

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CATALYTIC PYROLYSIS OF A GAS CONDENSATE FROM THE SHEBELINSKI
DEPOSIT -U-
AUTHOR--(04)-LYSYKH, U.V., PAUSHKIN, YA.M., ADELSON, S.V., PANOVA, I.YU.
COUNTRY OF INFO--USSR
SOURCE--GAZOV. PROM. 1970, 15(3), 44-7 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--PYROLYSIS, ALKANE, NAPHTHENE, ETHYLENE, BUTADIENE, CATALYST,
NATURAL GAS, PETROCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1122 STEP NO--UR/0492/70/015/003/0044/0047
CIRC ACCESSION NO--AP0128549
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 015

CIRC ACCESSION NO--AP0128549

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. CATALYTIC PYROLYSIS AT 760-850DEGREES OF THE 53-125DEGREES FRACTION OF SHEBELINSKII GAS CONDENSATE WAS EXAMD. THE PYROLYSIS FEED HAD 0. 0.743 G/GM PRIMES AND CONTAINED 40.9 WT. PERCENT PARAFFINS, 51.7 WT. PERCENT NAPHTHENES AND 7.4 WT. PERCENT AROMATICS. THE OPTIMUM FEED-STEAM WT. RATIO WAS 2.2:1. THE MAX. YIELD OF ETHYLENE (36.4 WT. PERCENT) WAS AT 850DEGREES AND SPACE VELOCITY 0.93 HR PRIME NEGATIVE, AND THE MAX. OF BUTADIENE (8.35PERCENT BY WT.) AT 800DEGREES AND SPACE VELOCITY 2 HR PRIME NEGATIVE. THE CATALYST COMPN. IS NOT GIVEN. FACILITY: MINKHGP

IN. GUBKINA, MOSCOW, USSR.

UNCLASSIFIED

172 026 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--ELECTROPHYSICAL PROPERTIES OF THERMISTORS BASED ON POLYMERS WITH
 CONJUGATED DOUBLE BONDS -U-
 AUTHDR--(04)-OGANESOV, S.S., MARKOVICH, V.B., PAUSHKIN, YA.M., LUNIN, A.F.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 330-3 (TECH PHYS)
 DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS
 TOPIC TAGS--CONJUGATE BOND SYSTEM, CONJUGATED POLYMER, ORGANIC
 SEMICONDUCTOR, ELECTRIC PROPERTY, NITRILE, CYANAMIDE, THERMISTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0715

STEP NO--UR/0020/70/191/002/0330/0333

CIRC ACCESSION NO--AT0124385
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124385

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELEC. PROPERTIES AND RESISTOR
PARAMETERS OF SEVERAL ORG. SEMICONDUCTOR THERMISTORS, E.C.,
POLYMALONITRILE (I) OR POLYCYANAMIDE, WERE MARKEDLY DEPENDENT ON THE
PREPN. CONDITIONS AND TEMP. THE VOLTAGE CURRENT CHARACTERISTICS OF I
WERE PLOTTED. MOSK. INST. NEFTEKHIM. GAZOV. PROM. IM. GUBKINA,
MGSCOW, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--RESONANCE SPECTROSCOPIC STUDY OF OXIDIZED STATES IN FERROCENE
COPOLYMERS -U-
AUTHOR--(06)-ALIYEV, L.A., VISHNYAKOVA, T.P., PAUSHKIN, YA.M., PENGIN,
A.A., SOKULINSKAYA, T.A., STUKAN, R.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 306-10
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAMMA SPECTRUM, FERROCENE, COPOLYMER, PHTHALIC ANHYDRIDE, ZINC
CHLORIDE, OXIDATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1979 STEP NO--UR/0062/70/000/002/0306/0310
CIRC ACCESSION NO--AP0123760
UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0123760
ABSTRACT/EXTRACT--(U) GP-0--

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. THE GAMMA RESONANCE SPECTRA OF COPOLYMERS MADE OF FERROCENE AND ETCOME AND PHTHALIC ANHYDRIDE WERE REPORTED IN CONJUNCTION WITH DETN. OF THE AMT. OF THE OXIDIZED FORM OF FE IN SUCH POLYMERS FROM THE AMT. OF OXIDIZING AGENT CONSUMED. THE COPOLYMER WITH MECDET WAS OXIDIZED TO SMALLER THAN OR EQUAL TO 50PERCENT OF ITS FE CONTENT, WHILE THE COPOLYMER WITH PHTHALIC ANHYDRIDE WAS OXIDIZABLE TO 45PERCENT. THE COPOLYMER WITH PHTHALIC ANHYDRIDE HAVING THE MAX. LEVEL OF OXIDN., RELATIVE TO FERROCENE AND WITH MIN. PROGRESS OF SECONDARY REACTIONS CONTAINED SOME 35PERCENT OXIDIZED FE ACCORDING TO SPECTRAL DATA AND 50PERCENT ACCORDING TO CHEM. DETN. THIS COPOLYMER WAS PREPD. WITH A ZNCL SUB2 CATALYST IN 5 HR AT 150DEGREES IN AN AUTOCLAVE; THE SUBSTANCE WAS GENERALLY INSOL. THE OXIDNS. WERE DONE WITH K SUB2 CR SUB2 O SUB7 IN ACOH OR WITH A FECL SUB3 SOLN. IN AQ. KCL.
FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

AP0052503

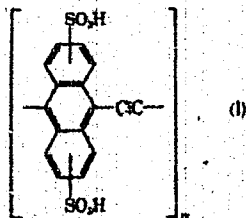
Abstracting Service

CHEMICAL ABST. 5-70

Ref. Code:

4180460

101323z Synthesis and properties of new aromatic polymers. Paushkin, Ya. M.; Komissarov, V. I.; Lunin, A. F.; Aleksandrova, Y. A.; Oganesov, S. S.; Meshcheryakov, S. V.; Shumov, V. N. (Inst. Neftekhim. Gazov. Prom. im. Gubkina, Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 53-6 (Russ). The heteropolycondensation of Na_2C_2 with *o*-, *m*-, and *p*- $\text{C}_6\text{H}_4\text{Cl}_2$ and $\text{C}_6\text{H}_4\text{Br}_2$, 1,4- $\text{C}_{10}\text{H}_6\text{Br}_2$ and 1,5- $\text{C}_{10}\text{H}_6\text{Br}_2$, and 9,10-dibromanthracene in $\text{C}_{18}\text{H}_{14}$ was studied under Ar at 200-87°. The most reactive monomers were the *o*-dibromo derivs. The polymers were brown to black powders stable at up to 300-400°, having an elec. cond. in the range of 10^{-7} - 10^{-12} (ohm cm) $^{-1}$. The polymers were readily nitrated, sulfonated, and aminated; e.g.,



sulfonation with fuming H_2SO_4 gave heat resistant (to 300°) cation exchange resins I of high exchange capacity. CKJR

REEL/FRAME

19821144

USSR

UDC 576.851.71.095.38:576.895.42(047)

PAUTOV, V. N.

"Ticks as Rickettsia Habitat (A Literature Review)"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973,
pp 74-77

Abstract: Different species of rickettsiae have been shown to exist in virulent and avirulent forms. Ticks are implicated in this change of form. For example starvation and low environmental temperature for the host tick prevents some rickettsiae from attaining virulence, metamorphosis of *D. andersoni* from nymph to imago reduces virulence of hosted bacteria, some rickettsiae lose virulence if ticks are not available as intermediate hosts between other animals, and changes in host specificity have been shown to alter virulence. Presence and absence of such tick-bacterium interaction is discussed in greater detail with regard to *R. burneti*, *R. prowazeki*, *R. canada*, and *R. tsutsugamushi*.

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USSR

UDC 576.851.71.097.2

PAUTOV, V. N., and MOROZOV, Yu. I.

"Investigation of the Antigenic Structure of M-44 Vaccine Strain of Rickettsia burneti. Report III"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, p 129

Abstract: Rickettsia burneti strain M-44, which is an attenuated variant of the Griti strain used as live vaccine, survives for at least 250 days in Alveonasus canestrini and Ornithodoros moubata ticks and for at least 490 days in Alectobius tholozani ticks. Throughout that time, strain M-44 remains in phase II without acquiring the antigenic component of phase I. Guinea pigs inoculated with a suspension of infected ticks develop complement-binding antibodies of phase II only. The infection proceeds in them without fever and does not differ from experimental rickettsiosis induced by strain M-44 grown in chick embryo. The antigen extracted from infected ticks reacts according to phase II in complement-binding tests. Thus, after prolonged inhabitation of ticks, Burneti strain M-44 remains in phase II, and its pathogenicity to guinea pigs does not change.

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USSR

UDC 616.981.718-085.371-036.71-07:616.15-097.5

PAUTOV, V. N.

"The Rate of Immunity Development in Response to Vaccination Against Q Fever"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973,
pp 25-30.

Abstract: Guinea pigs were vaccinated with dead corpuscular (250 million cells) and live (10^5 ID₅₀) M-44 vaccine against Q fever at different intervals prior to and after infection by *Rickettsia burneti* (10^3 - 10^5 ID₅₀) to determine differences in antibody and fever development. Immunization with either vaccine 10 or 15 days prior to infection generated total immunity (no fever) in most cases, while most animals immunized 3-5 days prior to infection responded with total immunity or light fever (2-day fever up to 39.7°C). When immunized within 1 day prior to or after infection, most animals responded with severe (40-41°C, not less than 5 days) or moderate (3-4 days, not over 40°C) fever. In general, symptoms were more severe with live than with corpuscular vaccine. Among animals immunized with live vaccine 1-15 days prior to infection the phase II complement-fixing antibody titers were lower on the 20th-90th days than among control animals, while phase I antibody formation was completely suppressed in some guinea pigs. In some guinea pigs immunized with live vaccine 10 or 15 days

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USSR

PAUTOV, V. N., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 25-30

prior to infection, in all animals immunized at these times with corpuscular vaccine, and in some animals receiving the latter 1-5 days prior to infection, phase I antibodies appeared sooner (20th day) than in nonimmunized controls. Thus for the most part live vaccine suppressed most phase II antibody development and some phase I antibody development, while corpuscular vaccine suppressed all phase II antibody development but hastened phase I antibody production.

2/2

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USSR

UDC: 621.372.54:621.315.613.7(088.8)

ALEKSEYEV, A. N., PAUZHENIKOV, V. M., SEMENOV, V. S., Moscow Engineering
Physics Institute

"A Piezoelectric Filter"

USSR Author's Certificate No 266966, filed 4 Oct 68, published 14 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V348 P)

Translation: A piezoelectric filter is proposed which is made from a piezoelectric ceramic plate with electrodes attached to both sides. The plate is polarized in the direction perpendicular to the plane of the electrodes. To simplify construction of the filter, the input and output electrodes are fitted with rectangular lugs which are asymmetrically located with respect to one another.

1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--PREPARATION OF SLIDES OF 2, PYRIDINIO AND
2, ISOQUINOLINIO, 1,3, INDANDIONES -U-
AUTHOR--(02)--NEYLANDS, O., PAVARS, A. *P*
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(3) 634-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COMPLEX COMPOUND, PYRIDINE, QUINOLINE, KETONE, PHTHALIC
ANHYDRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1423 STEP NO--UR/0366/70/006/003/0634/0635
CIRC ACCESSION NO--AP0112417
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--02NOV70

CIRC ACCESSION NO--AP0112417

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHTHALIC ANHYDRIDE WITH XCH SUB2 CO SUB2 H (I) (X IS PYRIDINIO CHLORIDE OR ISOQUINOLINIO CHLORIDE) IN AC SUB2 O ET SUB3 N MIXT. GAVE TITLE YLIDES (II). OTHER I (X EQUALS ALPHA, BETA, OR GAMMA METHYLPYRIDINIO CHLORIDE, QUINOLINIO CHLORIDE, OR ME SUB3 NCL) DID NOT REACT.

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UNCLASSIFIED

USSR

UDC 547.241*565.2.057

MAY, L. A., and PAVARE, B. G., Institute of Inorganic Chemistry, Academy of Sciences Latv, SSR

"Reaction Products of Catechol with Methylphosphonic Acid Dichloride"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR, No 4, 1973, pp 485-490

Abstract: The reaction of pyrocatechol with methylphosphonic acid dichloride occurs via a primary or secondary phenol-dienone rearrangement [phenol \rightarrow cyclohexanedione]. Such rearrangements often accompany electrophilic and radical substitution reactions of phenols such as halogenation, nitration, alkylation, free radical oxidation, but so far no such rearrangement has been noticed in reactions of phenols with organophosphorus compounds.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SYNTHESIS OF FRAGMENTS OF ANGIOTENSIN II AND ITS GLYCINE CONTAINING
ANALOGS -U-
AUTHOR-(02)-PAVARS, A., CIPENS, G.
COUNTRY OF INFO--USSR *P*
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 121-2
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--CARDIOVASCULAR DRUG, CHEMICAL SYNTHESIS, PEPTIDE,
CHROMATOGRAPHIC ANALYSIS, ELECTROPHORESIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0518 STEP NO--UR/0464/70/000/001/0121/0122
CIRC ACCESSION NO--AP0121192

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PEPTIDES
ASP-ARG-VAL-TYR-VAL-HIS-PRO-PHE, GLY-ARG-VAL-TYR-VAL-HIS-PRO-PHE,
GLY-GLY-VAL-TYR-VAL-HIS-PRO-PHE, GLY-GLY-GLY-TYR-VAL-HIS-PRO-PHE,
GLY-GLY-GLY-GLY-VAL-HIS-PRO-PHE, VAL-TYR-VAL-HIS-PRO-PHE, AND
VAL-HIS-PRO-PHE, WERE PREPD. BY CLASSICAL METHODS AND CHARACTERIZED R
SUBF VALUES AND BY PAPER ELECTROPHORETIC MOBILITY. THE DATA OBTAINED
WERE INSUFFICIENT FOR ELUCIDATION OF THE RELATION BETWEEN THE PEPTIDE
STRUCTURE AND PRESSOR ACTIVITY, BUT INDICATE THE BIOL. IMPORTANCE OF THE
PRINC BIOL. IMPORTANCE OF THE PRINCIPAL MOL. FRAMEWORK AND OF THE STERIC
EFFECTS IN THE TERMINAL PARTS OF THE MOL. FACILITY: INST. ORG.
SIN., RIGA, USSR.

UNCLASSIFIED

172 045 UNCLASSIFIED PROCESSING DATE--13NOV77
TITLE--THERMOPHYSICAL AND THERMODYNAMIC CHARACTERISTICS OF MOLTEN ALLOYS
OF IRON WITH CHROMIUM -U-
AUTHOR-(03)-PAVARS, I.A., BAUM, B.A., GELD. D.V. P
CCOUNTRY OF INFO--USSR
SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 72-6
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHROMIUM ALLOY, HEAT OF FORMATION, ENTHALPY, ENTROPY, METAL
PHASE SYSTEM, PHASE ANALYSIS, LIQUID METAL, IRON ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1938 STEP NO--UR/0294/70/008/001/0072/0076
CIRC ACCESSION NO--AP0115746
UNCLASSIFIED

2/2 045

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--APG115746

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VAPOR PRESSURES OF MOLTEN ALLOYS OF FE WITH CR WERE DETD. AT 1600-1700DEGREES FOR VARIOUS FRACTIONS OF CR (IN SUBCR EQUALS 0-0.62) BY THE LARGE DROP METHOD. INTEGRAL HEAT OF EVAPN., ACTIVITIES OF ALL COMPONENTS, INTEGRAL FORMATION ENTHALPY, ENTROPY, AND ISOBARIC POTENTIAL OF MOLTEN ALLOYS WERE CALCD. THE SLIGHT DEVIATIONS FROM IDEALITY CAN BE EXPLAINED BY STRONG DONOR ACCEPTOR INTERACTIONS OF FE AND CR ATOMS IN A LIQ. PHASE. FACILITY: URAL. POLITEKH. INST. IN. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

PAVELETS, S. YU.

Semiconductors



DEPARTMENT OF THE ARMY
US ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
420 RYAN STREET, APT. 2E
CHARLOTTESVILLE, VIRGINIA 22901

ARM/ESTC INT-21

In Reply Refer to:
FSTC/HT-23, 2032-72
DIA Task No. ITD-2101

Date: 22 December 1972

ENGLISH TITLE: EFFICIENCY OF SOLAR CELLS BASED ON GRS-GRAS
HETEROJUNCTIONS

TRANSLATION

Semiconductors
S. YU. PAVLET
S. YU. PAVLET

AUTHOR: PAVLET, S. YU.
SOURCE: Galilekhkhina, 1971
No. 3, pp 3-8
LANGUAGE: Russian
REQUESTOR: ASSIST/GE, Mr. [unclear]
TRANSLATOR: ACII, R-2617
COUNTRY: USSR

KEY WORDS:
Solar Cell
Cadmium Sulfide
Copper
Semiconductor Junction
Light absorption
Impurity center
Impurity level
Photon
Capture cross section

TI CUB
ZD72/000657/D11

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Photoelectric Effect

USSR

UDC 621.472:621.363

PAVELETS, S. Yu. and FEDORUS, G. A.

"Efficiency of CdS-Cu_{2-x}S Heterojunction Solar Energy Transducers"

Tashkent, Geliotekhnika, No. 3, 1971, pp 3-8

Abstract: Solar energy transducers using the CdS-Cu_{2-x}S heterojunction are most efficient of such devices and are thus the most promising candidates for practical application. Although the full nature of the conversion occurring in the junction is not understood, it is possible to compute the efficiency of the device for the case of light absorption by impurities. This article undertakes this computation for solar energy transducers under the best conditions, such as maximum concentration of impurity centers, maximum cross section of photon capture by these centers, and the like. The energy losses and the possibility of increasing the efficiency of the CdS-Cu_{2-x}S element efficiency are analyzed. It is found that that the experimentally obtained value of 9% for the efficiency of the transducer is close to the limit and less than the efficiency of Si transducers. However, this type of device can be made cheaply enough to compete with the silicon equivalent. The

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USSR

PAVELETS, S. Yu., and FEDORUS, G. A., *Geliotekhnika*, No 3, 1971, pp 3-8

peculiarities of the crystalline structure of CdS layers are also examined with a view to increasing their efficiency. The authors are associated with the Semiconductor Institute, Academy of Sciences, USSR.

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1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--OPTIMUM THICKNESS OF A COPPER SULFIDE LAYER IN N,CDS,P,CU SUB2-X S
PHOTOCELLS -U-
AUTHOR--(03)-PAVELETS, S.YU., FEDORUS, G.A., KONONETS, YA.F.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 347-9
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--COPPER SULFIDE, CADMIUM, PN JUNCTION, PHOTOCONDUCTIVE CELL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0993

STEP NO--UR/0449/70/004/002/0347/0349

CIRC ACCESSION NO--AP0115014

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0115014

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED FOR DETG. THE DIFFUSION LENGTH, L_{SUBD} , FOR P-N HETEROJUNCTIONS FROM THE SPECTRAL CHARACTERISTICS. THE METHOD WAS USED TO DET. L_{SUBD} FOR A $CdS, Cu_{SUB2-X}S$ HETEROJUNCTION FROM THE SPECTRAL DISTRIBUTION OF THE SHORT CIRCUIT PHOTOCURRENT. DETNS. WERE MADE FOR A THICKNESS OF $Cu_{SUB2-X}S$, L EQUALS 1000-1200 ANGSTROM; L LARGER THAN L_{SUBD} FOR THESE HETEROJUNCTIONS. L_{SUBD} WAS EVALUATED AS $(2.5 \text{ PLUS OR MINUS } 1)$ TIMES L_0 PRIME NEGATIVE 6 CM. SUCH A SMALL VALUE FOR THE PHOTOACTIVE REGION IN A NARROW BAND SEMICONDUCTOR IS RELATED TO HETEROGENEITIES IN THE POLYCRYST. STRUCTURE OF THE THIN $Cu_{SUB2-X}S$ FILM. DETNS., ON FILMS OF L CONGRUENT TO 200 AND 500 ANGSTROM, OF THE PHOTOACTIVE REGION (L_{SUBP}) OF THE $Cu_{SUB2Ox}S$ LAYER SHOWED THAT FOR L CONGRUENT TO 500 ANGSTROM, L LARGER THAN L_{SUBP} , AND FOR L CONGRUENT TO 200 ANGRSTOM, L SMALLER THAN L_{SUBP} .
FACILITY: INST. POLUPROV., KIEV, USSR.

UNCLASSIFIED

1/3 008 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--POLAROGRAPHIC AND POTENTIOMETRIC DETERMINATION OF
BENZENEPOLYCARBOXYLIC ACIDS. -U-
AUTHOR--(04)-KRYUKOVA, G.G., RUSAKOVA, M.S., PAVELKO, N.V., TURKYAN, YA.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 15(2), 369-73
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AROMATIC CARBOXYLIC ACID, POLAROGRAPHIC ANALYSIS,
POTENTIOMETRIC TITRATION, CHEMICAL ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0694 STEP NO--UR/0075/70/025/002/0369/0373
CIRC ACCESSION NO--AP0113562
UNCLASSIFIED

2/3 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLAROGRAPHIC CHARACTERISTICS OF 3,3 PRIME,4,4 PRIME BENZOPHENONETETRACARBOXYLIC ACID (I), 3,3 PRIME,BENZOPHENONEDICARBOXYLIC ACID (II) AND 4,4 PRIME,OXYDIPHTHALIC ACIDS (III) WERE OBTAINED. THE 1ST POLAROGRAPHIC WAVE OF I WAS STUDIED MICROCOULOMETRICALLY. THIS WAVE IN BOTH ACID AND ALK. BUFFERS AND THE WAVE OF II IN ALK. BUFFER ARE OF THE 2 ELECTRON TYPE (REDN. OF THE ACRBONYL GROUP). THE 2ND WAVE OF I AND THE WAVE OF III IN AN ACID SOLN. IS OF THE 4 ELECTRON TYPE. IN AN ALK. SOLN. THIS WAVE SHIFTS TO THE AREA OF THE SUPPORTING ELECTROLYTE DISCHARGE POTENTIAL. POLAROGRAPHIC AND POTENTIOMETRIC METHODS WERE DEVELOPED FOR THE DETN. OF I IN THE PRESENCE OF HNO SUB3, OF I IN THE PRESENCE OF II AND ACOH AND OF III IN THE PRESENCE OF ACOH. TO ANALYZE A 1:5 MIXT. OF I-HNO SUB3 POLAROGRAPHICALLY, NEUTRALIZE A 0.1-G SAMPLE BY USING PHENOLPHTHALEIN AS INDICATOR, ADD 2.5 ML PH 2.0 BUFFER AND 10 ML 2.5M KCL, AND DIL. TO 25 ML WITH H SUB2 O. RECORD THE POLAROGRAM IN THE RANGE MINUS 0.55 TO MINUS 0.75 V. DET. I CONC. BY THE 1ST WAVE AND THE METHOD OF STD. ADDNS. IN THE POTENTIOMETRIC METHOD DISSOLVE 0.05-0.20 G IN 25 ML MECH (CONTG. 4PERCENT H SUB2 O), AND TITRATE WITH 0.1M KOH. THE 1ST JUMP REPRESENTS THE NEUTRALIZATION OF HNO SUB3, THE 2ND NEUTRALIZATION OF 2 CO SUB2 H GROUPS OF I. THE ERROR IS PLUS OR MINUS 4.0PERCENT. WHEN DETG. I AND II IN THE PRESENCE OF ACOH BY THE POLAROGRAPHIC METHOD, DISSOLVE 1.0-1.5 G IN 25 ML 0.1M (SOLN. A), NEUTRALIZE 2.0 ML OF SOLN. A TO PHENOLPHTHALEIN, ADD 2.5 ML PH 9.0 BUFFER AND 10 ML 2.5M KCL, AND DIL. TO 25 ML WITH H SUB2 O. RECORD THE POLAROGRAM IN THE MINUS 1.15 TO MINUS 1.40 V RANGE.

UNCLASSIFIED

3/3 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113562

ABSTRACT/EXTRACT--DET. THE SUM OF I AND II CONCNS. BY THE METHOD OF ADGNS.

TO DET. I ALONE, NEUTRALIZE 2.0 ML OF SOLN. A, ADD 2.5 ML UNIVERSAL BUFFER (PH 2.0) AND 10 ML 2.5M KCL, AND DIL. TO 25 ML WITH H SUB2 O.

FILTER AND RECORD THE POLAROGRAM IN THE MINUS 0.55 TO MINUS 0.75 V

RANGE. IN THE POTENTIOMETRIC METHOD DISSOLVE 0.05-0.10 G IN 25 ML

MECOET CONTG. 4PERCENT H SUB2 O AND TITRATE POTENTIOMETRICALLY WITH A

0.2M KOME. THE 1ST JUMP REPRESENTS THE NEUTRALIZATION OF 2 CO SUB2 H

GROUPS OF I. TO DET. III IN THE PRESENCE OF ACOH BY POLAROGRAPHY

NEUTRALIZE 0.1-0.2 G OF SAMPLE WITH 0.1M NAOH BY USING PHENOLPHTHALEIN

AS INDICATOR, ADD 2.5 ML PH 2.0 BUFFER AND 10 ML 2.5M KCL, DIL. TO VOL.

WITH H SUB2 O, RECORD THE POLAROGRAM IN THE RANGE MINUS 1.15 TO MINUS

1.30 V, AND DET. III CONCNS. BY THE METHOD OF ADGNS. IN THE

POTENTIOMETRIC METHOD DISSOLVE 0.05-0.10 G IN 25 ML MECOET CONTG.

4PERCENT H SUB2 O AND TITRATE WITH 0.1M KOME. THE 1ST JUMP REPRESENTS

III CONCNS. THE ERROR IN THE DETN IS PLUS OR MINUS 2.5PERCENT.

FACILITY: YAROSLAV. TECHNOL. INST. SCI. RES. INST. MONOMERS SYN.

RUBBER, YAROSLAVL, USSR.

UNCLASSIFIED

USSR

UDC 577.3

KOGAN, A. B., SACHAVA, T. S., DOROZHINA, L. I., PAVELKO, V. M., and
GOL'TSEVA, I. N.

"The Mechanism of the Effect of a Constant Magnetic Field"

Vliyaniye Magnitnykh Poley na Biologicheskiye Ob"yekty, pp 56-68

Abstract: An investigation was made of the effect of a constant magnetic field on organisms of different evolutionary levels. During experiments on infusoria, a change in movements, redistribution and reduction of RNA (protoplasmic), and an increase in aerobic glycolysis was observed under the influence of a constant magnetic field. In the cells of nitella algae, a reduction in dormancy potential during the effect of a magnetic field was detected using the technique of intracellular registration of biopotentials. The effect depended on the intensity of the field being used and on seasonal conditions under which the experiment was conducted. In studying a single nerve cell of the muscle extension receptor of a crab, it was established that a magnetic field of 500 Oe with an exposure of 30 minutes causes an inhibitory reaction in the neurons whose intensity depended on the season. Structural changes in the neurons were characterized by disintegration of small RNA chunks and RNA accumulation
1/2

USSR

KOGAN, A. B., et al., Vliyaniye Magnitnykh Poley na Biologicheskiye Ob"yekty, pp 56-68

in the perinuclear area. The physiological activity of adrenalin exposed to a magnetic field changed when it was tested on an isolated frog heart according to the Shtrauber method.

2/2

USSR

UDC 533.6.013.42

PAVELKO, V. P., SHAKHMANSKIY, G. V.

"On the Aerodynamic Deformation of Flexible Oscillations"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering Under Oscillations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 305-309 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V371)

Translation: The aerodynamic decrement of oscillations in air of a plane sample of constant cross section is determined experimentally under the absence of flow. The decrement was studied as a function of the amplitude of the stresses, the air temperature, and the distance from the sample to the screen. It is shown that the decrement in oscillations associated with aerodynamic resistance is determined in a certain range of amplitudes by the shape of the sample and the viscosity of the medium. The closeness of the screen can strongly effect the magnitude of the decrement in oscillations. 6 ref. R. A. Shipov.

1/1

USSR

UDC: 532.517.3:532.525.2

NAVOZNOV, O. I., PAVEL'YEV, A. A., YATSENKO, A. V., Moscow

"On the Transition to Turbulence in Submerged Jets and Wakes"

Moscow, Izv. AN SSSR: Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp 148-154

Abstract: An experimental investigation was made of the transition to turbulent flow in axisymmetric submerged jets and wakes of helium and air for different velocity profiles in the initial cross section. The initial velocity profile in submerged jets was determined by the boundary layer on the ends of tubes of various lengths. In jets of helium and air in an accompanying airflow, the initial velocity profile was created by using a honeycomb with radially varying hydraulic drag. The results of the study agree in general with data in the literature, although certain previous conclusions were not confirmed. The authors thank V. M. Iyevlev for his assistance and discussion of the results.

1/1

USSR

UDC 532.529

NAVOZNOV, O. I., and PAVEL'YEV, A. A., Moscow

"Dimensions and Condition of the Mixing Zone of two Parallel Streams"

Moscow, Energetika i Transport, No 5, Sep-Oct 71, pp 124-127

Abstract : Results are presented of the investigation on the initial region of the dependence of the mixing zone width b of a free jet in an air wake on the relation of their speeds m . On the basis of data of the mixing zone width b_0 at $m=0$ and b_1 at $m=1$ and the relation of b to m at low values of m , an interpolation formula characterizing the relation of b to m when changing m from 0 to 1 (the speed of the central jet is higher than the wake speed) is suggested. Processing of experimental data of different authors shows that the mixing zone width b is proportional to $1-m$ at low m values. By changing the wake speed relation m from 0 to 1, a minimum value of b results at $m=1$ if $b_1 \leq b_0/2$, and at $m < 1$ if $b_1 > b_0/2$. One illustr., six formulas, seven biblio. refs.

1/1

USSR

UDO 621.391.812.624

PROSIN, A.V., PAVEL'YEV, A.G. [Members, Scientific-Technical Society Of Radio Engineering, Electronics, And Communication imeni A.S. Popov]

"To A Calculation Of The Power Of A Radio Signal Scattered By A Statistically Uneven Surface"

Radiotekhnika, Vol 27, No 4, Apr 1972, pp 30-40

Abstract: Scattering of radiowaves at a statistically uneven surface is considered within the limits of the Kirohoff approximation. In contrast to other works, a solution is found for the short-distance zone (Fresnel zone), where throughout the effective region of scattering, the angle substantially changes between the normal to the mean surface and the direction of observation. The proposed method of determining the energy characteristics of the field makes it possible to show the principal physical regularities of a given problem -- the condition of a regular mirror image and the connection of the coordinates of the dispersing section of it with the inclination to the median plane, without introduction of simplifying assumptions concerning the independence of the reflections from the separate sections and the uncorrelated random heights and inclinations at the neighboring points of the surface. Consideration of the correlations between the random heights and inclinations made it possible to find the error of another work connected with the incorrect interpretation of the role of self-shadowing during scattering of radio waves. 5 fig. 12 ref. Received, 24 July 1970.

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USSR

UDC 538.56

KOVNER, M. S., PAVEL'YEV, D. G., SHKELEV, YE. I.

"Temperature Dependence of the Gunn Generation Parameters"

Gor'kiy, Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XIV, No 12, 1971, pp 1918-1922

Abstract: A study was made and results are presented for the temperature dependence of the frequency and power of a pulse generator in the Gunn generation mode. The diodes were made of monocrystalline gallium arsenide (GaAs) with a donor concentration $n_d \sim 10^{15} \text{ cm}^{-3}$. Under the experimental conditions, the high-frequency field of the resonator could not have a significant effect on the time and rate of onset of the strong field domain and, consequently, the generation frequency. Thus, the generation parameters were measured under conditions of maximum output power insuring tuning of the coaxial resonator in which the GaAs sample was placed. Graphs are presented of the dependence of the average generation power on the tuning of the resonator for 3 diodes. The mechanism of the effect is described. An increase in the average generator power with an increase in T_0 in the investigated temperature range was observed experimentally, and curves are presented for this. With variation of T_0 , the

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USSR

KOVNER, M. S., et al., Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XIV, No 12, 1971, pp 1919-1922

resonator was tuned to maximum power when the generation frequency is determined by the transit time of the diode. The increase in power is connected with an increase in the carrier concentration. If the tuning of the resonator is fixed, then with an increase in temperature as the drift frequency moves away from the natural frequency of the resonator, a decrease in power or even disruption of generation can occur.

2/2

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USSR

UDC: 8.74

PAVEL'YEV, V. A., STEPANCHENKO, D. A.

"A Problem-Oriented Language and System of Generating Programs for Data Processing Jobs"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 50-57 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V634)

Translation: The paper describes the RPG programming system developed by IBM. The essential features of programming with the use of the RPG system are briefly described. The article is of interest both for computer programmers and for specialists involved in the development of computer software.

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USSR

UDC: 621.396.67.095.001.5

VAYNBERG, I. A., PAVEL'YEV, V. A.

"Using Light-Controlled Semiconductor Panels to Study the Amplitude-Phase Structure of the Short-Range Field of Microwave Antennas"

Moscow, Radiotekhnika i Elektronika, Vol 26, No 9, Sep 71, pp 1685-1690

Abstract: The paper describes a device for visualizing the structure of the short-range field of microwave antennas and for precision measurement of the amplitude and phase of the field. A stationary semiconductor plate with low background field perturbation is placed in the short-range field of the receiving or transmitting antenna to be studied. The surface of the plate is scanned in sequence by an intense light spot of the proper size and shape. The type of antenna determines the scanning trajectory. The incident light causes a sharp change in the conductivity of the material by generation of nonequilibrium current carriers with a resultant change in coefficients of absorption, reflection and refraction. The resultant signal is fed to a CRT display. The device can also be used for polarization measurements by proper shaping

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USSR

VAYNBERG, I. A., PAVEL'YEV, V. A., Radiotekhnika i Elektronika, No 9, 1971, pp 1685-1690

and orientation of the light spot. A simple alteration of the instrument enables analysis of electromagnetic fields from submillimeter to centimeter wavelengths. In addition to antenna measurements, the unit can also be used for quality control in adjusting complex antenna systems, field analysis in quasioptical transmission lines in the millimeter and submillimeter bands, in multiple-mode waveguides, and in complex waveguide junctions. The authors thank E. I. Vaynberg, N. P. Rachkova, V. N. Shuyukova and G. V. Bondareva for assistance in debugging the device and making measurements.

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USSR

UDC 621.317.34:621.372.413(088.8)

VAYNBERG, I. A., VAYNBERG, E. I., PAVEL'YEV, V. A.

"A Device for Visualizing the Field in a Microwave Resonator"

USSR Author's Certificate No 275182, filed 17 Jun 67, published 4 Nov 70,
(from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7B202 P)

Translation: The proposed device contains a microwave resonator with probe to which an oscillator and a receiver with oscillographic display are connected. To increase the speed of obtaining an image of the intensity of the electromagnetic field in the resonator, the probe is made in the form of a photoconductive plate which is introduced into the cross section of the resonator cavity to be studied and which is scanned by a light beam in sync with scanning of the oscillographic display. Resumé.

1/1

USSR

UDC: 621.317.799

VAYNBERG, I. A., VAYNBERG, E. I., PAVEL'YEV, V. A.

"A Device for Visualizing the Field in an SHF Resonator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275182, Class 21, filed 17 Jun 67, p 44

Abstract: This Author's Certificate introduces a device for visualizing the field in an SHF resonator. The unit contains an SHF resonator with test body, and a generator and receiver with oscillographic display connected to the resonator. As a distinguishing feature of the patent, the speed with which the image of the intensity of the electromagnetic field in the resonator is produced is increased by making the above-mentioned test body in the form of a photoconductive plate which is introduced into the cross section of the resonator to be investigated. This plate is scanned by a light beam synchronized with the scanning of the oscillographic display.

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USSR

UDC 621.396.96:620.1

VAYNBERG, I. A., VAYNBERG, E. I., PAVELYEV, V. A.

"Radiointroscope"

USSR Author's Certificate No 240772, Filed 4 Sep 67, Published 27 Aug 69
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9G1P)

Translation: This author's certificate introduces a radiointroscope containing a radio-objective, a superhigh-frequency transmitter, a receiver and a brightness display. In order to accelerate the visual representation of the structure of the investigated sample a photoconducting plate is placed in the region of the sharp radio image. On both sides of this plate there are two receiving antennas connected to symmetrical arms of a superhigh-frequency hybrid joint the difference arm of which is loaded on the receiver output. A projection kinescope which scans the plate surface by a beam the shape of the transverse cross section of which is regulatable, is also used.

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USSR

P
UDC: 621.372.413

BITYURIN, Yu. A., PAVEL'YEV, V. G., TSIMRING, Sh. Ye.

"Equivalent Resistance of a System of Two Resonators"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1970, vyp. 3, pp 47-80 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B138)

Translation: A system of two resonators coupled through slots is considered. Relationships are given which define the resonance frequencies and equivalent impedance reduced to the coupling slots. Numerical evaluations show that the values of the equivalent impedance in the case of tuned slots are comparable with the corresponding values in the interaction spaces of hollow resonators used in klystrons for the centimeter range. Data are given from experimental studies of a system of coupled open resonators with spherical reflectors. Five illustrations, bibliography of eight titles. Resumé.

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304

USSR

UDO 621.382.002

LABUTIN, N.I., MARTYNOV, V.V., PAVILAYNEN, V.S., STOROZHUK, G.A.

"Transfer Of Defects Of Photopattern To A Silicon Oxide Film In The Process Of Contact Photolithography"

Elektron.tekhnika. Nauch.-tekhn.sb. Mikroelektronika (Electronic Technics. Scientific-Technical Collection. Microelectronics), 1971, Issue 5(31), pp 41-44 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 53392)

Translation: The transfer in the process of photolithography of the defects of a photopattern [fotoshablon] to SiO₂ was studied by the electron microscopic method for standard photolithographic regimes which are used in the production of silicon integrated circuits with the aid of positive photoresists. The critical dimensions of the permissible defects on the photopattern are determined. Summary.

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USSR

L'VOV, O. I., PAVINSKIY, P. P.

"Optical Spectrum of the Acceptor Center in a BiI_3 Crystal"

Leningrad, Vestnik Leningradskogo Universiteta: Fizika-Khimiya, October-December 1973, pp 13-17

Abstract: The bright-line absorption and emission spectra observed in single crystals of BiI_3 having a stoichiometric deficiency of iodine are theoretically interpreted. The form of the spectra is hydrogen-like with reverse convergence of the lines on the long-wave side of the series. A model of the acceptor center is suggested, and the relative intensity of the absorption lines as well as the asymmetry of the shape of the lines are calculated. A qualitative explanation of the mutual inverse behavior of the intensity in the absorption and emission spectra is suggested. The dependence of the photoelectric activity on the spectra is naturally included in the suggested scheme.

The article includes six equations, one figure, and two tables. There are 11 references.

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USSR

UDC: 539.2.01

PAVINSKIY, P. P., YARUNIN, V. S.,

"Electrical Field of Semi-Infinite Cubic Crystal of Quadrupoles"

Vestn. Leningr. Un-Ta [Herald of Leningrad University], No. 4, 1970, pp 22-25, (Translated from Referativnyy Zhurnal Fizika, No. 8, 1970, Abstract No. 8YE279, by L. A. Borovinskiy).

Translation: An analysis is made of the electrical field of a semi-infinite crystal with a simple cubic lattice formed of point quadrupoles. The field potential of one plane (100) of quadrupoles is calculated and addition of potentials of planes is used to produce expressions for the potential and field intensity of the semi-infinite crystal at distance z from the surface. The exponential nature of the attenuation of the field allows the field to be considered nonzero only at nodes of the lattice of the surface layer. The potential is calculated near the node after subtracting the singular potential of the node itself. The field of the lattice of quadrupoles polarizes molecules of the surface layer, leading to the appearance of a macroscopic field. An expression is found for the dipole moment per unit surface.

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" 71 "

1/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ELECTRIC FIELD OF SEMI INFINITE CUBIC CRYSTAL CONSISTING OF
QUADRUPOLES -U-
AUTHOR-(G2)-PAVINSKIY, P.P., YARUNIN, V.S. P
COUNTRY OF INFO--USSR
SOURCE--VESTNIK LENINGRADSKOGO UNIV. FIZ. KHIM., (USSR), NO. 1, P. 22-5
(1970)
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTRIC FIELD, DIELECTRIC POLARIZATION, ELECTRIC QUADRUPOLE
MOMENT, CUBIC CRYSTAL, POISSON EQUATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/G11 STEP NO--UR/0054/70/000/001/0022/0025
CIRC ACCESSION NO--APC141710

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0141710

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. MACROSCOPIC ELECTRIC FIELDS IN A SEMI INFINITE CRYSTAL CONSISTING OF POINT QUADRUPOLES HAVE BEEN CONSIDERED. THE FIELDS ARE DUE TO DIELECTRIC POLARIZATION OF SURFACE MOLECULES, WHICH IS EQUIVALENT TO SOME DOUBLE LAYER DISTRIBUTION. THE DENSITY OF SUCH DISTRIBUTION MAY BE CALCULATED FOR A GIVEN BOUNDARY OF THE CRYSTAL AND THE KNOWN STRENGTHS OF PRIMARY QUADRUPOLES. AN EXAMPLE OF SUCH CALCULATION IS GIVEN WITH THE APPLICATION OF THE POISSON FORMULA.

UNCLASSIFIED

USSR

UDC 547.917+639.94

KHOMENKO, V. A., PAVLENKO, A. F., SOLOV'YEVA, T. F., and OVODOV, YU. S.,
Institute of Biologically Active Substances, Far Eastern Scientific Center of
the USSR Academy of Sciences

"Polysaccharides of the Brown Algae. IV. Fragmentation of the Sargassan and
Pelvetian Molecules"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 4, 1971, pp 393-396

Abstract: It was desired to discover simpler fragments of sargassan and pelvetian, which are polysaccharides previously investigated by this research group and derived from the algae *Sargassum pallidum* and *Pelvetia Wrightii*, respectively.

Assuming the presence of a glucuronide chain, the authors subjected these biopolymers to alkali degradation (with NaOH) in the presence of sodium borohydride, and also induced hydrolysis in these substances. Treating sargassan and pelvetian with dilute sulfuric acid produced xylose, fucose and a series of digosaccharides, with detachment of a polypeptide in the form of a dark-brown precipitate. When degraded with alcohol and subjected to complete acid hydrolysis, these polysaccharides yielded galactose, mannose, xylose, fucose and glucuronic acid, along with glucuronolactone.

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USSR

KHOMENKO, V. A., et al., Khimiya Prirodnkh Soyedineniy, No 4, 1971, pp 393-396

Based on these results and on chromatographic data, the presence of a linear, high-molecular fragment in both the sargassan and the pelvetian molecules was concluded.

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USSR

UDC 547.917+639.64

SOLOV'YEVA, T. F., KHOMENKO, V. A., PAVLENKO, A. F., and OVODOV, YU. S., Institute of Biologically Active Substances, Far Eastern Scientific Center of the USSR Academy of Sciences

"Polysaccharides of the Brown Algae. V. Smith's Degradation of Sargassan and Pelvetian"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 4, 1971, pp 396-398

Abstract: This study is an extension of earlier work on the fragmentation of sargassan and pelvetian with use of partial hydrolysis; here, degradation by F. Smith's method was used.

Polyaldehydes, obtained by per-iodic oxidation of sargassan and pelvetian, were reduced to polyalcohols, which were then subjected to both complete and partial hydrolysis. In the complete hydrolysis, a mixture of monosaccharides obtained by evaporation of the polyalcohols was studied by gas-liquid chromatography in the form of the corresponding acetates and aldonitryl acetates; here glycol and glycerine aldehydes, glycerine, fucose, mannose and galactose were produced, along with minute amounts of xylose, threite, erythrite and propylene glycol (this result was obtained for both the sargassan- and the pelvetian-derived polyalcohols). Similarly, partial hydrolysis yielded fucose, galactose, mannose, glucuronic acid, and a small amount of propylene glycol.

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USSR

SOLOV'YEVA, T. F., et al., Khimiya Prirodnikh Soyedineniy, No 4, 1971, pp 396-398

It was thus demonstrated that in pelvetian and sargassan, the monosaccharide groups exhibit a high degree of substitution (sulfate groups, branching); while those groups of xylose which are part of the polysaccharides are to a considerable degree oxidized by the periodate.

2/2

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172 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MECHANISM UNDERLYING THE EXTRACTION OF PALLADIUM WITH
TRI,N,OCTYL,PHOSPHINE SULPHIDE -U-
AUTHOR--(04)-BLEDNV, B.P., PAVLENKO, A.F., KONVALOVA, L.A., DULNEVA,
V.YE. *P*
COUNTRY OF INFO--USSR
SOURCE--IZVEST. V.U.Z., TSVETNAYA MET., 1970, (1), 60-64
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PALLADIUM, CHLORIDE, EXTRACTIVE METALLURGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0552 STEP NO--UR/0149/70/000/001/0060/0064
CIRC ACCESSION NO--AP0124247
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124247

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXTRACTION OF PD FROM CHLORIDE SOLUTIONS BY MEANS OF TRI,N,OCTYL PHOSPHINE SULPHIDE, (C SUB6 H SUB17) SUB3 PS, WAS STUDIED, USING A GRAPHICAL METHOD. THE SOLVATION COEFF. THUS DETERMINED EQUALLED UNITY. WITH INCREASING CONCENTRATION OF CL PRIME NEGATIVE IONS IN THE ORIGINAL AQUEOUS SOLUTION THE EXTRACTION OF PD BY THE REAGENT DIMINISHED. ANALYSIS OF THESE RESULTS SUGGESTED THAT THE EXTRACTION OF PD BY TRI,N,OCTYL PHOSPHINE SULPHIDE TOOK PLACE BY WAY OF AN INTERNAL SUBSTITUTION MECHANISM WITH THE FORMATION OF THE MONSOLVATE IN THE ORGANIC PHASE.

UNCLASSIFIED

USSR

UDC 632.95

PAVLENKO, A. E., AKKERMAN, V. P., KOSHCHITSKIY, S. D., and ZEMLYAKOVA, N. G.

"Alkoxylation of 2,3,5,6-Tetrachloro, 2-Trichloromethyl-3,5-dichloro- and 2-Trichloromethyl-3,5,6-trichloropyridyl-4-amidophosphoric Acid Dichlorides with Higher Alcohols"

Alkoksilirovaniye dikhlorangidridov 2,3,5,6-tetrakhlor-, 2-trikhlormetil-3,5-dikhlor- i 2-trikhlormetil-3,5,6-trikhlorpiridil-4-amidofosfornoy kisloty vysshimi spirtami (Cf. English above), Institute of Organic Chemistry, Academy of Sciences Ukrainina SSR, Kiev, 1972, 4 pp, ill., bibliography with one title, Manuscript No 4383-72 of 5 May 72 deposited at All-Union Institute of Scientific and Technical Information (from RZh-Khimiya, No 20, 25 Oct 72, Abstract No 20N594 Dep from Authors' summary)

Translation: For the purpose of finding new plant growth regulators, 2,3,5,6-tetrachloro-, 2-trichloromethyl-3,5-dichloro- and 2-trichloromethyl-3,5,6-trichloropyridyl-4-amidophosphoric acid dichlorides were alkoxyated with hexyl, heptyl, octyl, nonyl, decyl and cetyl alcohols. In biological tests the strongest herbicidal properties were exhibited by the dioctyl ester of 2-trichloromethyl-3,5-dichloropyridyl-4-amidophosphoric acid.

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USSR

UDC: 629.78.062.2

PETROV, B. N., KOLPAKOVA, N. P., VASIL'YEV, V. A., PAVLENKO, A. I.

"Some Problems in Synthesis of Designs for Systems of Automatic Control of Three-Dimensional Motion of an Orbital Aircraft in the Earth's Atmosphere"

Moscow, Upr. dvizhushchimisya ob'yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik (Control of Moving Objects. Works of the Fourth All-Union Conference on Automatic Control. Tbilisi, 1968--collection of papers), 1972, pp 224-242 (from RZh-Raketostroyeniye, No 10, Oct 72, abstract No 10.41.160)

Translation: Flight conditions of an orbital aircraft at hypersonic speeds require accounting for the mutual influence of longitudinal and lateral motion even at comparatively low angles of attack and glids. In this connection it is of interest to investigate a set of designs of control systems for orbital aircraft in the class of related multichannel systems ensuring independence or slight dependence of control channels or groups of channels. The paper formulates the problem of deriving an entire set of designs and selecting the best automatic control system both in the sense of process quality and simplicity of realization. Graphs without loops are taken as

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USSR

PETROV, B. N. et al., Upr. dvizhushchimisya ob"yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik, 1972, pp 224-242

the basis for design representation of orbital aircraft control systems, which to a considerable extent facilitates the investigation of internal connections of the coordinates in the object, enables selection of control elements from the condition of their maximum effectiveness in the control process, and also enables determination of a set of designs of selectively invariant systems. This simplifies approach to analysis of the system as a whole. Nine illustrations bibliography of five titles. Résumé.

2/2

USSR

UDC 534.6

BOBKOV, Yu. A., ZVEREV, V. A., PAVLENKO, A. M., and SHARONOV, G. A., Gor'kiy State University

"Method of Amplitude and Phase Registration of Ultrasonic Waves Based on Double Interaction of Light With Sound"

Moscow, Akusticheskiy Zhurnal, Vol 17, No 4, 1971, pp 529-532

Abstract : A method of visualization of sound fields in a liquid based on consecutive interaction of light with two travelling acoustic waves is discussed. By this method, both, amplitude and field phase are recorded and, in contrast to other methods, sound field visualizations not requiring high voltages and distinguished by simplicity of the used equipment can be realized. Visualization experiments of sound fields were carried out by translucence of ultrasonic waves by coherent light according to an illustrated schema. Examples of photographed visualized sound fields show that the discussed method makes possible to register the ultrasonic bundle itself and also the fine structure of the wave field. The method can be applied not only for acoustic holography purposes but also for solving other problems of acoustics, e. g., investigation of characteristics of ultrasound emitters. Three illustr., nine formulas, five biblio. refs.

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USSR

KARAMZINA, N. M., GRODETSKAYA, N. S., PAVLENKO, G. I.

"Interrelation at the Stage of Primary Reactions of the Organism of Processes of Adaptation and Chemical Interaction and Processes of Compensation of Subsequently Resulting Pathological Changes"

Sb. "Farmakol. Khimioterapevt. sredstva. Toksikol. Probl. toksikol, (Pharmacology of Chemically Therapeutic Substances. Toxicology. Problems in Toxicology--Collection of Works), T. 5 (Itogi nauki i tekhn. VINITI AN SSSR = Results in Science and Technology of the All-Union Institute of Scientific and Technical Information, Academy of Sciences of the USSR), 1973, pp 145-162 (from Referativnyy Zhurnal, 30F, Biologicheskaya Khimiya, No 18, 25 September 1973, abstract No 18F1747)

Translation: The primary reactions of animals to the action of Hg, CS₂, benzene, CCl₄, morpholine, dimethylformamide, ethylene oxide, bromoacetopropyl acetate, ethyleneimine, POCl₃, NaF, triphthazine, and monoallylamine and their effects on the function of the thyroid, adrenal, and pituitary glands were studied to determine the characteristic state of the nonspecific regulatory systems of the organism. The results permitted evaluation of the hygienically significant changes due to the action of different chemical compounds.

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USSR

UDC 621.396.6-181.5

BELOUS, M. V., KOSENKOV, A. S., PAVLENKO, G. I., POPOV, V. I.,
CHUGAYEV, V. N., SHCHERBIK, V. K.

"On the Properties of Conductive Elements of Thin-Film Microcircuits
Made by Vaporization of Aluminum, Nickel, Copper and Copper-Based Alloy"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic
Technology. Scientific and Technical Collection. Microelectronics),
1971, vyp. 1(27), pp 101-109 (from RZh-Radiotekhnika, No 8, Aug 71,
Abstract No 8V277)

Translation: The authors studied the electrical, structural, adhesion
and other properties of films made by vacuum deposition of aluminum,
nickel, copper and an alloy of 94.5% Cu, 5% Ni and 0.5% Mn. It is
shown that alloying copper with elements having a vapor pressure which
differs markedly from that of the base of the alloy enables an appre-
ciable improvement of the required properties of the films without any
pronounced adverse effect on their conductivity. Resumé.

1/1

USSR

UDC: 621.3.049.75

KOSENKOV, A. S., PAVLENKO, G. I., POPOV, V. I.

"A Method of Protecting the Film Elements of Microcircuits"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 10, Apr 71, Author's Certificate No 298087, Division H, filed 28 Mar 69, published 11 Mar 71, p 197

Translation: This Author's Certificate introduces a method of protecting the film elements of microcircuits such as contact areas and lines which also contain resistive elements based on pure metals and alloys. The method of protection is based on use of a material with high vapor tension such as cadmium or zinc by sublimation in vacuum with complete reflection of the material from the dielectric material of the substrate. As a distinguishing feature of the patent, the method is designed to ensure that there will be no changes in the parameters of film resistors, while the technological cycle is simplified and the cost of the finished product is reduced. Before coating with the protective material, the substrate with vapor-deposited film elements is heated in a vacuum to 393-453°K, and then the protective material is condensed on the elements to be protected while the rate of sublimation is regulated by controlling the temperature of the vaporizer while it is simultaneously completely reflected from the resistive film elements of the microcircuits.

1/1

USSR

UDC: 621.3.049.75.669.35

KOSENKOV, A. S., PAVLENKO, G. I., POPOV, V. I.

"An Alloy for Making Microcircuits"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obrabotsy, Tovarnyye Znaki, No 15, 1970, Author's Certificate No 269225, filed 31 Mar 69, p 38

Abstract: This author's certificate introduces: 1. An alloy for making micro-circuits based on copper, manganese and nickel. As a distinguishing feature of the patent, the alloy is designed for producing films with the necessary adhesion and anticorrosion properties, and for increasing the productivity of vaporizing equipment. Titanium is added to the alloy composition and the initial components are taken in the following ratios: manganese 0.5-2%; nickel 1-5%; titanium 0.05-0.5%; the remainder copper. 2. A modification of this alloy in which the distinguishing feature is reduction of the electrical resistance of films by partial or complete substitution of cobalt for nickel.

1/1

USSR

UDC: 621.43.001.3

ANTONOV, O. G., DOLINSKIY, D. V., MARCHEVSKIY, V. P., MEL'NICHENKO, R. M.,
OTSECHKIN, Yu. G., PAVLENKO, G. V., TOVKANETS, V. Ye., SARANTESEV, K. B.,
Institute of Automation, Khar'kov Polytechnical Institute

"An Antistall Device"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 13, May 72, Author's Certificate No 335444, Division F, filed 21 Sep 70,
published 11 Apr 72, p 140

Translation: This Author's Certificate introduces an antistall device which may be used for controlling centrifugal compressors. The device contains pickups for the rate of flow and pressure drop across the compressor, an amplifying adder and a regulating valve installed on a bypass line between the pressure and suction channels. As a distinguishing feature of the patent, in order to improve the reliability and accuracy of maintaining the limiting flow rate, a pickup is connected to the amplifying adder which measures the difference in pressures between the wake and kernel of the flow behind the blades of the impeller in order to correct control in accordance with the operating conditions of the compressor.

1/1

Receivers and Transmitters

USSR

UDC 621.391.26+621.396.98

PAVLENKO, K. V.

"Detection Characteristics of Multiplicative Processing of Coherent Signals"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8, 1971, pp 843-851

Abstract: Analytical expressions are derived and the detection characteristics are constructed for the multiplicative method of detecting coherent signals with an unknown initial phase and a constant or slowly fluctuating signal amplitude in the presence of gaussian noise. Three cases were studied: 1) the signal was completely absent in the received mixture, 2) the signal was present in one of the cofactors, 3) both cofactors have equal signals.

For a signal with constant amplitude it is demonstrated that the detection characteristics calculated for cases 1 and 3 in the range of high reliabilities important in practice differ insignificantly from the potential characteristics. The occurrence of a signal in one of the cofactors leads to a sharp increase in the probability of intersection of the threshold. For a signal with fluctuating amplitude the detection characteristics are expressed

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USSR

PAVLENKO, K. V., Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8, 1971, pp 843-851

in terms of elementary functions. This permits analytical comparison with the potentially obtainable results. The difference in characteristics from the potential characteristics is no more than 7 percent for a weak signal, and with an increase in the mean signal energy this difference decreases rapidly. In the presence of a signal in only one of the cofactors the detection probabilities differ sharply from the probabilities determined for the optimal receiver for equivalent conditions. Even in the limiting case $q \rightarrow \infty$ (q^2 is the ratio of the dispersion of the complete signal to the noise dispersion at the output of the linear system of the optimal receiver), this difference is 0.5. At the same time, the presence of a signal in one of the cofactors gives a probability of intersecting the threshold exceeding the probability of false alarm by several orders.

2/2

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3

USSR

UDC: 681.3:519.2

PETROV, I. Ye., BYCHKOV, N. P., SABAYEV, L. V., CHEKIN, S. G., PAVLENKO,
L. V., ZHARKIKH, V. V.

"A Device for Digital Processing of Radio Signals"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 25, Soviet Patent No 278228, class 42, filed 6 Jan 69, published
5 Aug 70, pp 134-135

Translation: This Author's Certificate introduces a device for digital processing of radio signals which contains an analog-to-code converter and an arithmetic device. As a distinguishing feature of the patent, the device is designed for realizing the operation of digital detection. For this purpose the unit contains digital weight coefficient generators; and the arithmetic unit contains a multiplier, squarer, adder, and a device for extracting the square root. The output of the analog-to-code converter and the outputs of the digital weight coefficient generators are connected to the inputs of the multiplier. The multiplier output is connected to an accumulator, which is connected in turn through the squarer to the adder input. The outputs of the adder are connected to the device for extracting the square root.

3

UDC 576.8.095:622.323

USSR

GOL'DENBERG, A. M., KVASNYKOV, YE. I., BOYKO, M. H., LYUBOMIROVA, O. H.,
PAVLENKO, M. I., PYSARCHUK, YE. K., and KHYZHNYAK, O. O., Ivano-Frankovsk.
Central Scientific Research Laboratory, and Institute of Microbiology and
Virology, Academy of Sciences UkrSSR

"Biochemical Processes During Oil Displacement Under the Influence of Bacteria
in Model Experiments"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 2, Mar/Apr 71, pp 234-239

Abstract: Introduction of selected cultures of gas-forming bacteria from the
genus *Clostridium* together with a molasses medium into an artificial model
of an oil-bearing bed (sand saturated with oil) results in higher displace-
ment of oil as compared to the control (without addition of bacteria). Most
crucial changes in the medium enriched with bacteria occur in 5-7 days at an
optimum temperature of 30°C, that is during the period of most intensive
changes in the nutrient medium and maximum gas production. At that time the
surface tension at the interphase culture medium-air is lowered, the amount
of organic acids and ethanol is increased and the pH of the medium is lowered.
The specific gravity of the oil exposed to bacteria is lowered by 0.0018-
0.0096 g/cm³, and its viscosity is lowered by 0.51-3.02 cst, without any
changes in its fractional composition.

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USSR

UDC 619:615.5-015:612.017.1

SAKANYAN, S. Sh., Professor, YEREMYAN, S. A., Candidate of Biological Sciences and PAVLENKO, M. M., Senior Laboratory Worker, Yerevan Zooveterinary Institute

"The Effect of Some Drugs on Immunological Reactions"

Moscow, Veterinariya, No 9, Sep 70, pp 50-51

Abstract: The effects of acriflavine, penicillin, phenoxymethylpenicillin, and tetracycline antibiotics (tetracycline, chlortetracycline, and oxytetracycline) on the formation of agglutinins after immunization were studied. Rabbits were immunized by subcutaneous injection of brucellosis vaccine (strain 19) in a dose of 2.5 billion cells. The effect of the drugs on the phagocytic activity of reticuloendothelial cells without immunization were also determined. Acriflavine was administered intravenously twice during the 3 days before immunization, at the time of immunization, or 15 days after immunization. The antibiotics were administered in single daily doses for 15 days, beginning 5 days before immunization, on the day of immunization, or 14-15 days after immunization. Penicillin was given intramuscularly; the other antibiotics were given per os. In a dose of 1 mg/kg, acriflavine stimulated formation of agglutinins when given before or soon after immunization, but had no effect 15 days after immunization. It did not affect phagocytic activity in this dose. Acriflavine

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USSR

SAKANYAN, S. Sh., et al., Veterinariya, No 9, Sep 70, pp 50-51

in a dose of 5 mg/kg inhibited formation of agglutinins when administered before immunization and stimulated it when given after immunization. It stimulated the phagocytic activity in every case when given in this dose. Acriflavine in a dose of 10 mg/kg had no effect on the formation of agglutinins when given at the time of immunization, but increased the reactivity of the animals upon a second immunization. When administered before or after immunization in this dose, acriflavine inhibited the formation of agglutinins to a considerable extent, but had no effect on reactivity with respect to reimmunization. It inhibited the phagocytic activity in every instance. The tetracyclines in large (50 mg/kg) or, particularly small (10 or 15 mg/kg) doses stimulated the formation of agglutinins (with the exception of a large dose of oxytetracycline which had a depressing effect. Penicillin and phenoxymethylpenicillin in a dose of 5000 units/kg, irrespective of the time of administration, accelerated the formation of agglutinins during the first 10-20 days after immunization. Phenoxymethylpenicillin in a dose of 50,000 units/kg inhibited formation of agglutinins when given before immunization or beginning with the day of immunization, but had no effect when administered after immunization. Chlorotetracycline and oxytetracycline in doses of 10 mg/kg stimulated phagocytic activity, but

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USSR

SAKANYAN, S. Sh., et al., Veterinariya, Vol 47, No 9, Sep 70, pp 50-51

inhibited it in a dose of 50 mg/kg. Tetracycline stimulated this activity in both doses. Beginning with a dose of 5,000 units/kg, penicillin inhibited the phagocytic activity, while phenoxymethylpenicillin stimulated it in the same dose. In a dose of 50,000 units/kg, phenoxymethylpenicillin inhibited phagocytic activity in a pronounced manner. The effects of antibiotics on the phagocytic activity of reticuloendothelial cells were somewhat altered when they were administered in combination with the vaccine.

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USSR

UDC 620.193.43

CHEVERIKOV, A. V., PAVLENKO, N. A., TYUTYUNIK, O. A., and KORCHINSKAYA, O. A.,
Academy of Sciences UkrSSR, Institute of General and Inorganic Chemistry

"Investigation of the Corrosion Resistance of Nickel in SnCl_2 -KCl Salt Melt"

Moscow, Zashchita Metallov, Vol 9, No 2, Mar-Apr 73, pp 192-194

Abstract: The corrosion resistance of Ni in 80% SnCl_2 -20%KCl-melt was investigated by the weighing method at 300° , in order to obtain data necessary for the production of a semi-industrial unit for electrolytic tin-plating. The contents of metals in the melt, in wt.% after testing, are indicated and the results of corrosion tests of 4-64 hrs duration, conducted on a series of specimens in protective nitrogen atmosphere and without it, are discussed. A considerably higher corrosive pitting took place on specimens without protective atmosphere, the corrosion rate reaching a maximum after four testing hours. The corrosion rate of partially submerged specimens was four times higher than the corrosion rate of completely submerged specimens. In nitrogen atmosphere, the corrosion rate was independent of the degree of submersion. One figure, two tables, eight bibliographic references.

1/1

USSR

UDC 546.185

KUKHAR', V. P., PAVLENKO, N. G., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Phosphorylation of the Derivatives of Tricyanomethane"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 1896-1900

Abstract: Phosphorus pentachloride reacts with the sodium salt of tricyanomethane in chloroform at 20° forming sodium chloride and 1-phosphazo-1-chloro-2,2-dicyanoethylenes (I) -- colorless crystalline compounds soluble in most organic solvents except for hexane and carbon tetrachloride. The same products (I) can also be obtained from the reaction of tricyanomethane halides with triphenylphosphine and phosphorus trichloride. The silver salt of tricyanomethane reacted with 1-amino-1-chloro-2,2-dicyanoethylene and phosphorus pentachloride give a mixture of 1-trichlorophosphazo-1-chloro-2,2-dicyanoethylene and 2,2,4,6-tetrachloro-5-cyano-1,3-diaza-2-phosphorene.

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AA0040740

PAVLENKO N.S. UR 0482

3

Soviet Inventions Illustrated, Section I Chemical, Derwent,

1-70

242325 ARC IRONMAKING FURNACE hearth is asymmetrically convex so that it expands towards the charging window and narrows towards the notch, whilst the electrodes lie in the narrow portion to provide continuous iron making. The charge is fed in continuously into the bath (3) of molten metal and the charged lumps draw heat from the metal which has been produced by the arc between this and the electrodes (4). The position of the notch (6) ensures that the bath meniscus remains at a constant level. Surplus flows out thus to a teeming arrangement for re-pouring into cast product. Slag also runs off continuously thus keeping the bath clean and receptive to the heat from the arc. The hottest metal flows off continuously, some of it is turbulised near the periphery and returned to the bath to melt the slag component.

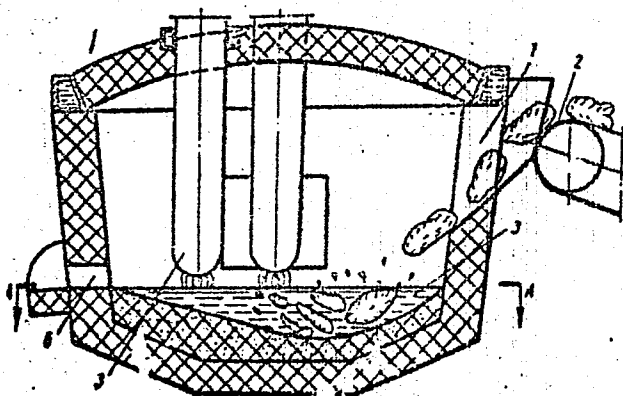
18

19.5.67 as 1157178/22-2. CHERNYI, A.A. et al. PENZA COMPRESSOR WORKS. (2.9.69) Bul 15/25.4.69. Class 31a¹. Int.Cl.F 27 b.

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19750406

AA0040740



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140

AA0040740

AUTHORS: Chernyy, A. A.; Grachev, V. A.; Marienbakh, L. M.; Ivanov,
D. P.; Kurbatskiy, I. L.; Sosnovskiy, Ye. D.; and Pavlenko,
N. S.

Penzenskiy Kompresornyy Zavod

19750408

3/5

USSR

UDC 693.547.3

BEREZOVSKIY, B.I., Candidate of Technical Sciences, PAVLENKO, O.I., Engineer
(Noril'sk Scientific Research Department of the Krasnoyarsk Promstroyiiprojekt)

"Increment of Concrete Strength Poured in Holes in Permafrost Grounds"

Moscow, Beton i Zhelezobeton, No 6, June 71, pp 9-12

Abstract: Data are presented on experimental and production investigations carried out on technology of concrete pile foundations in permafrost grounds, made in the form of piles 450 mm in diameter and 6-8 m long, with an enlarged base (0.8-1.2 m in diameter). The drilling procedure, experimental technique and a series of measurements of soil and concrete temperature before, during and after casting, are described and the results are given in tables. Methods for estimating the strength increment of concrete poured in permafrost grounds are outlined. Theoretical and engineering formulas for determining the time of concrete strengthening in holes in permafrost grounds in correlation with ground temperature and time of the year are derived on the basis of experimental data.

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USSR

UDC 577.1:615.7/9

PAVLENKO, S. M., GUSEVA, V. A.

"Dynamics of the Development of Adaptive Reactions to the Prolonged Action of Industrial Poisons Entering the Body by Different Routes"

V sb. Farmakol. Khimoterapevt. sredstva. Toksikol. Probl. toksikol. (Pharmacology. Chemotherapeutic Agents. Toxicology. Problems of Toxicology—Collection of Works), Vol 5 (Advances in Science and Technology. All-Union Institute of Scientific and Technical Information, USSR Academy of Sciences), Moscow, 1973, pp 110-119 (from RZh-Biologicheskaya Khimiya, No 17, Sep 73, Abstract No 17 F1897 by the author)

Translation: Description of the so-called complex action of substances, i.e., the biological effect observed in animals after simultaneously inhaling substances and receiving them through the gastrointestinal tract.

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USSR

UDC 591.5:599.32.3

SMIRNOV, V. S.; ~~PAVLENKO, T. A.~~; POKROVSKIY, A. V.; Institute of Plant and Animal Ecology, Ural Scientific Center, Academy of Sciences USSR, Institute of Ecology and Parasitology, Academy of Sciences, Uzbek SSR

"A Method for Analysis of Age Structure in the Small Five-Toed Jerboa *Allactaga Elater* (Licht.)"

Moscow, Ekologiya, No 4, 1971, pp 88-89

Abstract: A special method for age analysis, especially adapted to the small rodent *Allactaga elater* was developed, since existing techniques for analyzing bone and tooth structure or length of tooth roots were not suitable for this species. A modification of standard methods for determining age by the degree of wear on tooth crowns was chosen, and a method of graphic analysis (Smirnov, 1960) was used which did not require animal tagging and recapture for exact age samples.

Since considerable differences in degree and manner of M_1 , M_2 , M_3 wear (interior or exterior side) were observed in various
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USSR

SMIRNOV, V. S., et al, Ekologiya, No 4, 1971, pp 88-89

animals, a mean "age index" was developed, representing a total of six different measurements: the total height for the crowns of all three molars on one of the mandibular bones, measured on both the inside and on the outside. Since in the aging process the animal's tooth crowns wear down, this index should decline in proportion to age.

Distribution groupings from population analyses taken on III/68, IX/68 and V/69 showed that this species in the region investigated (Ferganda valley) had two distinct reproductive periods, the spring and fall, and that the life span of *Alactaga elater* corresponds to the general span for small murine rodents.

2/2

ELECTRONICS
Amplifiers

USSR

UDC: 621.375.074

VERGUNOV, V. S. and PAVLENKO, V. A.

"Noise in Oscillatory D-C Amplifiers"

Moscow, Avtomatika i telemekhanika, No 4, 1972, pp 156-161

Abstract: An analysis is made of the effect of noise in oscillating d-c amplifiers under the assumption that it is low in amplitude, is close to white noise, and is statistically independent. The nonlinear characteristic of the amplifier, which plays an important part in the formation of the spectrum and fluctuation level at the output, is taken into account. The authors start their analysis with a second-order stochastic differential equation describing the system. This equation, combined with the equation for the amplitude of the noise, yields a differential equation for the amplitude of the high-frequency tuned circuit output which can be solved fairly easily for small increases in amplitude. Equations are also developed for the noise in the circuit's double-varicap bridge arrangement.

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USSR

UDC: 539.142.3

BELOV, Yu. V., KLEYMAN, Yu. L., MORKOVIN, N. V., PAVLENKO, V. A., Special Design Office of Analytical Instrument Making, Academy of Sciences of the USSR

"A Nuclear Magnetic Resonance Spectrometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331302, Division G, filed 11 Jan 71, published 7 Mar 72, p 129

Translation: This Author's Certificate introduces a nuclear magnetic resonance spectrometer which contains an electromagnet, a system of external proton stabilization and a system of internal stabilization of resonance conditions, a transceiver with phase detector, a nuclear magnetic resonance signal indicator, a registration device, a voltage-to-frequency converter, a field modulator, a double resonance device and a nuclear magnetic resonance signal phase regulator. As a distinguishing feature of the patent, the universality of the instrument is extended and productivity is increased by adding a summing amplifier for controlling the voltage-to-frequency converter from the registration device and the nuclear magnetic resonance signal

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USSR

BELOV, Yu. V., USSR Author's Certificate No 331302

indicator, and by making the NMR signal phase regulator in the form of two mutually synchronized flip-flops with shaping devices. These flip-flops are connected to an inductive phase shifter and a compensation amplifier.

2/2

AAC044798- PAVLENKO VA, UR 0482
Soviet Inventions Illustrated, Section II Electrical, Derwent, 2/70

243951 SELECTIVE THERMAL RECEIVER OF RADIATION for absorption analytical instruments of the type comprising a selective radiation absorber in form of a gas mixture and a sensing element in form of a diaphragm. The proposed receiver comprises a solid radiation absorber, and the sensitive element is in form of a series of metal wires with a high TC of electric resistance.

The absorbers can be made of a material whose dimensions vary in time owing to ageing etc., such as PTFE or similar plastic. It is proposed for use for carbon dioxide gas analysers. The absorber and the sensing element do not constitute a single unit, but are in form of separate components close to or in contact with each other.

Other organic plastics (celluloid, polyethylene etc) can be used as absorbers for determination

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of other organic compounds (methane, ethane etc.).
Such receivers are highly selective, the
absorber material is easily removable and selected,
and the receiver components can be easily standard-
ised.

18.1.68 as 1210964/26-25. PAVLENKO.V.A. et al.
ANALYTICAL INSTRUMENTS MANUFACTURE DES.OFFICE ACAD.
SCIENCES USSR. (1.10.69) Bul 17/14.5.69. Class 421.
Int.Cl.G 01n.

AUTHORS: Pavlenko, V. A., Shutov, M. D., Budylin, Yu. L., Sall', A. O.,
Yuzupov, G. G., Sankin, V. A.

Spetsial'noye Konstruktorskoye Byuro Analiticheskogo Priborostroyeniya
AN SSSR

2/2

19771628

USSR

UDC 537.563:547.23

FRIDLYANSKIY, G. V., ~~PAVLENKO, V. A.~~, VINOGRADOV, B. A., GRISHIN, N. N.,
BOGOLYUBOV, G. M., and PETROV, A. A., Leningrad Technological Institute imeni
Lensovet

"Organic Derivatives of Group V-VII Elements. XX. Exact Composition of Ions
in Mass Spectra of Alkylphosphine Sulfides and P=S Bond Strength"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1707-1709

Abstract: The article describes results of the measurement of mass numbers of ions in mass spectra for triethylphosphine sulfide and tetraethyldi-phosphine disulfide on a double-focusing mass spectrometer. The dissociation energy of the P-P bond in tetraethyldiphosphine disulfide was previously found by the authors from the appearance potential of the ion $(M/2)^+$. Precise measurement of the mass in the present article confirms the composition assigned to this ion. The dissociation energy of the P=S bond was found to be equal to 3.7 eV or 85 kcal/mole, which is in satisfactory agreement with the value obtained from the thermal effect of the tripropylphosphine oxidation reaction (91.5 kcal/mole). Determination of the exact composition of ions in the mass spectra of alkylphosphine sulfides shows the resistance of the P=S bond to the action of an electron impact. This resistance is characteristic of the chemical bonds between atoms of Group V and VI elements possessing unshared electron pairs.

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1/1

USSR

UDC 621.375.4:621.383

BERSHADSKIY, I. G., PAVLENKO, V. A.

"Highly Stable Autogenerator Photocurrent Amplifier"

Moscow, Izmeritel'naya Tekhnika, No 10, 1971, pp 54-55

Abstract: An amplifier for measuring photometric signals is described. Application of the autogenerator method of amplifying the photocurrent strength permitted an amplifier to be built with invariant metrologic characteristics during continuous operation for more than 500 hours in the temperature range of 10-50° C. A characteristic feature of the developed autogenerator amplifier is the application of a semiconductor integrated 2-cascade amplifier with galvanic couplings as an alternating current amplifier. This has permitted an amplifier with dimensions of 86 x 55 x 30 mm and an intake of 200 milliwatts to be built. Application of the described amplifier greatly facilitates the construction of compact multichannel measurement and control systems.

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1/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70
TRUCK ASSEMBLIES -U-

TITLE--ACCELERATED PROVING GROUND TESTING OF SOME
AUTHOR--(104)--BURDASOV, I.YE., KUKHLIN, I.YE., PAVLENKO, V.I., RETSKER, M.I.

P

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 2, 1970, PP 23-25

DATE PUBLISHED--70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, METHODS AND EQUIPMENT

TOPIC TAGS--AUTOMOBILE, BIBLIOGRAPHY, ENGINE TEST FACILITY, CARGO TRUCK,
HIGHWAY CONSTRUCTION, TEST FACILITY, VEHICLE PROVING GROUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1218

STEP NO--UR/0113/70/000/002/0023/0025

CIRC ACCESSION NO--AP0123182

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0123182

ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. SUMMARY CHARACTERISTICS ARE GIVEN OF SPECIAL PAVED ROADS AND "SHORT WAVE" TYPE ROADS CONSTRUCTED AT THE AUTOMOBILE TESTING RANGE OF NAMI (THE CENTRAL SCIENTIFIC RESEARCH INSTITUTE OF AUTOMOBILES AND AUTOMOBILE ENGINES). RESULTS FROM TESTING TRUCKS ON THESE ROADS ARE GIVEN. THE OBTAINED RESULTS ARE ANALYZED.

UNCLASSIFIED

035

UNCLASSIFIED

PROCESSING DATE--30OCT70
ECHO OSCILLATIONS -U-

TITLE--ON THE THEORY OF PLASMA ECHO THREE MOMENTUM ECHO OSCILLATIONS -U-
AUTHOR--(03)--SITENKO, A.G., CHONG, N.W., PAVLENKO, V.N.

P

COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY VIZIKI, 1970, VOL 58,
NR 4, PP 1377-1383
DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PERTURBATION, PLASMA OSCILLATION, PLASMA WAVE, VIBRATION
RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1565

STEP NO--UR/0056/70/058/004/1377/1383

CIRC ACCESSION NO--AP0106311

UNCLASSIFIED

2/2 035

CIRC ACCESSION NO--AP0106311
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. ECHO OSCILLATIONS IN A PLASMA ARISING AS THE RESULT OF SUPERPOSITION OF THREE CONSECUTIVE PERTURBATIONS SEPARATED BY TIME INTERVALS WHICH ARE LARGE COMPARED WITH THE CHARACTERISTIC OSCILLATION DECAY TIME ARE CONSIDERED. THE PERTURBATIONS CHOSEN IN THE FORM OF PLANE WAVES AND THE PERTURBATION VECTORS ARE ASSUMED TO BE NON COLLINEAR. ECHO OSCILLATIONS OF THE SECOND ORDER ARE THEREFORE IMPOSSIBLE. IT IS SHOWN THAT ECHO OSCILLATIONS OF THE THIRD ORDER SHOULD BE POSSIBLE IF THE PERTURBATION VECTORS LIE IN A SINGLE PLANE. THE ORIGIN TIME AND SHAPE OF THE THIRD ORDER ECHO OSCILLATIONS ARE FOUND. IT IS SHOWN THAT EVEN IN THE CASE OF LOGITUDINAL PERTURBATIONS THE ECHO OSCILLATION FIELD CONTAINS BOTH LOGITUDINAL AND TRANSVERSE COMPONENTS. A NUMBER OF CONCRETE CASES OF APPEARANCE OF THIRD ORDER ECHO OSCILLATIONS ARE CONSIDERED.

FACILITY: INST. TEORETICHESKOY FIZIKI, AN. UKR. SSR.

UNCLASSIFIED

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USSR

UDC 533.916

ALEKSIN, V. F., PAVLENKO, V. P., and KHODUSOV, V. D., Institute of Physics,
Academy of Sciences Ukrainian SSR, Kiev

"Relaxation of the Spectrum of Magnetohydrodynamic Waves in a Weakly Turbu-
lent Plasma"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 8, Aug 71, pp 1288-1292

Abstract: The authors are concerned in this article with a study of the
nonlinear interaction of magnetohydrodynamic waves under conditions of weak
magnetohydrodynamic turbulence. They study the processes of relaxation of
magnetohydrodynamic waves wherein the basic interaction is that of bound three-
plasmon processes. They further study the nonlinear interaction of waves in
an unbounded plasma which is described by the equations of ideal magnetic
hydrodynamics. When the relationship between the waves is weakly nonlinear,
and assuming the phase oscillations to be chaotic, the authors describe the
interaction of the waves in a weakly turbulent plasma by kinetic equations
similar to that used for the distribution function of elementary excitations
in a solid.

Employing the equations found in the first two sections, the authors
apply them to studying the relaxation processes of magnetohydrodynamic waves
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ALEKSIN, V. F., et al., *Ukrainskiy Fizicheskiy Zhurnal*, Vol 16, No 8, Aug 71,
pp 1288-1292

by first examining the relaxation of the Alfvén spectrum. Finally, the authors study the relaxation of the spectrum of fast magnetosonic waves wherein under certain conditions an equilibrium state is established due to the simultaneous excitation of the Alfvén and the fast magnetosonic waves. Throughout the article the authors use equations to illustrate their findings. The article contains 14 bibliographic entries.

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USSR

UDC: 681.3

NIKOLAYEVICH, V. A., PAVLENKO, V. V., Zhdanov Metallurgical Institute

"Concerning the Problem of Accommodating Information Files in Automated Control Systems"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 2, 1973, pp 69-72

Abstract: The authors discuss the problem of data distribution on magnetic tape. Practical estimates are given for the mathematical expectation of the length of a tape run for various distributions of the parameters of the data block. A simple method is proposed for distributing information over a magnetic tape.

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EQUIPMENT
Aeronautical

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UDC 629.7.036/014.16.CC1

SILOVYIE USTANOVKI LETATEL'NYKH APPARATOV VERTIKAL'NOGO VZLETA I POSADKI
(Power Plants of VTOL Aircraft), by V. V. Lavlenko, Moscow "Mashinostroyeniye"
1972, 283 pp, illus, bibli, 4,000 copies printed

The book discusses types of VTOL aircraft engines, their operation, characteristics and special construction. Considerable emphasis is on the effect of the exhaust jets of VTOL engines on the take-off and landing surface, on the engine itself and on the aircraft, and measures are given for reducing the unfavorable effects of these actions.

Engine configuration on VTOL aircraft is also discussed. The book is intended for use by flight, engineering and technical personnel in aviation and specialists in the aviation industry, but can be of use also to students in the higher aviation technical schools.

No Soviet equipment is discussed or illustrated. Forty-nine of the fifty-nine references are non-Soviet.

PAVLENKO, V. Ye.

LAMINAR-FLOW LIQUID-METAL MAGNETOHYDRODYNAMIC SYSTEMS AND SYNCHRONOUS GENERATION OF ELECTRIC POWER

Article by Ye. I. Baryev, V. Ye. Pavlenko, E. M. Shepelov, Institute of Technical Thermophysics of the Ukrainian SSR Academy of Sciences, I. R. Yermilov, Electrodynamics Institute of the Ukrainian SSR Academy of Sciences, Kiev, USSR; Har'kov, IAN Sibirskiy on Magnetohydrodynamics, 1968, pp 1635-1643

The primary difficulties when implementing liquid-metal magnetohydrodynamic generators by the known designs consist in accelerating the liquid-metal to high velocities inside the channel, which is connected with high losses before the vapor (gas) is transferred to the channel. If the expansion of electrical conductivity of the flow (the vapor-liquid mixture) is significantly reduced, the magnetohydrodynamic generator in which the liquid-metal film is separated from the segments (liquid pistons) moving as a result of expansion of the medium (vapor or gas) between them appears to be much more prospective. Our preliminary experiments have demonstrated the possibility of obtaining a piston-like (laminar) flow. The utilization of this principle without shocks and mutual slipping of the phases, 2) maximum reduction of the thermal contact process of the phases and an increase in the thermodynamic efficiency of the cycle, realizing it in a broader temperature range; 3) the production of a constant flow velocity in the magnetohydrodynamic generator by a synchronous asynchronous principle combined with the description of the cycles of liquid-metal pistons with the described method that high-power generators can be built. The thermodynamic cycles of liquid-metal magnetohydrodynamic generators can be divided into two groups with respect to condensation temperatures: high-temperature generators designed for use

1) organization of the acceleration process without shocks and mutual slipping of the phases, 2) maximum reduction of the thermal contact process of the phases and an increase in the thermodynamic efficiency of the cycle, realizing it in a broader temperature range; 3) the production of a constant flow velocity in the magnetohydrodynamic generator by a synchronous asynchronous principle combined with the description of the cycles of liquid-metal pistons with the described method that high-power generators can be built. The thermodynamic cycles of liquid-metal magnetohydrodynamic generators can be divided into two groups with respect to condensation temperatures: high-temperature generators designed for use

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27 November 1973

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UDC 621.317.33.089.6

PAVLENKO, YE. S., CHERNOV, A. M., SHIGORIN, V. P.

"Transition Standard Measures of Electrical Resistances for 10^4 to 10^9 Ohms"

Tr. metrol. in-tov SSSR (Works of the USSR Metrology Institutes), 1971, No 115 (175), pp 18-28 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 10, Oct 71, Abstract No 10.32.1412)

Translation: A description of the R4080-R4083 transition standard and recommendations with respect to the possibility of using them to transmit the upper values of a unit of electrical resistance from standards and standard measures of 10^4 and 10^5 ohms to standards and standard measures of 10^6 - 10^8 ohms are given. There are 10 illustrations 2 tables and a 5-entry bibliography.

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UDC 539.12.01

KUL'KIN, A. G., and PAVLENKO, YU. G., Chair of Theoretical Physics

"Radiation of a Neutron Moving in a Magnetic Field in a Medium"

Moscow, Vestnik Moskovskogo Universiteta, Seriya III -- Fizika, Astronomiya, Vol 13, No 2, Mar-Apr 72, pp 135-141

Abstract: The article studies the radiation of a neutron which moves uniformly at velocity v in a transparent isotropic medium with the refractive index $n = \sqrt{\epsilon(\omega)}$ in a constant magnetic field $\vec{H} = H_0 \vec{e}$. A modified Dirac equation is used to describe the motion of the neutron. This equation considers the "anomalous" magnetic moment $\mu' = -g\mu_0$ ($g = 1.9$, μ_0 is the nuclear magneton). The authors study the influence of the spin orientation in the initial and final states on the character of the polarization and the spectral distribution and cutoff of Cerenkov radiation. The authors thank the participants in A. A. SOKOLOV's seminar for discussing the work.

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UDC 627.8.05.69.055:624.147

BIYANOV, G. F., (Engineer), KAMENSKIY, R. M., (Candidate of Technical Sciences), and PAVLENKO, YU. G., (Engineer)

"Ice Crossing for Heavy Loads Under Conditions of the Extreme North"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 8, Aug 71, pp 45-48

Abstract: The organization and execution of an ice crossing of a river for transportation of heavy loads (power transformers) during construction of the Vilyuy river hydroelectric power plant are described. Calculations of the ice cover load carrying capacity were carried out by using the method of the theory of elasticity on the basis of data on systematical natural observations of the ice cover conditions, conducted by the Vilyuy Scientific Research Meteorological Station of the Institute of Geocryology of the Siberian Department of AN SSSR. Test conducted on an experimental crossing 100 m downstream from the main crossing confirmed the correctness and reliability of design methods for determining the admissible load for one-time transportation of heavy loads.

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UDC 621.382.23.072.2

PAVLENKO, YU.S., SHALYTA, Z.M., SMIRNOV, V.V., LEVCOHEINA, I.YE.

"To The Problem Of The Quality Of The P-N Junctions Of Silicon Stabilitrons
Prepared By Epitaxial Build-Up"

Elektron.tehnika. Nauch.-tehn.sb. Poluprovodn.pribory (Electronics Technology.
Scientific-Technical Collection. Semiconductor Devices), 1971, No 5(62), pp 38-45
(from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2893)

Translation: The parameters are considered of epitaxial p-n junctions in a comparison with the calculated values of the parameters of p-n junctions produced by other methods. It is shown that epitaxial build-up assures the lowest values of the dynamic resistance. The spread of the voltage stabilization in the experiments conducted is characterized by the value of the root-mean-square deviation $\sigma = 8.1$ percent. It is difficult to decrease this magnitude. A method is presented for production of stabilitrons with a small spread of the voltage stabilization by a series connection of two p-n junctions, the voltage stabilizations of which are specially selected. Under specific conditions the cost of an epitaxial p-n junction can be no higher than with alloy and diffusion-alloy. Summary.

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UDC 681.332.65

PAVLENKO, Yu.S., TANTSYURA, N.A., et al.

"Series-to-Parallel Code Converter"

USSR Author's Certificate No. 273518, Filed 21/04/69, Published 18/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B226P).

Translation: Series-to-parallel code converters are known which use shift registers based, for example on a magnetostriction sound conductor. One shortcoming of these devices is the large number of elements used. The purpose of this invention is to simplify the circuit and design of the device, reduce the number of elements included in the device, and increase its reliability. In the series-to-parallel code converter suggested, this purpose is achieved by arranging the receiver coils, the number of which is equal to the number of bits in the parallel code, along the sound conductor, which has the magnetostriction effect. The receiving coils are connected to amplifiers which amplify the electric pulses of the parallel code coils. This allows the series code, without additional complex electronic circuits, to be converted to a parallel code by one signal which fixes the initial placement of the numbers in the delay line. 1 fig.

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UDC 669.715'721:620.186:669.018.8:669.018.8

KOL'TSOV, V. M., KISHMERESHKIN, I. G., GERSHTEYN, V. D., UST'YANTSEV, V. U.,
and PAVLENKO, Z. A.

"Influence of Certain Technological Factors on the Structure and Properties
of AMg6 Alloy Sheet"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Technology of Light
Alloys. Scientific and Technical Bulletin of the All-Union Institute of
Light Alloys), 1970, No 3, pp 20-23 (from RZh-Metallurgiya, No 12, Dec 70,
Abstract No 12 1752 by I. NABATOVA)

Translation: An investigation was made of the structure, mechanical properties,
and corrosion resistance of cold-rolled, 1-, 2- and 4-mm-thick AMg6 alloy sheet
as a function of variations in chemical composition, degree of deformation
(5-50%), and annealing regime in a range of 230-500°. Sheet properties were
not significantly affected by variation in chemical composition (within the
limits of the All-Union State Standard) or in heating rate (50, 100, and
> 1000 deg/hr) or in cooling rate (25, 50 deg/hr and air cooling). The max-
imum value of $\sigma_{0.2}$, viz., 20.5 kg/mm², was obtained with a deformation degree
of 30% and an annealing temperature of 280°. Heating at 100° for 100 hours
in the event of prior annealing at temperatures > 300° causes the evolution

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