: Results are reported of a study of the antistatic efficiency
of imidazolinium bromohydrates, sodium salts of imidazolinium hydroxides,
and adipic salts of imidazolinium and pyridinium after deposition on the
surface of low density polyethylene, high density polyethylene, block
polyethylene, and polymethylmetacrylate as well as with introduction of
these agents directly into the polymer mass. It has been determined that
deposition of these substances on the surfaces of polymers decreases the
specific surface resistance at $20 \pm 2°C$ and relative humidity $65 \pm 3\%$. The
sodium salts of the substituted imidazolium hydroxides are especially effective
in lowering the surface resistance. Addition of 1-4 weight-% of the investi-
gated antistatic agent directly into the polymer mass has practically no
effect on the mechanical properties of low density polythylene; high density
polythylene shows a lower relative elongation at the tearing point after
addition of the antistatic agents.
1/1

1/2   025   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--PROPERTIES OF ANTISTATIC AND CONDUCTING POLYMERIC MATERIALS -U-

AUTHOR-(06)-VASILENOK, YU.I., DEYANOVA, A.S., KONOPLEV, B.A., LAGUNOVA,
    V.N., LELCHUK, SH.L., SAZHIN, B.I.
COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (5), 57-60

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SURFACE ACTIVE AGENT, POLYETHYLENE, PROPYLENE, COPOLYMER,
    BUTENE, ACETATE, POLYMETHYLMETHACRYLATE, ELECTRIC RESISTANCE, PLASTIC
    FABRICATION, ANTISTATIC ADDITIVE, MONOETHANOLAMINE, AMMONIUM CHLORIDE,
    ALCOHOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0923   STEP NO--UR/0191/70/000/005/0057/0060

CIRC ACCESSION NO--AP0134652
                         UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134652
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDITION OF SURFACE ACTIVE
   COMPDS. TO POLYETHYLENE, ETHYLENE,PROPYLENE COPOLYMER,
   ETHYLENE,ALPHA,BUTYLENE COPOLYMER, ETHYLENE,VINYL ACETATE COPOLYMER, OR
   POLY(ME METHACRYLATE) REDUCED THEIR SP, SURFACE ELEC. RESISTANCE (RHO
   SUBS). THE REDN. OF RHO SUBS INCREASED THE RATE OF THE ELEC. CHARGE
   DISSIPATION AND IMPROVED THE ANTISTATIC PROPERTIES. THE REDN. OF RHO
   SUBS DEPENDED ON THE THICKNESS OF THE SURFACTANT LAYER ON THE POLYMER
   SURFACE, WHICH WAS THE FUNCTION OF THE SURFACTANTS DIFFUSION TOWARDS THE
   SURFACE. THE BEST METHOD OF ADDING THESE SURFACTANTS (HYDROXYETHYLATED
   CETYL ALC., STEARYL ALC., OCTADECYLAMINE, MONOETHANOLAMINE, OR
   DIMETHYLOCTADECYLAMMONIUM CHLORIDE) WAS DURING THE EXTRUSION.

UNCLASSIFIED

USSR

UDC 621.398.654.94

KOLOMIYTsEV, A. K. and LAGUNOVICh, Ye. F., Donets Scientific Research and
Design Institute for the Automation of Mining Equipment

"A Device for Monitoring Communication Lines"

USSR Author's Certificate, Class H 04 J 1/16, No 341171, filed 25 Dec 67,
published 17 July 72 (from RZh-Avtomatika Telemechanika i Vychislitel'naya
Tekhnika, No 3, Mar 73, Abstract No 3 A352P)

Translation: A device is proposed for monitoring communication lines in wire
remote control systems of mechanized mining. The device contains a control
panel and programmed unit, pulse divider, a time selection unit and decoder,
divider cells on the control panels, lines for signals and control commands,
and a communication line monitoring unit. In order to monitor the communica-
tion line for breaks without increasing the time cycle of the remote control,
control signal shapers placed between the adjacent cells of the distributor
are connected through the signal and control command lines to the first input of
the monitoring unit, the second input of which is connected to the time selection
unit. The output of the monitoring unit is connected through a switch to one
of the inputs of the decoder. One illustration.

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USSR

UDC: 621.373.531.3(088.8)

GOLUBCHIKOV, A. M., KOLOMIYTSEV, A. K., LAGUNOVICH, Ye. E., Donetsk
Scientific Research and Design and Planning Institute for Automation
of Mining Machinery

"A Multichannel Overlapping Pulse Generator"

USSR Author's Certificate No 265182, filed 6 Feb 68, published 12 Jun 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G281 F)

Translation: This Author's Certificate introduces a multichannel over-
lapping pulse generator which contains a master multivibrator and output
cells based on flip-flops with transistors of opposite conductivity type.
The device is designed to give a predetermined time overlap of the output
pulses. Connected to the collector of the NPN transistor in each output
cell of the generator are the input of a coincidence circuit for moving
the signal on to the following output channel, and the input of a coinci-
dence circuit for quenching the signal in the preceding channel; the second
inputs of the corresponding coincidence circuits are connected together
and tied to different legs of the multivibrator, the inputs of the coinci-
dence circuit for moving the signal being connected to the leg of the
multivibrator which determines the time of overlap of the pulses.
1/1

USSR   UDC: 621.374.32

KOLOMIYTSEV, A. K., LAGUNOVICH, Ye. E., Donetsk Scientific Research Institute
for Design and Planning in the Automation of Mining Machinery

"A Computer Which Retains Data in the Case of Interruptions in the Power
Supply"

USSR Author's Certificate No 250998, filed 5 May 68, published 30 Jan 70
(from RZh-Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 11,
Nov 70, Abstract No 11A40 P)

Translation: This Author's Certificate introduces a computer which retains
information when there are interruptions in the power supply. The device
contains an end-around counter in which each digital place consists of a
flip-flop based on two transistors of opposite conductivity type and a mag-
netic core with rectangular hysteresis loop. The device also contains a
read-out pulse shaper. To improve resistance to interference, the collector of
the n-p-n transistor for each digital place is connected through a semicon-
ductor diode to the output of the read-out pulse shaper. A single cell in
the counter is activated at each instant. Corresponding to the activated
state of a counter cell is the state of positive magnetization of the core,
while negative magnetization corresponds to the deactivated state. These
states are retained when the power supply voltage is disconnected. One
illustration. N. S.
1/1

. USSR

ZHISLIN, L. E., LAGUTIN, A. A.

"Problem of the Fibrogenic Effect of Manganese-Zinc Ferritic Powder"

V sb. Materialy XXI-XXII plenumov Resp. komis. po bor'be s sili-kozom (Materials of the Twenty-first to Twenty-second Plenums of the Republic Commission for Controlling Silicosis--Collection of Works), Kiev, Naukova dumka, 1972, pp 159-161 (from RZh--Farma-kologiya, Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.896)

Translation: Male rats were subjected to inhalation poisoning by manganese-zinc ferritic powder for 12 months (70 percent Fe oxide, 20 percent Mn oxide and 10 percent Zn oxide) in a concentration of 50 mg/m^3. In the first month, changes in the morphologic picture of the red blood, the albumen concentration and its fractions and the SH-group content in the blood were noted. Phagocytosis was suppressed, and the agglutinin activity was reduced. Lymphoid infiltration and hyperemia was detected in the trachea; induration and loss of elasticity of tissue in the lungs, thickening of the alveolar septa, catarrhal-desquamative bronchitis, hyperplasia of

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USSR

ZHISLIN, L. E., LAGUTIN, A. A., Materialy XXI-XXII plenumov Resp. komis. po bor'be s silikozom, 1972, pp 159-161

the peribronchial pulmonary follicules with deposition in them of dust -- all are noted. At the points of deposition of the dust there is proliferation of the connective tissue, and perivascular and peribronchial sclerosis were observed. USSR, Donets, Medical Institute.

2/2

- 83 -

96041z Polarographic study of aliphatic diisocyanates.
Shapoval, G. S.; Lipatova, T. E.; Zhabenko, V. A.; Shelnina,
L. S.; Morozov, M. A.; Lagutin, M. A. (Inst. Khim. Vysokomol. Soedin., Kiev, USSR). Zh. Obshch. Khim. 1970, 40(1),
25-8 (Russ). Polarographic data were reported for $(CH_2)_n$
$(NCO)_2$ with $n = 4, 6, 7, 8, 9, 10$. The half-wave potential
showed a relation to the above structure by gradual extinction of
the mutual inductive effect of the NCO groups as the value of n
increased. These potential values were indicative of the overall
reactivity of the diisocyanates in such reactions as polyurethane
formation and hence represent useful industrial value. The
following half-wave potentials were reported (n, V given): 4,
1.93; 5, 2.12; 6, 2.18; 7, 2.23; 8, 2.235; 9, 2.24; and 10, 2.25.
The measurements were made relative to the Hg anode by using
$AcNMe_2$ solvent and Bt_4NI electrode at 25°. G. M. Kosolapoff

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REEL/FRAME
19801561

UNCLASSIFIED   PROCESSING DATE--27NOV70

1/3   031

TITLE--DETERMINATION OF DECELERATION IN BASE RADAR OBSERVATION OF METEORS
-U-

AUTHOR-(04)-GULMEDOV, KH.O., KVACHADZE, G.P., LAGUTIN, M.F., SMAGIN, O.M.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK TURKMENSKOY SSR, SERIYA
FIZIKO-TEKHNICHESKIKH, KHIMICHESKIKH I GEOLOGICHESKIKH NAUK, NO 3, 1970,

DATE PUBLISHED-------70

SUBJECT AREAS--NAVIGATION, ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--RADAR METEOR OBSERVATION, DECELERATION, ATMOSPHERE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0389   STEP NO--UR/0202/70/000/003/0122/0124

CIRC ACCESSION NO--AP0137485
UNCLASSIFIED

CIRC ACCESSION NO--AP0137485
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   THE KHARIKOV INSTITUTE OF RADIO
  ELECTRONICS, JOINTLY WITH THE INSTITUTE OF PHYSICS OF THE EARTH AND
  ATMOSPHERE ACADEMY OF SCIENCES TURKMEN SSR, IN 1968 COMPLETED WORK ON A
  BASE RADAR COMPLEX.   THIS OUTFIT INCLUDES SIC HIGHLY STABLE TRANSMITTING
  SYSTEMS ORIENTED ALONG A WEST-EAST DIRECTION, APPROXIMATELY UNIFORMLY
  OVER A DISTANCE OF 42 KM.   THE RECEIVING CENTER WITH A PULSED RANGE
  FINDER WAS SITUATED AT THE ASTROPHYSICAL OBSERVATORY AT VANNOVSKIY AND
  WAS SHIELDED BY MOUNTAINS FROM THE DIRECT WAVES OF THE TRANSMITTERS.
  THIS PAPER GIVES THE RESULTS OF DETERMINATIONS OF THE DECELERATION OF
  INDIVIDUAL METEORS IN THE EARTH'S ATMOSPHERE ON THE BASIS OF
  MEASUREMENTS MADE DURING APRIL-MAY 1969.   ASSUMING A LINEAR
  APPROXIMATION OF THE CHANGE IN VELOCITY V WITH TIME, THE LEAST SQUARES
  METHOD WAS USED IN COMPUTING MEAN METEOR DECELERATION.   FOR 84 METEORS
  REGISTERED IN THE MIDDLE SEGMENT OF THR TRAIL DECELERATION WAS MEASURED
  AT NOT LESS THAN THREE POINTS ALONG THE TRAIL AND WAS 33 KM-SEC PRIME2.
  THE MEASUREMENT RESULTS WERE EXAMINED FOR DIFFERENT VELOCITY RANGES:
  25-35, 35-45, 45-55, 55-70 KM-SEC.   A TABLE GIVES ALL PERTINENT DATA:
  N, NUMBER OF PROCESSED MEASUREMENTS, BAR V, MEAN VELOCITY, BAR A, MEAN
  DECELERATION, AND DELTA BAR A, MEAN SQUARE ERROR IN BAR A.   THE
  DETERMINED DEPENDENCE OF ACCELERATION ON VELOCITY IS COMPARED WITH THE
  DEPENDENCE OBTAINED BY F. VERNIANI (SMITH CONTR. TO ASTROPHYS., 1966).
  IN BOTH CASES THE DEPENDENCE WAS THE SAME AND APPROXIMATELY LINEAR.

UNCLASSIFIED

CIRC ACCESSION NO--AP0137485

ABSTRACT/EXTRACT--IF IT IS POSTULATED THAT MOST REFLECTION STATISTICS
  APPLY TO THE PART OF THE TRAIL WITH MAXIMUM IONIZATION (OR CLOSE TO IT),
  IT IS SHOWN THAT ONE CAN MAKE A THEORETICAL DETERMINATION OF THE LOSS OF
  VELOCITY WITH ALTITUDE FOR THE ENTIRE GROUP OF MEASURED METEORS. FOR 39
  METEORS THE AUTHORS FOUND: BAR V EQUALS 54 KM-SEC; DELTA BAR H EQUALS
  2.55 PLUS OR MINUS 0.17 KM; DELTA VAR V-DELTA H EQUALS 1.1 PLUS OR MINUS
  0.1 KM-SEC. THIS MEAN VALUE OF LOSS OF VELOCITY WITH ALTITUDE IS AN
  ORDER OF MAGNITUDE GREATER THAN THE CORRESPONDING VALUE COMPUTED
  THEORETICALLY FOR POINTS ON A TRAIL CLOSE TO THE POINT OF MAXIMUM
  IONIZATION.   FACILITY: INSTITUTE OF PHYSICS OF THE EARTH AND
  ATMOSPHERE, ACADEMY OF SCIENCES TURKMEN SSR; ASHKHABAD.

UNCLASSIFIED

1/3   029   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--DETERMINING METEOR RADIANT AND ALTITUDE IN CONTINUOUS RADAR
    OBSERVATIONS -U-
AUTHOR-(04)-GULMEDOV, KH.O., LAGUTIN, M.F., SMAGIN, D.M., KHANBERDYYEV,
    A.KH.
COUNTRY OF INFO--USSR

SOURCE--ASHKHABAD, IZVESTIYA AKADEMII NAUK TURKMENSKOY SSR, SERIYA
    FIZIKO-TEKHNICHESKIKH, KHIMICHESKIKH I GEOLOGICHESKIKH NAUK, NO 2, 1970,
DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION

TOPIC TAGS--METEOR RADIANT, RADAR METEOR OBSERVATION, REFLECTED SIGNAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0104   STEP NO--UR/0202/70/000/002/0076/0083

CIRC ACCESSION NO--AP0125926
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0125926

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS OF THIS ARTICLE
PROPOSE A METHOD FOR DETERMINING THE RADIANT, DECELERATION AND ALTITUDE
OF A METEOR DURING RADAR OBSERVATIONS IN A CONTINUOUS REGIME; IT
REQUIRES USE OF NO ADDITIONAL ANGLE MEASURING DEVICES. THE INITIAL DATA
WERE THE RESULTS OF ANALYSIS OF THE AMPLITUDE AND TIME CHARACTERISTICS
OF REFLECTED SIGNALS. THE METHOD WAS DEVELOPED BY THE ASTROPHYSICAL
LABORATORY IN THE PROGRAM OF JOINT RESEARCH BY THE KHAR'KOV INSTITUTE OF
RADIOELECTRONICS AND THE INSTITUTE OF PHYSICS OF THE EARTH AND
ATMOSPHERE ACADEMY OF SCIENCES TURKMEN SSR. USE OF THE CONTINUOUS
OBSERVATION METHOD MAKES IT POSSIBLE TO COMPUTE METEOR VELOCITY WITH A
HIGHER ACCURACY BECAUSE THE REFLECTED SIGNAL HAS DIFFRACTION
OSCILLATIONS TO THE REFLECTION POINTS WHICH ARE LEAST SUBJECT TO WIND
INFLUENCE. HOWEVER, USE OF CONTINUOUS RADIATION COMPLICATES
DETERMINATION OF THE DIRECTION COSINES OF THE TRAIL. IN THE CASE OF A
PULSED SYSTEM THE RATIO OF THE DISTANCE BETWEEN REFLECTION POINTS ON THE
TRAIL TO THE DISTANCE SEPARATING TWO CORRESPONDING RECEIVERS AT THE
EARTH'S SURFACE IS EQUAL TO HALF THE COSINE OF THE ANGLE BETWEEN THE
DIRECTION OF THE TRAIL AND THE LINE CONNECTING THESE RECEIVERS. THIS
OCCURS WHEN THE RECEIVERS ARE 5-3 KM FROM THE TRANSMITTER. WHEN USING
THE CONTINUOUS RADAR METHOD THE DIRECT WAVE IS ATTENUATED BY PLACING THE
RECEIVERS AT GREAT DISTANCES FROM THE TRANSMITTER. TENS OF KILOMETERS
MAY SEPARATE THE EXTREME POINTS. FOR SUCH BASES THE DIRECTION COSINES
OF THE TRAIL ARE DEPENDENT NOT ONLY ON THE SPACING OF REFLECTION POINTS
ALONG THE TRAIL, BUT ALSO ON THE SPATIAL POSITION OF THE TRAIL.

UNCLASSIFIED

CIRC ACCESSION NO--AP0125926

ABSTRACT/EXTRACT--IN COMPUTING THE ORBIT IT IS NECESSARY TO KNOW NOT ONLY
THE VELOCITY VECTOR OF THE METEOR, BUT ITS DECELERATION AS WELL; THIS
REQUIRES A MULTISTATION MEASURING SYSTEM FOR MEASURING APPARENT
VELOCITIES AT SEVERAL POINTS ALONG THE TRAIL.   THE ARTICLE DESCRIBES A
COMPLEX FOR FIVE SPACED TRANSMITTERS AND A RECEIVING REGISTERING
APPARATUS.   FORMULAS ARE DERIVED AND AN EXAMPLE USED IN ILLUSTRATING THE
METHOD FOR DETERMINING THE COORDINATES OF THE RADIANT FROM THE DIRECTION
COSINES OF THE TRAIL.   THE ARTICLE THEN DESCRIBES A SIMPLE PHASE METHOD
FOR MEASURING THE ANGULAR COORDINATES OF A METEOR TRAIL BASED ON A
DIRECT COMPARISON OF THE AMPLITUDE TIME CHARACTERISTICS OF THE REFLECTED
SIGNALS.   FACILITY: INSTITUTE OF PHYSICS OF THE EARTH AND
ATMOSPHERE, ACADEMY OF SCIENCES TURKMEN SSR.

UNCLASSIFIED

USSR

LAGUTIN, V. I., LEVCHUK, D. G., SHMANENKOV, V. N., Moscow

"Experimental Study of Hypersonic Flow Around an Oscillating
Body With a Flare"

Moscow, Mekhanika Zhidosti i Gaza, No 5, Sep-Oct 70, pp 189-191

Abstract: Results are presented from an experimental study of
movement of a hypersonic flow (M = 6.6, R = $0.4 \cdot 10^6 - 4.95 \cdot 10^6$)
around a freely oscillating model consisting of a hemisphere
connected to a cylinder connected to a cone (flare). It is
demonstrated that the nature of oscillations of the model depends
essentially on the R and M numbers and the aperture angle of the
conical stabilizer. Factors are determined which influence the
loss of dynamic stability of the models with low oscillating
amplitudes. Studies of the aerodynamic characteristics of bodies
with flares (conical stabilizers) performed in the past have
indicated certain specifics in the behavior of these character-
istics at various M and R numbers. In particular, it has been
noted that with increasing M number the dynamic stability of these
1/2

USSR

IAGUTIN, V. I., et al, Mekhanika Zhidosti i Gaza, No 5, Sep-Oct
70, pp 189-191

bodies decreases. It has also been noted that an increase in
the R number at small oscillation amplitudes leads to an in-
crease in stability and has an opposite influence at larger
amplitudes. The particular role of the entropy effect in hyper-
sonic unstable aerodynamics has been emphasized. This article
presents an attempt at more careful investigation of the flow
picture around bodies with flares moving through hypersonic flows.

2/2

Corrosion

USSR

UDC 620.193.27

LAGUTINA, A. G., and SHEVCHENKO, O. P., Central Scientific
Research Institute of the Shipbuilding Industry

"Influence of Seasonal Factors on the Corrosion of Metal in the Sea"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr, 1971, pp 197-199.

Abstract: Results are presented from studies of the corrosion of type 3S steel and
AMg-61 aluminum alloy in the Black Sea as a function of seasonal factors. The
maximum corrosion rate is observed during the season of highest water temperature
(August) for steel, while the aluminum is corroded most rapidly in the spring, dur-
ing the time of rapid development of algae and plankton.

1/1

USSR

LAGUTINA, A. G., DANIL'CHENKO, K. P., SHEVCHENKO, O. F., and BARANNIK, V. P.

"Corrosion Study of Shipbuilding Materials in Sea Water"

Moscow, Zashchita Metallov, Vol 6, No 1, Jan-Feb 70, pp 48-51

Abstract: Comparative data on the corrosion resistance of metallic materials
most commonly used in shipbuilding (ZS steel, AMg-9-2, NKhTs-48-2.5-1.6 monel
metal, AMg-61, 1Kh18N10T, OKh17N7Yu stainless, L-62 brass) in natural (sea water)
and laboratory (synthetic and natural sea water) conditions are given. The fol-
lowing was established: a) the corrosion rate of some shipbuilding materials
tested in sea water at complete immersion is much higher than the corrosion rate
of the same metals tested under laboratory conditions both in synthetic and sea
water. After one year of testing, the corrosion rate of brass and AMg-61 alloy
at sea is 5 to 6 times higher than in nonrunning water under laboratory condi-
tions; b) tests of stainless and monel metal revealed not only a difference in
corrosion rate but also in its nature. 1Kh18N10T and OKh17N7Yu stainless as
well as monel metal did not corrode in natural sea water in the laboratory but
underwent strong pitting corrosion at sea; c) the basic factors accelerating
the corrosion of shipbuilding materials under natural sea water conditions are
biological, which are conducive to changes in the physico-chemical properties
of sea water, as well as mechanical (natural mixing of sea water accelerating
the cathodic reaction of the corrosion process).

1/1

Acc. Nr:
AP0049341   Abstracting Service: Ref. Code:
CHEMICAL ABST. 5-70   4/R0365

103580e Corrosion of ship structural materials in sea water.
Lagutina, A. G.; Danil'chenko, K. P.; Shevchenko, O. F.;
Barannik, V. P. (USSR). Zashch. Metal. 1970, 6(1), 48-51
(Russ). Sea exposures were operated at a 40 m depth with daily
elevation by 1.5 to 4 m/day; the samples became fully covered
with seaweed and various marine deposits, and with Fe the cor-
rosion layer assumed a yellow color. Synthetic sea waters were
less corrosive. Under lab. conditions, natural sea water (pH
8.7) was most corrosive with rapid circulation and aeration, but
in any case more corrosive than synthetic sea water. Results in
flowing sea water were: St 3C 0.053; AlMg-61 0.012; Monel
NiMoFeMn-28-2.5-1.8 0.009; brass L-62 0.007; Br AlMn-9-2
0.006; 1Cr18Ni10Ti 0.0; and 0 Cr17Ni7Al 0.0 g/m²/day corro-
sion loss. Some variation was noted in the Black Sea tests, pre-
sumably from greater biol. action.

H. Marshall

REEL/FRAME
19801158

USSR

LAGUTINA, N. I. (Reviewer)

Biologicheskiye Motivatsii (Biological Motivation), by Sudakova, K. V.,
Moscow, Izd-vo Meditsina, 1971, 303 pp

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 23,
Vyp 4, Jul/Aug 73, p 902

Abstract: This monograph on the neurophysiological analysis of the mechan-
isms of basic biological motivation begins with a discussion of the history
of the question and the theory of motivation. On the basis of his own exper-
iments the author does a deep analysis of the mechanism of nutritional
motivational stimulation, and also considers sexual, fear and agression
motivation. The role of the hypothalamus and other subcortical structures
and the relationship between motivation and emotion are discussed. While
expressing reservations about matters not considered or unproved, the
reviewer on the whole praises the work.

1/1

Surgery

USSR

LAGUTINA, YE.

"TsITO's 50th Anniversary"

Moscow, Zdorov'ye, No 4, Apr 71, p 8

Abstract: In April 1921, the Clinical-Prosthetics Institute was established
by the traumatological surgeon N. N. Priorov to take care of the orthopedic
needs of Civil War veterans. In 1940, the Institute was reorganized into the
Central Institute of Traumatology and Orthopedics (TsITO), and during World War
II served as the rehabilitation center for the country's war wounded. TsITO
also coordinates research work in traumatology and orthopedics, guides the
activities of 19 specialized institutes and hospitals for Word War II veterans,
as well as 48 chair in medical institutions of higher learning, and 11 for
the advanced training of physicians. As a result of TsITO's recommendations,
traumas in various industries have been significantly reduced. It has wide
teaching activities geared to on-the-job training. TsITO is a pioneer in the
use of polymers in medicine, and has worked out new methods of surgical treat-
ment for jaw and facial trauma, sports injuries, malignant neoplasm of the
bones, disorders of the spine, wrists and ankles. Problems of tissue trans-
plant have been successfully worked out, and attention is turning to artificial
1/2

USSR

LAGUTINA, YE., Zdorov'ye, No 4, Apr 71, p 8

organ transplants. TsITO continues work on artificial elbow and knee joints.
It is a much decorated institute with a world reputation. The article has
four photographs showing appliances produced by or in use at TsITO.

2/2

1/2   011   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--AN EXPERIMENT OF FREQUENCY SOUNDING OF THE EARTH ON THE BASIS OF
   THE RESULTS CF A SPHERICAL ANALYSIS OF THE GEOMAGNETIC FIELD VARIATIONS
AUTHOR-(05)-BERDICHEVSKIY, M.N., VANYAN, L.L., LAGUTINSKAYA, L.P.,
   ROTANOVA, N.M., FAYNBERG, E.B.
CCUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIIA, VOL. 10, NO. 2, 1970, P. 374-377

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOMAGNETIC FIELD, RESISTIVITY, MODEL

CONTROL MARKING--NC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0163   STEP NO--UR/0203/70/010/002/0374/0377

CIRC ACCESSION NO--AP0119159
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0119159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRELIMINARY RESULTS OF A FREQUENCY
SOUNDING OF THE EARTH BASED ON DATA FROM A SPHERICAL ANALYSIS OF SQ.
DST, AND 27 DAY GEOMAGNETIC FIELD VARIATIONS. TABLES INCLUDE CALCULATED
VALUES OF THE THICKNESS OF THE NONCONDUCTING SHELL, THE RESISTIVITY OF
THE NUCLEUS, AND THE MODULI AND ARGUMENTS OF THE RATIO OF THE OUTER AND
INNER PORTIONS OF THE MAGNETIC POTENTIAL. THE RESULTS OBTAINED ARE
COMPARED WITH THE PARAMETERS OF THE LAMB MODEL.   FACILITY:
MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET.   FACILITY: AKADEMIIA
NAUK SSSR, INSTITUT KOSMICHESKIKH ISSLEDOVANII, MOSCOW.
FACILITY: AKADEMIIA NAUK SSSR, INSTITUT ZEMNOGO MAGNETIZMA, IONOSFERY I
RASPROSTRANENIIA RADIOVOLN, KRASNAYA PAKHRA, USSR.   FACILITY:
AKADEMIIA NAUK TURKMENSKOI SSR, INSTITUT FIZIKI ZEMLI I ATMOSFERY.
ASHKHABAD, TURKMEN SSR.

UNCLASSIFIED

USSR   UDC: 621.396.6.049.75(088.8)

KAGANOV, Ye. A., LAGUTKIN, G. V.

"A Method for Automatically Drilling Two-Sided Printed-Circuit Boards"

USSR Author's Certificate No 261868, filed 12 Jun 67, published 2 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V309 P)

Translation: This Author's Certificate introduces a method for automatical-
ly drilling two-sided printed-circuit boards. Both foil layers are con-
nected in an electrical circuit, and when this circuit is closed by the
drill, a signal is produced which indicates completion of the working pass
and enables continuation of work. Ye. M.

1/1

Heat Treatment

USSR   UDC 621.785.532.062.57:669.28

KUZNETSOV, G. D., BABAD-ZAKHRYAPIN, A. A., and LAGUTKIN, M. I. (Moscow Institute for Automobiles-Roads)

"Carburizing Molybdenum in a Glow Discharge Plasma"

Abstract: An investigation was made of the molybdenum carburizing process in a glow discharge plasma, taking into account the possible formation of a pyrocarbon layer on the surface. Methane was used as the plasma producing gas. A schematic diagram of the discharge setup is presented and the experimental procedure is briefly described. At 1300-1600°C the carbide layer thickness in the presence of glow discharge and in its absence was approximately the same. An increase in the discharge temperature led to a sharp decline in the carbide layer thickness, while above 1700° its formation was stopped. The absence of the discharge effect on the carburizing kinetics at 1300-1600°C is explained by the formation of a pyrocarbon layer on the surface. The time dependence of the Mo_2C layer under conditions of glow discharge and without was practically the same being close to the parabolic. An analysis of the results shows that heating of the molybdenum in a methane glow discharge plasma makes it possible to saturate the metal by carbon, to fully eliminate the metal-media interaction, and to decarburize the

1/2

USSR

KUZNETSOV, G. D., et al., Metallovedeniye i termicheskaya obrabotka metallov,
No 6, 1970, pp 10-12

carbon-saturated surface layer. Further, the carburizing process can be strongly
intensified with a certain combination of discharge parameters. 6 figures, 5
references.

2/2

USSR

UDC 619:616.988.75-084.47:636.5

LAGUTKIN, N. A., CHERNYSHEV, V. V., BONDARENKO, I. M., KHARLAMOV, V. T.,
POLIKARPOV, B. V., BOLOTOV, B. V., NEZAMETDINOV, P. B., and HUDOBEL'SKAYA, G.A.

"Aerosol Vaccination of Poultry Against Newcastle Disease"

Moscow, Veterinariya, No 1, 1972, pp 54-56

Abstract: One-time aerosol vaccination of poultry against Newcastle disease
produced strong and lasting immunity in almost 3 million animals of different
ages and breeds and had to adverse effect on their productivity. The pro-
cedure required fewer workers and considerably less vaccine than for nasal
or intramuscular vaccination. For example, some 80,000 to 90,000 5-day-old
chicks could be vaccinated per day by three men. In 5- to 12-day old
chicks hatched from the eggs of hens inoculated with live vaccine, transo-
varian passive immunity interfered with the development of postvaccinal
immunity. Such animals required increased doses of the vaccine or revaccina-
tion 12 to 14 days later.

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USSR   UDC 621.3??.?--1?1.? (0??.?)

BARANOV, A.I., ?ATEK?.?BI, V.B., V?L?CROY?IKOV, I.I., ?????LL?Y, ?.?., G..LY?????, V.P., GOLUBTSOV, E.S., ??JK?OVSKIY, ?.B., ZALIPCKIY, ?.?., ?L?T??, V.?., KAZATSKER, L.I., LAGUTIN, G.V., LARIONOV, YU. S., ?????????????IY, ?.P., ?????H, D.L., R?KENSKIY, I.V., ?L??CR?VA, I.S., TIKHOMIROV, B.G., ?ICH??', I.CH., ?IULI?T, M.H.

"Device For Deposition Of Multilayer Coverings In A Vacuum"

USSR Author's Certificate No 279291, filed 16 June 68, published ?0 Nov 70 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9?272?)

Translation: A device proposed for deposition of multilayer coverings in a vacuum is fulfilled in the form of a number of successively mounted independent operating chambers supplied with evaporators, heaters, and an exhaust system. The device contains a mechanism for transporting substrates, a mechanism for loading and unloading, and a drive mechanism. With the object of increasing the reliability of the device and improving the quality and reproducibility of the coverings deposited, outside of the area of the arrangement of operating chambers and parallel to it a supplementary vacuum chamber is installed, which serves for the deposition in it of the transporting mechanism, and which communicates with each of the operating chamber by means of vacuum-overlapping transfer windows located on the side wall

1/2

USSR

BARANOV, A. I., et al., USSR Author's Certificate No 279291, filed 16 June 68, published 30 Nov 70 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9V272P)

of the supplementary chamber at places for connection to it of the operating chambers. Each of the operating chambers or a group of them is provided with an individual system of high-vacuum pumping.

2/2

USSR   UDC: 51

LAGUTKIN, V. M. (editor)

"The Methods of Mathematical Economics in Provisioning"

Ekonomiko-matematicheskive metody v snabzhenii (cf. English above), Moscow,
"Ekonomika", 1971, 367 pp, ill. 1 r. 64 k. (from RZh-Kibernetika, No 1,
Jan 72, Abstract No 1V929 K)

[No abstract]

1/1

1/2   012   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--NA, CS, RB PARALLEL TO CL SYSTEM -U-

AUTHOR-(03)-LAGUTOVA, M.P., ILYASOV, I.I., VOLCHANSKAYA, V.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1429-30

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLID SOLUTION, CESIUM CHLORIDE, RUBIDIUM CHLORIDE, PHASE
    DIAGRAM, IMPURITY LEVEL, SODIUM CHLORIDE, CHEMICAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1397   STEP NO--UR/0078/70/015/005/1429/1430

CIRC ACCESSION NO--AP0135071
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0135071
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STABILITY OF BINARY SOLID
  SOLNS. OF THE TITLE SYSTEM UNDER THE EFFECT OF A 3RD COMPONENT (HACL)
  WAS DETD. A PHASE DIAGRAM OF 7 CROSS SECTIONS OF THE SYSTEM IS
  CONSTRUCTED.   FACILITY: ROSTOV.-NA-DONU FILIAL NAUCH. INST. SOV.
  TORG., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

TITLE--WATER REPELLENT TREATMENT OF TEXTILE MATERIALS -U-

AUTHOR-(04)-LAGZDINS, E., VAYVADS, A., CERINS, O., LEJINA, I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,607
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(4)
DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--WATERPROOFING, TEXTILE, NICKEL COMPOUND, COBALT COMPOUND,
AMMONIUM COMPOUND, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1161   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116626
                        UNCLASSIFIED

2/2   016
CIRC ACCESSION NO--AA0116626   UNCLASSIFIED   PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEXTILE MATERIALS ARE WATERPROOFED
BY BEING TREATED WITH AQ. SOLNS. OF HEAVY METAL SALTS, SUCH AS NI OR CO
AMMONIATES, AND WITH H SUB2 O-SOL. PRODUCTS, IN A BATH WITH A "SI-METAL
RATIO" IS GREATER THAN OR EQUAL TO 6:1.   FACILITY: INSTITUTE OF
INORGANIC CHEMISTRY, ACADEMY OF SCIENCES, LATVIAN S.S.R.

UNCLASSIFIED

1/2   006   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--FORMATION KINETICS OF CLINKER MINERALS IN THE PRESENCE OF ALKALIES
-U-

AUTHOR-(03)-EYDUKS, J., FREYDENFELD, E., LAGZDINA, S.

COUNTRY OF INFO--USSR

SOURCE--TSEMENT 1970, (1), 17-18

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MINERAL, SODIUM FLUORIDE, ALKALI, SODIUM CARBONATE, CALCIUM
OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1982   STEP NO--UR/0101/70/000/001/0017/0018

CIRC ACCESSION NO--AP0118941
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0113941
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF BONDING OF CAO
  WERE STUDIED ON FIRING OF A 3CACO SUB3 PLUS SID SUB2 MIX AT
  000-1450DEGREES IN THE PRESENCE OF NA SALTS, IN ORDER TO INVESTIGATE THE
  EFFECT OF ALKALINES ON CLINKER FORMATION. NACL, AND NA SUB2 CO SUB3 AND
  NA SUB3 PO SUB4 SPEEDED UP THE REACTION AT 900DEGREES AND
  1100-1300DEGREES, RESP., WHILE NA SUB2 SO SUB4 AND NAF PROMOTED AN
  INTENSIVE REACTION THROUGHOUT, AS WAS CONFIRMED BY X RAY, THERMOGRAPHIC,
  AND IR SPECTROSCOPIC ANALYSES INDICATING THE FORMATION OF A LIQ. PHASE
  AND MODIFICATION OF THE LATTICE DEFECTS OF THE REACTION PARTNERS.
  FACILITY: RIZH. POLITEKH. INST., RIGA, USSR.

UNCLASSIFIED

USSR

UDC 669.3/5.053:621.365

LAKERNIK, M. M.

Moscow, Elektrotermiya v Metallurgii Medi, Svintsa, Tsinka
(Electrothermics in the Metallurgy of Copper, Lead, and Zinc),
Izd-vo "Metallurgiya," 1971, 296 pp

Translation of Foreword: Highly perfected technological processes
have found wide application in Soviet non-ferrous metallurgy.
Together with the use of oxygen and natural gas in metallurgy,
electrothermics is among these processes. The use of electric
furnaces makes it possible to eliminate the mixing of technologi-
cal and fuel gases and to reduce sharply their quantity. It is
natural that electric current was first used industrially in
those branches of metallurgy where the processes proceed at very
high temperature or where special operating gas conditions are
required. Therefore, as applied to ferroalloys, quality steels,
and certain high-smelting metals, electric furnaces are the most
generally used, and are sometimes the only plant unit. In non-
ferrous metallurgy, electrosmelting processes are predominant
in smelting nickel and tin from ores. However, for the last 30
years, the cost of anthracite, particularly of scarce coking
1/7

USSR

LAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa,
Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

coals, has steadily increased, but the cost of electric energy
has decreased systematically. While for metallurgical furnaces,
as a rule, high-quality low-ash and high-calorific fuel and
scarce coke are required, power plants can use the very low
calorific fuel. The extraction of copper, lead, and zinc by the
electrothermal method differs from the widely used smelting methods
of concentrates in reverberatory and shaft furnaces and the dis-
tillation in horizontal and vertical retorts. In a reverberatory
furnace, the charge is washed by a flow of hot gases and it enters
the bath during smelting. In an electric furnace, the electric
energy is transformed into thermal energy. In a shaft furnace,
the agglomerate is for a long time in contact with the gases,
which account for a series of complex chemical conversions. In
an electric furnace, the charge reaction with gases is of a very
short duration and can be controlled mainly by the distance from
the charging location to the hottest zone on the electrodes and
by the degree of refractoriness of the charge. In distillation
2/7

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USSR

IAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa, Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

furnaces, the charge is removed as solid retort residue from the furnace after zinc distillation. In heat-treating arc furnaces, the whole charge is melted. The slag, its composition, quantity, and physical properties have a considerable effect on the technical and economical melting results in all metallurgical processes. In electromelting, the slag properties gain particular importance, because the slag is the resistance body where the heat develops, and there must be a strong correspondence between its composition, electroconductivity, viscosity, the electric characteristic of the furnace transformer, the furnace dimensions, and the character of the process to be carried out. The furnace construction and its individual components also considerably affect the melting results; they must be in conformity with the requirements of the metallurgical reduction. Thus, for the most efficient use of the electrothermal process, the physico-chemical principles of this process and its efficient constructional design must be known. The author has tried, on the basis of investigations carried out in the last few years, to analyze in

3/7

USSR

LAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa, Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

the book the most important trends in this field of technology and some of its physico-chemical fundamentals, as well the experience accumulated industrially in the application of electro- thermal processes in the metallurgy of copper, lead, and zinc. The first chapter describes the physico-chemical fundamentals of the process, and the second chapter - some elements of design and calculation of electric furnaces and their operation. Chapters 3-7 discuss the electrosmelting of copper, lead, zinc, polymetallic concentrates, and intermediate products of metallur- gical production. The author thanks his colleagues A. F. Gavrilenko, G. S. Nus, and A. I. Golovachev for their help with this book, and invites comments from readers.

Translation of Table of Contents:

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LAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa, Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

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LAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa,
Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

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LAKERNIK, M. M., Elektrotermiya v Metallurgii Medi, Svintsa, Tsinka, Izd-vo "Metallurgiya," 1971, 296 pp

BASIS OF THE THEORY OF TRANSMISSION ALONG COMMUNICATIONS CABLES

Chapter 2

2.1. Basic principles and circuits of electrical communications along cables

The transmission of communications from one point to another by means of electrical energy is called electrical communication. Electrical communications may be telegraph or telephone.

In telegraphy, by means of direct current pulses of current of various duration and various combinations these pulses are sent to the line. In the receiving apparatus on a moving paper tape in the form of dots and dashes are reproduced tional combinations of dots and dashes, replacing the con- of the alphabet are called a telegraph code (Morse alphabet). Modern high-speed telegraph apparatuses make it possible to transmit letters rather than conventional signs.

Telegraph signals are sent to the line in the form of com- binations of pulses of direct current of various duration and various sign. In the study of processes of the transmission and telegraph signals along a line, the currents and voltages of these signals can be conveniently considered as periodic trans- missions of elementary pulses (figure 2.1). Such pulses corres- pond to dots in the operation of the Morse apparatus and to the transmission of the letter T in the operation of letter-printing

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ELECTRICAL ENGINEERING

Circuit Elements

USSR   UDC 621.114.2:621.317

LAKERNIK, R. M., SINITSYN, YE. P., TSOPIK, V. G.

"Automation of Testing of High-Frequency Balanced Long-Range Communications Cables"

Kabeln. tekhnika. Nauchno-tekhn. sb. (Cable Technology. Scientific-Technical Collection), 1970, No 61, pp 6-7 (from RZh--Elektrosvyaz, No 9, Sep 70, Abstract No 9.64.258)

Translation: The paper describes a cable assembly test line -- the experimental conveyer organized at the Moscow Cable Plant. Drums with cable are mounted on a step-by-step conveyer. First, the drum proceeds to a room for tests of the insulation with high voltage, and then the drum is transported to connecting lines of automatic measuring units situated over the cable (on the second floor). The units measure and record the parameters of the circuits, including the resistance and asymmetry of a loop, operating capacitance, coefficients of capacitance coupling and asymmetry, and cross talk attenuation. Later, the transporter moves the drum to a section where a test is made of the airtightness of the casing and the seal of the cable ends. Use of the conveyer in conjunction with the automatic measuring units makes it possible to decrease the cable testing labor input and floor space

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USSR

LAKERNIK, R. M., et al., Kabeln. tekhnika. Nauchno-tekhn. sb. (Cable Technology. Scientific-Technical Collection), 1970, No 61, pp 6-7 (from RZh--Elektrosvyaz', No 9, September 1970, Abstract No 9.04.258)

to 14-25 percent (in comparison with tests at special test fields). The results of cable tests which are recorded on punched tape in the automatic measuring units are fed into electronic computers for statistical processing, which makes it possible operationally to analyze and to adjust the manufacturing process for cables. One illustration, four references. N.S.

2/2

Industrial

USSR

UDC: 669.17

YASTREBKCV, A. A. and LAKEYENKOV, V. M.

"Preparation and Structure of the Bicrystals of Refractory Metals"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 235-236

Abstract: A method is proposed of simplifying the procedure for obtaining bicrystals of a refractory metal -- molybdenum is the example chosen in this article -- and improving the quality of the boundary between crystals. The process begins with a rod of monocrystals obtained from a zone melt furnace; one part of the rod is twisted with respect to the other, and the whole then allowed to cool. The processing and seeding are thus avoided along with the complications of a welded joint. The method was used for obtaining bicrystals of W and Mo, using monocrystalline rods of 10-15 mm in diameter fixed in a vertical position in an electron-beam smelter. A description of this procedure is given. The article is illustrated with photographs showing a molybdenum rod with three bicrystals, and the substructure in the intercrystalline boundary region. The authors thank B. A. Oplesnin, V. P. Lubents, V. M. Chechentsev, and Yu. I. Stolyarov for their cooperation in developing the method.
1/1

Foundry

USSR

UDC 621.74.045.001

LAKEYEV, A. S., and BORISOV, G. P,

"Principles of Rheology of Model Materials for Investment Casting"

Osnovy Reologii Model'nykh Materialov Dlya Lit'ya po Vyplavlyayemym Model'yam [English Version Above], Kiev, Naukova Dumka Press, 1971, 132 pages

Translation of Annotation: This book deals with an insufficiently studied problem -- determination of the rheological characteristics of model compositions used in investment casting in the viscous-plastic temperature interval. A method of determining the rheological characteristics of materials and compositions broadly used in practice, based on the physico-chemical mechanics of materials, is presented. The properties of new model compositions (ILP and IPL) and experience in their application in production are presented.

This book is designed for scientific and engineering-technical workers who are dealing with problems of investment casting.

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LAKEYEV, A. S., and BORISOV, G. P., Osnovy Reologii Model'nykh Materialov Dlya Lit'ya po Vyplavlyayemym Modelyam, Kiev, Naukova Dumka Press, 1971, 132 pages

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LAKEYEV, A. S., and BORISOV, G. P., Osnovy Reologii Model'nykh Materialov Dlya Lit'ya po Vyplavlyayemym Modelyam, Kiev, Naukova Dumka Press, 1971, 132 pages.

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LAKEYEV, A. S., and BORISOV, G. P., Osnovy Reologii Model'nykh Materialov Dlya Lit'ya po Vyplavlyayemym Modelyam, Kiev, Naukova Dumka Press, 1971, 132 pages

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USSR

LAKEYEV, A. S., and BORISOV, C. P., Osnovy Reologii Model'nykh Materialov
Dlya Lit'ya po Vyplavlyayemym Modelyam, Kiev, Naukova Dumka Press, 1971,
132 pages

5/5

1/2   014

UNCLASSIFIED

TITLE--PREPARATION OF PATTERNS DURING INVESTMENT CASTING --U-

PROCESSING DATE--23OCT70

AUTHOR-(02)-LAKEYEV, A.S., BORISOV, G.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 136-42

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--INVESTMENT CASTING, RHEOLOGIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1391

STEP NO--UR/0148/70/013/002/0136/0142

CIRC ACCESSION NO--AT0120184

UNCLASSIFIED

2/2   014
CIRC ACCESSION NO--AT0120184
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. A METHOD WAS DEVELOPED FOR THE
DETN. OF THE RHEOLOGICAL CHARACTERISTICS OF PATTERN COMPNS., BASED ON
THE EXTRUSION OF MATERIAL IN THE DUCTILE PLASTIC CONDITION THROUGH A
CAPILLARY OF A GIVEN LENGTH AND DIAM. THIS METHOD GAVE A COMPLETE
IMITATION OF THE SQUEEZE PRESSING PROCES. THE DEPENDENCE WAS STUDIED OF
RHEOLOGICAL PROPERTIES ON TEMP. WITHIN THE WORKING RANG (TEMP. RANGE AT
WHICH PATTERN COMPNS. ARE IN THE DUCTILE PLASTIC STATE). THE DETN. OF
THE WORKING TEMP. AT WHICH THE PATTERN COMPN. SHOULD BE INTRODUCED INTO
THE CAVITY OF THE CASTING DIE CAN PROCEED BY 2 METHODS: (1) DET. THE
DEPENDENCE OF PLASTIC DUCTILITY ON TEMP. AND DET. THE TEMP. AT WHICH
THIS CURVE BENDS, (2) DET. THE M.P. (T SUBM) OF THE PATTERN COMPN. AND
THEN CALC. THE WORKING TEMP. (T SUBW) FROM THE EXPTL. RELATION T SUBW
EQUALS 0.8T SUBM.   FACILITY: INST. PROBL. LIT*YA. KIEV, USSR.

USSR

UDC 539.292

ANNAYEV, R. G., KORSHIK, Yu. G., LARGUYEV, D. Kh.

"Variation With Temperature of the Electrical Resistance of Cobalt-Vanadium Alloys in a Longitudinal Magnetic Field"

Abstract: The article deals with an investigation of the variation with temperature of the longitudinal galvanometric effect in ferromagnetic binary alloys of cobalt with vanadium, on the basis of polycrystalline specimens.

1/1

USSR   UDC: 536.532

PORTAZH, R. A., LAKH, V. I., STADNYK, B. I., The "Termopribor" Scientific
Industrial Union

"A Device for Noncontact Measurement of the Surface Temperature of Moving
Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 31, Nov 71, Author's Certificate No 317922, Division G, filed 28 Apr 70,
published 19 Oct 71, p 153

Translation: This Author's Certificate introduces a device for non-
contact measurement of the surface temperature of moving objects. The
device contains a stationary thin-walled hermetically sealed heat pickup
with a temperature gauge such as a thermocouple, and a heat-protective
jacket with shield. As a distinguishing feature of the patent, the de-
sign is simplified and measurement accuracy and reliability are improved
by making the heat pickup in the form of a closed hollow body which forms
a cavity in conjunction with the jacket, the ratio of the areas of input
and output apertures being 3:1.

USSR

UDC 536.531:546.92

SALAMAKHA, V. A., Engineer, LAKH, V. I., KITS, A. I., POLISHCHUK,
YE. S., Candidates of Technical Sciences

"Stability of Platinum Resistance Thermometers"

Moscow, Pribory i Sistemy Upravleniya, No 2, Feb 71, pp 49-51

Abstract: The variations in metrological parameters (R_0 and
R_{100}/R_0) of platinum resistance thermometers during prolonged use
at operating temperatures are investigated in this article. A
special test unit and procedure were devised to run the tests.
Presented are results of subjecting the resistance thermometers
to cyclic tests under this procedure. Each cycle of the tests
(whose over-all duration is 2,000 hours) has the following
sequence:

In an oxidizing environment at a temperature of 400-600°C
for 400 hours;

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USSR

SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2,
Feb 71, pp 49-51

    At low temperature (-196°C) for 150 hours;

    Under high-humidity conditions (98-100%) and at a temperature
of 30-40°C for 120 hours;

    With vibration in the frequency range to 60 hertz and acceler-
ation to 1.5 g lasting 60 hours;

    In an oxidizing environment at a temperature of 400-600°C for
450 hours;

    At a temperature of -196°C for 150 hours;

    Under conditions of impact vibration with acceleration to
1,000 g and a pulse length of 0.5-2 milliseconds lasting 10 hours;

    In an oxidizing environment at a temperature of 400-600°C for
450 hours;
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USSR

SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2, Feb 71, pp 49-51

At a temperature of -196°C for 200 hours.

Three batches of platinum resistance thermometers with calibrations 21 ($R_0 = 46\pm0.046$ ohms) and 22 ($R_0 = 100\pm0.1$ ohms) with a wire diameter of 0.05 mm and with 25 thermometers of each calibration were subjected to stability testing. The three batches included 1) series resistance thermometers with a sensitive element with a mica housing /67, 2) resistance thermometers with a sensitive element in a ceramic housing /27, and 3) resistance thermometers with an improved sensitive element in a ceramic housing using inhibitors to protect the platinum.

The first batch of thermometers demonstrated low resistance to mechanical and thermal loads and very low stability. The second batch demonstrated satisfactory resistance to mechanical and thermal loads at the same time as the metrological characteristics changed somewhat. The third batch were subjected to five

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SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2,
Feb 71, pp 49-51

cycles of testing (10,000 hours) with good results. The varia-
tions in R_0 and R_{100}/R_0 in 10,000 hours do not exceed the cali-
bration tolerances provided by GOST 6651-59, and the thermometers
have high resistance to the cyclic mechanical and thermal varia-
tions. The test results are presented graphically for the three
batches of resistance thermometers.

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UDC 632.934

USSR

LAKHIDOV, A. I., Postgraduate of the Scientific Research Institute of Agri-
culture imeni Dokuchayev

"Effect of Insecticides and Mineral Fertilizers on the Number of Leguminous
Aphids and Its Entomophages"

Moscow, Vashchita Rasteniy, No 12, 1971, p 28

Abstract: The poison screen method (G. M. Mardzhanyan, A. K. Ust"yan) was
used to discover the effect of metaphos (O, O-dimethyl O- 4-nitrophenyl
thiophosphate, polychloropinene and chlorophos on leguminous aphids and
useful insects (ladybirds, golden-eyes, hover flies). The results obtained
under laboratory and field conditions show that the number of leguminous
aphids was reduced the most when treating the plants with 0.2 percent chloro-
phos. The greatest increase in harvest was obtained in this version, and
the useful entomofauna were restored slowly, reaching 7.6-9.8 individuals
per square meter in all versions with 14.3 individuals in the control. The
mineral fertilizer experiments showed that joint application of phosphorus
and potassium fertilizers with trace elements during side drussing increases
the resistance of pea plants to aphids without reducing the useful activity
of the entomophages. A table of results is presented for the periods before
1/2

USSR .

LAKHIDOV, A. I., Vashchita Rasteniy, No 12, 1971, p 28

treatment, two days after treatment, 10 days and 20 days after treatment
with insecticides and the same periods for liquid top-dressing.

2/2

UNCLASSIFIED   PROCESSING DATE--17JUL70

TITLE--ON CORTICAL REGULATION OF DIURETIC FUNCTION OF KIDNEYS -U-

AUTHOR--ESIPENKO, B.E., LAKHIN, P.V.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 1, PP 49-54

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DOG, DIURESIS, KIDNEY, CEREBRAL CORTEX, REFLEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0914   STEP NO--UR/0238/70/016/001/0049/0054

CIRC ACCESSION NO--AP0052329
                    UNCLASSIFIED

ON CORTICAL REGULATION OF DIURETIC FUNCTION OF KIDNEYS

B. E. Esipenko, P. V. Lakhin

*Department of Physiology of Metabolism, the A. A. Bogomolitz Institute of Physiology,
Academy of Sciences, Ukrainian SSR, Kiev*

Summary

In dogs with ureles placed on the stomach, skin by Pavlov and Orbeli spontaneous
and aqueous diuresis was studied in the control experiments and after destruction
of the sigmoid convolutions of cerebral-hemispheres.

An essential importance is established of these structures of the cerebral cortex
in the regulation of diuretic function of kidneys.

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19820914

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Destruction of the sigmoid convolutions of a hemisphere caused the pronounced asymmetry in the diuretic function of kidneys with a lower level of spontaneous and aqueous diuresis of kidneys of the contralateral side. Unilateral destruction of the sigmoid convolutions side by side with functional ones causes the morphological changes in kidneys of the contralateral side, considerably decreasing their size and weight. The functional and morphological asymmetry of kidneys in dogs with unilaterally destroyed sigmoid convolutions evidences for a reflex nature of linkage between kidneys and these formations of the cerebral cortex and their crossed innervation.

19820915

UNCLASSIFIED   PROCESSING DATE--11DEC70

1/2   027
TITLE--DIAGNOSING INFECTIOUS ENTEROTOXEMIA WITH TYPE SPECIFIC SERA -U-

AUTHOR-(02)-LENKOVA, V.A., LAKHNO, T.YE.

COUNTRY OF INFO--USSR

SOURCE--VETERINARIYA, 1970, NR 5, PP 107-108

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CLOSTRIDIUM PERFRINGENS, BACTERIAL TOXIN, DIAGNOSTIC METHODS,
   WHITE MOUSE, BLOOD SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605049/E01 STEP NO--UR/0346/70/000/005/0107/0108

CIRC ACCESSION NO--AP0145342
UNCLASSIFIED

CIRC ACCESSION NC--AP0143382
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAPID DIAGNOSIS OF INFECTIOUS
    ENTERTOXLMIA AMONG SHEEP CAN BE ACCOMPLISHED BY TYPING TOXINS FOUND IN
    THE STOMACH CONTENTS OF FECES, WITHOUT BACTERIOLOGICAL STUDY. HIGHLY
    ACTIVE AND SPECIFIC SERA TO CL. PERFRINGENS TYPES A, B, C, D, E AND F
    HAVE BEEN USED FOR THIS PURPOSE SINCE 1957. PATHOLOGICAL MATERIAL IS
    DILUTED, INCUBATED FOR ONE HOUR, FILTERED OR CENTRIFUGED, MIXED WITH
    TYPE SERA, INCUBATED AT 37-38 C, AND INJECTED INTO WHITE MICE. THE
    TOXIN TYPE IS DETERMINED BY THE VIABILITY OF MICE. ANTITOXIC TYPE D
    SERUM NEUTRALIZES ONLY TYPE D TOXIN, WHILE C AND B SERA CROSS NEUTRALIZE
    BOTH C AND B TOXINS. RESULTS OF TYPING INTESTINAL TOXINS AND ISOLATED
    CULTURES CCINCIDED IN ALL CASES.   FACILITY:
    YUZHNO-KAZAKHSTANSKAYA NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT,
    YUZHNO-KAZAKHSTAN SCIENTIFIC RESEARCH INSTITUTE OF VETERINARY
    SANITATION.

UNCLASSIFIED

USSR

LAKHNO, V. I. and RAZUMOVSKIY, V. N.

"Two-Dimensional Electromagnetic Oscillations of a Dielectric Rectangular Prism"

Translation: The authors solve the problem associated with the natural oscillation frequency of a rectangular dielectric prism using the partial wave method. The condition is found for the self-excitation of a laser where the condition takes into consideration the effect of the lateral plane faces of the active element. The proposed method can be used in the analysis of dielectric resonators with flat faces and of resonators of more complex form. The obtained results can be extended to cases involving solid state lasers with an active substance of arbitrary geometric form. Original article: two illustrations and four bibliographic entries. Resume.

USSR

ABRAMOV, K. D. and LAKHNO, V. I.

"Producing Images by Using the Electromechanical Scanning of a Laser Beam"

V sb. Radioelektron. letatel'n. apparatov (Aviation Radio Electronics -- collection of works), Vyp.4, Khar'kov, Khar'kov. aviats. in-t, 1972, pp 25-28 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D300)

Translation: The authors study one of the possibilities of producing an image of an object with the aid of a continuous laser using the principle of scanning with a laser beam. Results of the experiment are presented. Original article: four illustrations and five bibliographic entries.   Resume.

1/1

LAKHNO, Ye. S.

UDC: 613.79:711.3

HYGIENIC ISSUES PERTAINING TO PLANNING AND CONSTRUCTION OF EXPERIMENTAL VILLAGES

In the Soviet Union, much attention is given to the growth of agricultural production. In accordance with the Five-Year Plan of development of the national economy of the USSR, in 1971-1975, the mean annual agricultural output will increase by 20-22 percent, while state investments of capital for the needs of agriculture, including production, housing, and cultural building and purchase of technology will constitute 82.2 billion rubles.

The socialistic transformation of agriculture is associated with a radical improvement of sanitary living conditions for the rural population. In defining the Party strategy in this regard, the Program of the CPSU directs our attention to the fact that "gradually, collective farm settlements and villages will be transformed into larger populated centers of the urban type with housing supplied with all amenities, municipal services, utilities, cultural and medical institutions. Ultimately the cultural and living conditions for the rural population will be comparable to those of urban residents. Eradication of socioeconomic and cultural and living distinctions between the city and villages is one of the greatest results in the building of communism" (Unpoliticized Publishing House, Moscow, 1961, p 85).

More recently major strides have been made in the area of building up rural populated regions.

However, along with the achievements in rural construction there are also substantial flaws of an architectural-planning and sanitary-hygienic nature. For example, rural construction is often out of touch with the regional planning conceptions. It follows unapproved general blueprints or none, without any system, without adhering to functional zoning of the land as to purpose, without consideration of the potential of the villages, without adhering to hygienic requirements.

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USSR

UDC: 51.155.001.57:681.3.06

LAKHOV, V. I., KOLESNIKOV, Yu. A.

"Checking the Characteristics of an Automatic Control System by the Method of Pattern Recognition"

Sb nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics. Moscow Institute of Electronic Technology), 1971, vyp. 6, pp 153-166 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V1002)

Translation: An analysis is given of methods of pattern recognition from the standpoint of recognition accuracy. A comparative evaluation is presented of algorithms for recognizing the patterns of dynamic characteristics together with the results of a computer experiment which implies the feasibility of technical realization of the given algorithms on modern general-purpose and specialized digital computers with storage volume of from 100 000 to 600 cells and less at a speed of the order of 1 000 operations per second. Authors' abstract.

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TITLE--FILTRATION OF A CELLULOSE ACETATE SOLUTION THROUGH A POROUS METAL
-U-

AUTHOR--MAKAROVA, L.B., KOSTROV, YU.A., LAKHTIN, V.P., PAVLOVSKAYA, YE.I.,
GORYACHEVA, Z.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (1), 35-7

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--FILTRATION, CELLULOSE RESIN, ACETATE, TITANIUM, HYDRAULIC
PRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1807   STEP NO--UR/0183/70/000/001/0035/0037

CIRC ACCESSION NO--AP0100381
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0100381
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   POWD. TI (GRANULES 0.4 MM DIAM.)
WAS MIXED WITH A 40PERCENT GLYCEROL SOLN. IN ETOH AND PRESSED UNDER A
HYDRAULIC PRESS AT 1000DEGREES UNDER AR (THE GLYCEROL SOLN. HAD BEEN
REMOVED AT 400-500DEGREES) TO GIVE A FILTER MATERIAL (AV. POROSITY 115-25
MU) FOR THE FILTRATION OF CELLULOSE ACETATE. A CROSS SECTIONAL DIAGRAM
OF THE FILTRATION APP. AND ITS MODE OF OPERATION ARE PRESENTED.   THE
FILTRATION THROUGH A TI POROUS FILTER WAS RAPID AND EFFECTIVE AND
FILTRATION CAPACITY OF THE CLOGGED FILTER WAS RESTORED BY ULTRASONIC
WASHINGS WITH ME SUB2 CO.

UNCLASSIFIED

USSR

UDC: 669.017:621.785

IAKHTIN, YU. M.; DUBININ, G. N. (Editors)

Physical Metallurgy and Heat Treatment (Metallovedeniye i termicheskaya obrabotka), Collection of Articles, No. 7, Moscow, "Mashinostroyeniye" Press, 1971, 144 p., illustrations, graphs, tables, bibliographic references.

This book is a collection of articles by various authors on problems related to the theory of alloying constructional and tool steels and alloys. Included are articles on topical problems of the theory and practice of thermal and combined chemical heat treatment of steels and alloys. Quantitative methods of studying the structure in the physical metallurgy, brittle failure, and thermomechanical treatment of steels are discussed. Data are given on the effects of heat treatment on the structure and properties of high-tensile, precipitation-hardenable martensitic steels, metals for elastic components, as well as high-temperature steels and alloys. A number of articles deal with problems of the theory and practice of carbonitriding constructional steels, high-temperature nitriding of stainless and high-temperature steels as well as low-temperature nitriding of precipitation-hardenable martensitic steels. Analyzed are certain aspects of complex saturation of stainless steels with elements and the use of the radioactive isotope method for studying carbon

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USSR

LAKHTIN, YU. M., and DUBININ, G. N., Physical Metallurgy and Heat Treatment,
No 7, "Mashinostroyeniye" Press, 1971, 144 p

distribution. The collection is intended for a wide circle of specialists
in physical metallurgy and heat treatment, personnel of scientific research
institutes and heat treating shops of machine-building plants.

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LAKHTIN, YU. M., and DUBININ, G. N., Physical Metallurgy and Heat Treatment, No 7, Moscow, "Mashinostroyeniye" Press, 1971, 144 p

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USSR

LAKHTIN, YU. M., and DUBININ, G. N., Physical Metallurgy and Heat Treatment, No 7, Moscow, "Mashinostroyeniye" Press, 1971, 144 p

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LAKHTIN, YU. M., and DUBININ, G. N., Physical Metallurgy and Heat Treatment,
Moscow, "Mashinostroyeniye" Press, 1971, 144 p

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USSR

LAKHTIN, YU. M., and DUBININ, G. N., Physical Metallurgy and Heat Treatment,
Moscow, "Mashinostroyeniye" Press, 1971m 144 p

O. N. Dubinin, M. G. Karpman, G. V. Shcherbedinskiy, V. Yu. Antonenkova,
         A. S. Stroyev, A. F. Silayev, and T. Ye. Golovkina.
         Study on Cesium Migration in Porous Tungsten   132

References follow   individual articles

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USSR

UDC 621.785.532:669.15'295-194

LAKHTIN, YU. M., and LEBEDEVA, G. V., Moscow Automobile and Road Institute

"Nitriding of Titanium-Containing Steels"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No. 2, 1971, pp 15-19

Abstract: The kinetics of nitriding of steels with titanium is studied for steels containing C 0.26-0.53%; Mn 0.28-0.41%; Si 0.28-0.42%; Ti 0.64-5.5%; Ti/C 1.37-21.0%. Nitriding of these alloys in a medium of ammonia causes the formation of diffusion layers, the properties of which depend on the titanium/carbon ratio. The best nitriding results were produced with steels having Ti/C between 6.5 and 9.5. With Ti/C over 9.5, brittle layers are produced due to separation of a high-nitrogen phase on the grain boundaries and slipping planes, as well as hydrogen diffusion. The dependence of layer depth on temperature is exponential, on time -- parabolic.

1/1

USSR

UDC 621.785.532

LAKHTIN, YU. M., and FETISOVA, I. P., Moscow Automobile and Road Institute

"High Temperature Nitriding of 1Kh12VNMF Steel"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 6-9

Abstract: An investigation of the process of nitriding 1Kh12VNMF steel at 600, 800, 900, and 1000°C is reported. The dependence of the layer thickness on the nitriding temperature has an exponential character. An increase in temperature above 680°C substantially increases the layer thickness buildup, but also leads to a simultaneous weakening of the core and a reduction in the surface hardness. It is shown that nitriding combined with tempering at 680°C for 10 hours ensures the formation of a nitrited layer 0.4 mm thick with a surface hardness of HV 800-900. It also leads to a significant improvement of heat resistance: 30% at 600°C and up to 80-90% at 700°C. This occurs as a result of a decrease in the α-phase portion and the appearance of a stable nitrited austenite in the layers due to the γ-stabilizing nitrogen effect. The cohesion strength of the nitrited layer with the base metal is sufficiently high. An investigation of samples nitrided at 680° for 10 hours and kept 5, 10, 15, 20, and 25 hours in a furnace at 600°C showed that the mechanical properties are stable. The microhardness distribution across the layer and other data are given. 4 figures, 4 references.

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TITLE--EFFECT OF THE INITIAL STRUCTURE ON THE DEPTH AND HARDNESS OF A
   NITRIDED LAYER -U-

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   BRITTLENESS/(U)38KHMYUA LOW ALLOY STEEL, (U)40KH CHROMIUM STEEL

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF TEMPERING
CONDITIONS, DECARBURIZATION, AND VARIOUS COMPNS. OF THE ATM. ON DEPTH
AND HARDNESS OF NITRIDED LAYER WERE STUDIED WITH STEELS 38KHMYUA AND 40
KH. SPECIMENS FROM THESE STEELS WERE QUENCHED IN OIL FROM 940 AND
850DEGREES AND TEMPERED AT 530, 550, 575, 600, AND 650DEGREES.
NITRIDING WAS DONE IN NH SUB3 ATM. WITH 25-45PERCENT DISSOCN. AT
520DEGREES FOR 24 HR. DECARBURIZATION WAS CARRIED OUT BY HEATING
SPECIMENTS FOR 12 HR AT 800DEGREES IN A CLOSED CONTAINER CONTG. STEEL
TURNINGS. THUS PRODUCED DEPTH OF DECARBURIZED LAYER WAS 0.7 MM FOR
STEEL 38KHMYUA AND 0.2 MM FOR STEEL 40 KH. THE TEMPERING TEMP. HAD NO
EFFECT ON THE AMT. OF N ABSORBED BY BOTH STEELS. UNDER THE SAME
CONDITIONS STEEL 38KHMYUA (CONTG. AL) ABSORBED TWICE AS MUCH N AS STEEL
40KH. THE DECARBURIZATION TREATMENT OF STEEL 40KH HAD NO EFFECT ON
NITRIDING; THE DEPTH OF THE LAYER, ITS HARDNESS, AND AMT. OF ABSORBED N
REMAINED UNCHANGED AFTER DECARBURIZATION AS COMPARED TO C CONTG. STEEL;
HOWEVER, IN STEEL 38KHMYUA THE DECARBURIZATION INCREASED BOTH THESE
VALUES, WHICHOUT BRITTLENESS FORMATION. INCREASED TEMPERING TEMP.
CAUSED A DECREASE OF DEPTH AND HARDNESS OF NITRIDED LAYER IN BOTH
STEELS. THE NH SUB2 DISSOCN. TO GREATER THAN 60PERCENT DECREASED THE
HARDNESS AND DEPTH OF THE NITRIDED LAYER.