

ARKHIPOV, Yu.P., starshiy prepodavatel'; DIDENKO, V.Ye., assistent;
KUTASIN, B.P., dotsent

Compounding synchronous generators with carbon pile voltage regulators (RUNⁿ) on tank vessels of the "Kazbek" type.
Biul. tekhn.-ekon. inform. Tekhn. upr. Min.mor flota 7 no. 8:
37-47 '62. (MIRA 16:5)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.
(Tank vessels) (Electricity on ships)

ARKHIPOV, Yu.P., starshly prepodavatel'

Transient processes in direct-current electric propeller drive. Sud. sil.
ust. no.2:102-114 '63. (MIRA 17:1)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.

ARKHIPOVA, A. and KAKUSHKINA, Ye.

"Senescence in the Organism and Chemical Factors of Nervous Excitation,"
Dokl. AN SSSR, 53, No.5, 1946

АКАДЕМИЯ НАУК
CHAUSOV, Nikita Semenovich, kand.tekhn.nauk; Prinimali uchastiye:
GVOZDIKOV, B.F., inzh.-elektrik; KULAKOV, B.F., inzh.-elektrik;
SBORSHCHIKOV, S.G., inzh.-elektrik; PUKHLYANKO, A.A., inzh.-elektrik;
KORNEYEVA, V.P., tekhnik-elektrik; AYNBERG, V.D., programmist; MEL'NIKOVA,
M.G., programmist; KOZLOVA, R.Ya., programmist; ARKHIPOVA, A.A., programmist
VILKOV, G.N., red.izd-va; MOCHALINA, Z.S., tekhn.red.

[Using electronic computers in calculating engineering constructions
(programming the calculation of shallow shells and beams for the electronic
digital computer "Ural-1")] Primeniye elektronnykh vychislitel'nykh
mashin pri raschete inzhenernykh sooruzhenii (programirovanie rascheta
pologikh obolochek i sterzhnei dlia ETsVM "Ural-1"). Moskva, Gos.izd-vo
lit-ry po stroit., arkhitekt. i stroit. materialam, 1962. 135 p. (Akademiia
stroitel'stva i arkhitektury SSSR. Institut stroitel'nykh konstrukttsii.
Trudy, no.9). (MIRA 15:8)

(Electronic digital computers) (Elastic plates and shells)
(Beams and girders)

ARKHIPOVA, A.A., inzhener-khimik

Substitutes for sodium sulfide in dyeing solutions. Tekst.prom.
22 no.4: 64-65 Ap '62 (MIRA 15:6)

1. Kombinat "5-y Oktyabr'" Vladimirskego sovnarkhoza.
(Dyes and dyeing) (Textile finishing)

LEDNEV, V. A. and ARKHIPOVA, A. G.

"The Water Temperature Fluctuations and Thermal Balance Elements Variability
in the Atlantic."
report to be submitted for the Intl. Cong. New York City, 31 Aug - 11 Sep 1959.
Oceanographic

(Nat. Oceanographic Inst., Moscow)

DODIN, D.A.; GOLUBKOV, V.S.; ARKHIPOVA, A.I.; ATLASOV, A.I.

Division of the trap formation in the northwestern margin of the
Siberian Platform in medium-scale geological mapping. Inform.
sbor. NIIGA no. 30:8-21 '62. (MIRA 17:1)

ARKHIPOVA, A.I.; NACHINKIN, N.G.

Nizhnepokinsk differentiated intrusion in the western margin of
the Noril'sk Plateau. Uch. zap. NIIGA R.g.geol. no.3:51-61 '64.

(MIRA 18:10)

ACC NR: AP7002668

SOURCE CODE: UR/0109/67/012/001/0098/0105

AUTHOR: Arkhipova, A. M.; Tkachuk, P. M.; Fedorus, G. A.

ORG: Institute of Semiconductors, AN UkrSSR (Institut poluprovodnikov AN UkrSSR)

TITLE: Threshold characteristics of CdS photoresistors

SOURCE: Radiotekhnika i elektronika, v. 12, no. 1, 1967, 98-105

TOPIC TAGS: photoresistor, photosensitivity, *Cadmium sulfide*

ABSTRACT: The voltage and photosensitivity of CdS photoresistors was experimentally studied to establish the application of the photoresistors in recording weak alternating light signals. The 4 x 1-mm film specimens were prepared from CdS single crystals (50-100 μ thick) obtained by vapor-phase synthesis of Cd and S on a glass substrate. The noiseless contacts were made by vacuum deposition of indium on the ends of the specimens (the photosensitive area is 1 mm²). The experiment shows that both high- and low-resistance photoresistors have a minimum sensitivity threshold [(3-6) x 10⁻¹⁰ lm cps^{-1/2} (1.5-3) x 10⁻¹¹ w cps^{-1/2}] at 1-10 lux illumination for a light source with a color temperature corresponding to 2854K. The sensitivity threshold for light pulses in the spectral range of CdS maximum sensitivity (λ = 0.51 μ) is 5 x 10⁻¹³ w cps^{-1/2} at 10 lux white light illumination. The voltage

Card 1/2

UDC: 621.383.4

ACC NR: AP7002668

sensitivity of CdS photoresistors is 2-10 v/ μ m at 1 v d-c constant voltage. Orig. art. has: 6 figures, 1 table, and 3 formulas.

SUB CODE: 09, 20/ SUBM DATE: 13Jul65/ ORIG REF: 010/ OTH REF: 001/
ATD PRESS: 5112

Card 2/2

АРХИПОВА, А. М.

BDS

L 10788-63

ACCESSION NR: AP3000240

8/0185/63/008/005/0598/0599

AUTHOR: Arkhy

нова, A. M.; Fedorus, G. I.; Fursenko, V. D.

46

TITLE: Investigation of the phenomenological quantum yield from the photoconductive effect in the CdS single crystal

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 8, no. 5, 1963, 598-599

TOPIC TAGS: cadmium sulfide crystal, phenomenological quantum yield, cadmium sulfide photoresistor

ABSTRACT: The relation between phenomenological quantum yield (PQY) and the intensity of constant bias lighting in a wide range of specimen illuminations by short light pulses has been experimentally investigated by measuring the photo response. The experiments show that the PQY for specimens with low dark conductivity (10^{-10} mho) increases with bias lighting, rises to a maximum, and then decreases at comparatively high bias lighting. The PQY for a specimen with a 10^{-7} to 10^{-6} mho dark conductivity decreases monotonically with an increase in bias lighting. The PQY for the majority of specimens varied within 0.01 to 0.02 electron/quantum. The authors conclude that the sensitivity threshold of CdS photoresistors can be increased either by adding certain impurities to the

Card 1/2

L 10788-63

ACCESSION NR: AP3000240

Cds single crystal or by treatment of the photosensitive surface of the crystal.
"The authors express their thanks to Academician V. E. Lashar'ov for his valuable suggestions and interest in the work." Orig. art. has: 1 figure and 1 formula.

ASSOCIATION: Insty*tut napivprovidny*kiv AN URSR m. Ky*yiv (Institute of Semi-conductors, AN URSR)

SUBMITTED: 01Feb63

DATE ACQ: 18Jun63

ENCL: 00

SUB CODE: PH

NO REF SOV: 007

OTHER: 000

Card

mas/CS
2/2

ARKHIPOVA, A.P., kandidat tekhnicheskikh nauk.

Constructing asphalt-concrete road surfaces at lowered air
temperatures. Avt.dor. 20 no.9(179):14 S '57. (MIRA 10:10)
(Roads, Concrete) (Asphalt)

NIKISHINA, M.F.; KREMNEV, L.Ya.; BORODINA, L.A.; ARKHIPOVA, A.P.; BEGUNKOVA,
N.I.

Bituminous and tar emulsions used in road construction, Avt.dor.
21 no.11:25-27 N '58. (MIRA 11:12)
(Road materilas)

EVENTOV, I.M.; ARKHIPOVA, A.P.; NAZAROV, V.V.

Use of machinery in preparing black top mixtures treated with
emulsions. Avt.dor. 22 no.7:12-13 J1 '59. (MIRA 12:9)
(Bituminous materials)

KREMNEV, Leonid Yakovlevich; ARKHIPOVA, Aleksandra Pavlovna; YAKOVLEVA, A.I., red.; GALAKTIONOVA, Ye.N., tekhn.red.; NIKOLAYEVA, L.N., tekhn.red.

[Using reverse emulsions in constructing and repairing roads]
Primenenie obratnykh emul'sii v stroitel'stve i remonte dorog.
Moskva, Nauchno-tekhn.isd-vo M-va avtomobil'nogo transp. i
shosseinykh dorog RSFSR, 1960. 26 p. (MIRA 14:1)
(Roads--Maintenance and repair) (Bituminous materials)

ARKHIPOVA, A.P.; IGON'KINA, G.S.; SERGIYENKO, V.A.

Road emulsions under arctic-region conditions. Avt.dor. 25
no.11:10-12 N '62. (MIRA 15:12)

(Road materials)

NIKISHINA, Mariya Filippovna; EVENTOV, Iosif Markovich; ARKHIPOVA,
Aleksandra Pavlovna; BEGUNKOVA, Ninel' Ivanovna; BORODINA,
Lyubov' Alekseyevna; ICON'KINA, Galina Sergeyevna;
NAZAROV, Vladimir Vladimirovich; ALEKSEYEV, A.P., red.

[Emulsions used in road construction] Dorozhnye emul'sii.
[By] M.F.Nikishina i dr. Moskva, Transport, 1964. 171 p.
(MIRA 17:12)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102110016-9

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102110016-9"

AFANAS'YEVA, L.V.; ARKHIPOVA, A.S., prof., red.; SHTEYNBERG, S.B.,
red.

[Industrial dust and its hygienic significance] Promyslen-
naia pyl' i ee gigenicheskoe znachenie. Moskva, TSentr.
in-t usovershenstvovaniia vrachei, 1963. 23 p.
(MIRA 17:8)

ARKHIPOVA, A.V.

USSR/Pharmacology - Toxicology, Anti-inflammatory Agents.

U-6

Abs Jour : Ref Zhur - Biol., No 3, 1958, 13029

Author : Priselkov, M.M., Pushkar', E.G., Arkhipova, A.V.,
Kocherova, A.N.

Inst : -

Title : Decomposition of Pyramidon and Some Other Drugs by
Microorganisms.

Orig Pub : Aptech. delo, 1956, No 3, 38-43.

Abstract : It was demonstrated by growing E. coli, Proteus and Staphylococci on meat-peptone media containing 0.5-1% pyramidon, antipyntine or caffeine that multiplication of the organisms was retarded, especially in the presence of pyramidon, and that their sugar fermenting and proteolytic activity was suppressed. It was found that microbes destroyed pyramidon and antipyntine molecules by the utilization of carbon and nitrogen.

Card 1/2

.. USSR/Pharmacology - Toxicology, Anti-inflammatory Agents.

U-6

Abs Jour : Ref Zhur - Biol., No 3, 1958, 13029

Proteus destroyed over one-half of the pyramidon present
in the medium in concentrations up to 0.5%.

Card 2/2

ARKHIPOVA, A.V.; SENOV, Petr Leonidovich, red.

[Practical manual on pharmaceutical chemistry] Prakticheskoe
rukovodstvo po farmatsevticheskoj khimii. Moskva, Medgiz, 1959.
343 p. (MIRA 13:8)

(CHEMISTRY, MEDICAL AND PHARMACEUTICAL)

ARKHIPOVA, A.V.

PHASE I BOOK EXTRACTS

SOV/USSR
SOV/US-5

Abstracts from SOV, Institute Metallurgii

Metallurgy, metallurgy, radio-chemicals study (Leningrad, Physicochemical Research Methods in Metallurgy and Metal Science, Issue 11, 1968, 251 p. (Series: Issue Study, 979-5) Extra 2119, Issued, 2,800 copies printed.

Sponsoring Agency: Academy of Sciences, Institute Metallurgii, Leningrad, U.S.S.R.

Key: K.I., I.P. Berlin, Academician (Deceased); K.I. of Publishing House: V.I. Kilmov; Tech. Ed.: T.P. Rudakov.

PHASE I: This collection of articles is intended for metallurgists and metal researchers.

CONTENTS: The collection contains articles on metallurgy, metal science, and physicochemical research methods. Separate articles discuss the structure and properties of metal alloys, the effect of cold treatment and heat treatment on the properties of alloys are analyzed, and treatments and structure of alloys of the Al-Cu system.

Evolution, A.V. and P.I. Shchegolev. Physicochemical study of the structure of alloys of the Al-Cu system. 151

Serdyukov, V. M., and V. Y. Kozlov. Study of the structure and of the properties of metal alloys. Separate articles discuss the structure and properties of metal alloys, the effect of cold treatment and heat treatment on the properties of alloys are analyzed, and treatments and structure of alloys of the Al-Cu system. 151

Podgornyy, A. I., and P. I. Shchegolev. On the problem of the reaction of thermal oxidation of aluminum oxide by silicon in the presence of calcium oxide. 156

Serdyukov, V. M., V. Y. Kozlov, and N. V. Kozlov. Phase Diagrams of the V-Al System. 162

Novikov, D. A. Problems of Solubility and State of Impurities in Semiconductors. 166

Zhelezov, S. G., M. G. Klyuz, and I. B. Melnikov. Study of the structure and properties of metal alloys. 178

Podgornyy, A. I., and O. J. Stetsko. Radioisotopic Method and Experimental Study for Determining the Radiation Capacity of Molten Metal. 185

Alshuler, I. Y. Study of the Process of Continuous Secondary Electron Multiplication in a Single-Channel Multiplier. 189

Golubovskiy, A. B. Rapid Method for the Determination of Iron in Alloys. 195

Kapshin, V. A., and A. Y. Arshinov. Determination of Metallic Magnesium by Oxidation. 196

Belikov, A. M., and S. I. Gerasimov. Polarography of Large Quantities of Oxidation. 198

Kozlov, S. Y. Principal Methods and Apparatus for Studying the Processes of Oxidation of Metals and Alloys. 202

Kozlov, S. Y. On the Use of Mass Spectrometric Methods of Analysis of Oxidation. 203

Kozlov, S. Y. E. Mechanical Principles of Research Tests. 204

Card 6/7

(2)

MAKSIMYCHEVA, Z.T.; BABAYEV, A.; FEL'DMAN, M.M.; BRYNZA, A.P.;
DEGTYARENKO, Ya.A.; NAGIBIN, V.S.; ARKHIPOVA, A.V.

Exchange of experience. Zav.lab. 28 no.4:426-427 '62.

(MIRA 15:5)

1. Tashkentskiy gosudarstvennyy universitet imeni Lenina (for Maksimychева, Babayev).
2. Dnepropetrovskiy gosudarstvennyy universitet (for Fel'dman, Brynza).
3. Lvovskiy politekhnicheskiy institut (for Degtyarenko).
4. Institut metallurgii imeni Baykova (for Nagibin, Arkhipovs).
(Metals--Analysis)

S/509/62/000/011/018/019
E071/E351

AUTHORS: Nagibin, V.S. and Arkhipova, A.V.

TITLE: Determination of tin and titanium in binary alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Trudy. no. 11. Moscow, 1962. Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya. 224 - 226

TEXT: The method of determining tin and titanium in industrial binary alloys was checked. Tin is determined iodometrically in the presence of titanium; titanium is determined by precipitation with cupferron after the separation of tin (by precipitation with hydrogen sulphide in the presence of citric acid. The tin determination was carried out both in the presence of vanadium and after separation from vanadium. It was found that the industrial method of determining tin in the presence of vanadium was satisfactory. The analytical procedure is described in some detail. There are 2 tables.

Card 1/1

ACC NR: AP6028193

(A)

SOURCE CODE: UR/0032/66/032/006/0719/0720

AUTHORS: Arkhipova, A. V.; Kudel'kin, V. P.; Lyubinskaya, M. Ya.; Milenin, Ye. N.; Popova, L. G.

ORG: "Elektrostal'" Factory (Zavod "Elektrostal'")

TITLE: Determination of decarburization in bright-drawn high-speed steel by the thermoelectric potential method

SOURCE: Zavodskaya laboratoriya, v. 32, no. 6, 1966, 719-720

TOPIC TAGS: thermoelectric sensor, decarburization, high speed steel, carbon steel/ R9 tool steel, R18 tool steel

ABSTRACT: A method for determining decarburization in bright-drawn high-speed steel is briefly described. The method is based on measuring the thermoelectric potential between the metal surface and a copper electrode clamped to the surface, and by comparing this potential with the potential obtained between couples of known composition. Experiments were performed on steels R9, R18, and others (not listed in report) using a copper electrode at 160--170C (some results are tabulated). The decarburization criterion is specified by GOST 5952-63 as <0.7% carbon in the surface layer for steel R18 and <0.85% for steel R9. It was found that a meter reading of >7 (unspecified scale) indicated decarburization in 72--100% of the specimens (checked by chemical analysis). It was concluded that this method is sufficiently sensitive to carbon content in the surface layer to be of practical importance. Orig. art. has: 1 figure and 1 table.

SUB CODE: 113/ SUBM DATE: none/ ORIG REF: 002
Card 1/1

UDC: 620.183

ARKHIPOVA, E.N.

AUTHORS:

Frisman, E.V., Arkhipova, E.N.

20-3-19/59

TITLE:

The Sign of the Double Diffraction of Rays in a Flow as Dependent on the Concentration of the Solution of a Polymer
(Zavisimost' znaka dvoynogo lucheprelomleniya v potoke ot koncentratsii rastvora polimera)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 3, pp. 491 - 493
(USSR)

ABSTRACT:

The double refraction of rays in the flow of polymer solutions is determined by the difference of the main polarizabilities of the macromolecule in the solution. The macromolecule in the solution may be considered an ellipsoidal particle which is saturated with the solvent. The refraction index of the solvent is here different from the refraction index of the polymer. At first an already earlier found formula for these difference of the polarizabilities is given. The anisotropy proper of the molecule can be positive or negative according to its form, but the anisotropy of the form is always positive. In a macromolecule with negative anisotropy the sign of the resulting difference of the polarizability is dependent on the share of the individual terms

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2073-19/59

The Sign of the Double Diffraction of Rays in a Flow as Dependent on the Concentration of the Solution of a Polymer

of the above-mentioned formula. In the case of a laminar flow in the solution the share of the individual term is in different dependence on the hydrodynamic force applied to the macromolecule and therefore also on the velocity gradient g . In the case of $g \rightarrow 0$ and an alteration of the molecular weight a change of the optical anisotropy can be expected in one and the same solvent. This phenomenon was already earlier discovered during the investigation of the solution of two fractions ($M = 3 \cdot 10^5$ and $M = 100 \cdot 10^5$) of polystyrene in dioxane. The solutions of the low-molecular fraction have a negative double refraction in a wide domain of concentrations and velocity gradients. The solutions of the high-molecular fraction had a positive double refraction, but only at small velocity gradients g . With increasing g the positive refraction of rays becomes smaller, then it passes through zero and thereafter becomes strongly negative. A diagram illustrates the dependence of the amount Δn of the double refraction on the velocity gradient g for solutions with various concentration. According to the authors the double refraction in the case of sufficiently high concentrations must only be due to the anisotropy proper. There are 2 figures and 15 references, 7 of which are Slavic.

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20-3-19/59

The Sign of the Double Diffraction of Rays in a Flow as Dependent on the Concentration of the Solution of a Polymer

ASSOCIATION: Leningrad State University imeni A.A. Zhdanov
(Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova)

PRESENTED: March 16, 1957, by A.A. Lebedev, Academician

SUBMITTED: March 12, 1957

AVAILABLE: Library of Congress

Card 3/3

FRISMAN, E.V.; ARKHIPOVA, E.N.

Determining the optical anisotropy of macromolecules in a system
as it is affected by shape. Part 1. Zhur.tekh.fiz. 29 no.2:
198-206 F '59. (MIRA 12:4)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
(Styrene--Optical properties)

EZUMRUDOVA, T.V.; DEREVENCHUK, I.N.; ARKHIPOVA, F.I.; SHORYGINA, N.N.

Modification of lignin for the purpose of obtaining a water-soluble derivative. Zhur.prikl.khim. 38 no.11:2614-2616 N '65. (MIRA 18:12)

1. Submitted March 12, 1965.

ARKHIPOVA, G.

Influence of the time factor on the rate of production. Vop.
ekon. no.3:90-97 Mr '62. (MIRA 15:3)
(Economics, Mathematical)

MESHALKIN, Ye.N.; SERGIYEVSKIY, V.S.; ARKHPOVA, G.F.; OKUNEVA, G.N.; SAVINSKIY, G.A.; VLASOV, Yu.A.; PIDENKO, V.I.

Theoretical possibility of preserving the basic function of the lung following surgical resection of all its neural connections (in auto-transplantation) under experimental conditions. Eksper. khir. i anest. 9 no.2:34-42 Mr-Apr '64. (MIRA 17:11)

1. Institut eksperimental'noy biologii i meditsiny (nauchnyy rukovoditel' - prof. Ye.N. Meshalkin, ispolnyayushchiy obyazannosti direktora dotsent Yu.I. Berodin) Ministerstva zdravookhraneniya RSPSR, Novosibirsk.

ARKHIPOVA, G.P., inzh.; FLIS, I.Ye., doktor khim.nauk; MISHCHENKO, K.P.,
doktor khim.nauk

Thermochemical study of the reduction of potassium chlorate by
sulfite in an acid medium. Trudy LTITSBP no.11:124-127 '62.

Spectrophotometric analysis of acid sulfite solutions. 128-133
(MIRA 16:10)

MAKAROVA, G.A.; ARKHIPOVA, G.R.; RAKHIMOVA, A.A.

Prevention of hypogalactia under conditions of a pediatric health center. Kaz.med.zhur. no.1:78-80 Ja-F'63.

(MIRA 16:8)

1. Kafedra propedevtiki detskikh bolezney (zav. prof. G.A. Makarova) Kazanskogo meditsinskogo instituta na baze 4-y ob'yedinennoy de'skoy bol'nitsy (glavnyy vrach - R.Kh. Savenkova), Kazan'.

(LACTATION) (BREAST FEEDING)

SERGEYEV, Ye.N.; ARKHIPOVA, G.F.; DIDENKO, V.I. (Novosibirsk)

Hypoxic method of cardioplegia in experimental extracorporeal
blood circulation. Vrach. delo no.12:7-11 D '63.

(MIRA 17:2)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo
otdeleniya AN SSSR.

АРАМЕТОВА, Г.П.; ФЛИС, И.Е.; МИЩЕНКО, К.П.

Potentiometric determination of the $\text{HSO}_3^- \rightleftharpoons \text{SO}_3^{2-} + \text{H}^+$ equilibrium
within 10-50° temperature range. Zhur. prikl. khim. 37 no.10:
2306-2309 0 '64. (MIRA 17:11)

FLIS, I. G.; ARKHIPOVA, G. P.; MISHCHENKO, K. P.

Equilibria in aqueous solutions of sulfites at temperatures of 10 -35°.
Zhur. prikl. khim. 38 no.7:1494-1500 J1 '65. (MIRA 18:7)

AUTHORS: Rzhanov, A. V., Arkhipova, I. A., Bidulya, V. N. 57-28-5-23/36

TITLE: On the Applicability of the Method of Velocity Measurement of Surface Recombination by Means of the Change of Semiconductor Resistance in a Magnetic Field (O primenimosti metoda izmereniya skorosti poverkhnostnoy rekombinatsii po izmeneniyu soprotivleniya poluprovodnika v magnitnom pole)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 1051-1052 (USSR)

ABSTRACT: In the paper by Zhuze, Pikus and Sorokin (Ref 1) a new method of measuring the surface recombination velocity s by means of the modification of the resistance of a thin semiconductor sample in a magnetic field was proposed. The author of this letter to the editor employed the described method in the investigation of the modification s according to the change of the electric surface potential. The measurements were conducted with two devices. One served for the measurement of the constant component E_c , one of the sample surface being subjected to the action of a constant transverse field or of various gas media. On the other device the voltage of the doubled frequency $E_{2\omega}$ was mea-

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On the Applicability of the Method of Velocity Measurement of Surface Recombination by Means of the Change of Semiconductor Resistance in a Magnetic Field 57-28-5-23/36

sured, one of the surface media being subjected to the action of a sinusoidal transverse field with low frequency. The obtained results show, that the method of measuring the surface recombination velocity by means of the modification of the conductivity of the samples in a magnetic field yields correct values of Δ_s at a modification of the concentration of the recombination centers which was also proved by grinding experiments. If s changes because of the modification of the electrostatic surface potential, this method, however, gives too low values. This can be seen from a direct comparison of this method with the bridge method of measuring the effective life. The authors thank Yu.F. Novototskiy-Vlasov for his help. There are 1 figure and 5 references, 4 of which are Soviet.

ASSOCIATION:

Fizicheskiy institut im. P.N. Lebedeva AN SSSR, Moskva (Moscow, Physics Institute imeni P.N. Lebedev, AS USSR)

SUBMITTED:

December 28, 1957

Card 2/2

1. Semiconductors--Surface properties

24,7700

..25682
S/181/61/003/007/004/023
B102/B202

AUTHORS: Rzhanov, A. V. and Arkhipova, I. A.
TITLE: Surface recombination in germanium with raised injection levels
PERIODICAL: Fizika tverdogo tela, v. 3, no. 7, 1961, 1954 - 1959

TEXT: The authors report on measurements of the surface recombination rate as a function of the surface potential for different injection levels. They also give a comparison with the theory. This problem is of interest since today a large number of semiconductor devices operate at increased injection levels (where the concentration of the non-equilibrium carriers equals or exceeds that of the equilibrium carriers) and because it has hitherto not been studied experimentally. In the laboratory of the authors a method was devised for the combined study of steady photoconductivity and field effect, which can be employed for different injection levels. It is based on the following principle: A rectangular germanium plate is covered by 2 mica foils and fixed between two glass plates to the inner surfaces of which the transparent tin oxide electrodes

Card 1/5

25682

-S/181/61/003/007/004/023
B102/B202

Surface recombination ...

are fitted. A sinusoidal transverse voltage is applied to this two-sided capacitor which simultaneously is exposed through the electrodes to square light pulses of equal intensity but different repetition frequency. Under these conditions, three curves can simultaneously be observed on the oscilloscope screen: The curve of the conductivity variation in the dark, and the conductivity curves for one- and two-sided exposure (with double total intensity). The surface dark potential can be determined from the former, the steady photoconductivity is determined from the ordinate difference between first and second curve. From this difference, the effective lifetime and surface recombination rate are determined if the calibration coefficient (which is determined from the second and third curves) is known. The theoretical considerations are based on the formula for the surface recombination rate

$$S = \frac{N_s (\sigma_p \sigma_n)^{1/2} \frac{1}{2} (\lambda + \lambda^{-1}) \left[1 + \delta \left(\frac{1}{\lambda + \lambda^{-1}} \right) \right]}{\text{ch} \left(Y_s - \ln \lambda - \frac{q \epsilon_0}{kT} \right) + \text{ch} \left(\frac{e_i - q \epsilon_0}{kT} \right) + \delta \text{ch} \left(Y_s - \frac{q \epsilon_0}{kT} \right)} \quad (1)$$

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25682
S/181/61/003/007/004/023
B102/B202

Surface recombination ...

where Y_s is the surface potential in a recombination via centers of concentration N_t with energy levels $E_t = E_t - E_1$, α_p and α_n are the hole and electron trapping constants, n_0 and p_0 are the balanced volume concentrations of electrons and holes, $\delta = \frac{\Delta n}{n_1} = \frac{\Delta p}{n_1}$ is the injection level and $\lambda = p_0/n_1 = n_1/n_0$; $q\xi_0/kT = \frac{1}{2} \ln \frac{\alpha p}{\alpha n}$. With increasing δ , the position of the maximum of the curve $S = f(Y_s)$ is shifted from $Y_s' = \frac{q\xi_0}{kT} + \ln \lambda$ (for small δ) to $Y_s'' = q\xi_0/kT$ for large δ . If (1) is written in the form

$$S = S_0 \frac{1 + \delta \left(\frac{1}{\lambda + \lambda^{-1}} \right)}{\text{ch} \left(Y_s - \frac{q\xi_0}{kT} \right)} \cdot \quad (4)$$

$$1 + \delta \frac{1}{\text{ch} \left(Y_s - \ln \lambda - \frac{q\xi_0}{kT} \right) + \text{ch} \left(\frac{q\xi_0}{kT} \right)}$$

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25682
S/181/61/003/007/004/023
B102/B2Q2

Surface recombination

where S_0 is the surface recombination rate for small δ , the variation of the maximum surface recombination rate with the injection level becomes manifest. (4) shows that also at relatively small δ , the maximum surface recombination rate decreases with the injection level if $\frac{1}{2}(\lambda + \lambda^{-1}) > 1 + \text{ch}(\frac{E_t - q\phi_0}{kT})$, and increases with the injection level if $\frac{1}{2}(\lambda + \lambda^{-1}) < 1 + \text{ch}(\frac{E_t - q\phi_0}{kT})$. With large δ S_{max} decreases with increasing δ , if $\frac{1}{2}(\lambda + \lambda^{-1}) > \text{ch}(\frac{E_t - q\phi_0}{kT})$ and with a further increase of δ , S approaches the value $S_{\delta \rightarrow \infty} = N_t \frac{\alpha_p \alpha_n}{\alpha_p + \alpha_n}$.

In the following, these results are applied to practical cases. A comparison of the theoretical results with the experimental ones for the two extreme values $\delta = 0.1$ and $\delta = 4.3$ showed good agreement. The authors thank A. L. Vol'sk, Member of Warsaw University, for assistance and advice. There are 2 figures and 8 references: 6 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: R. H. Kingston. Semiconductor Surface Physics, p. 85, 1957; G. Dousmanis. J. Appl. Phys. 30, 2, 180, 1959.

Card 4/5

Surface recombination ...

25682
S/181/61/003/007/004/023
B102/B202

ASSOCIATION: Fizicheskij institut im. P. N. Lebedeva AN SSSR Moskva
(Institute of Physics imeni P. N. Lebedev AS USSR, Moscow)

SUBMITTED: January 14, 1961

Card 5/5

37938

S/181/62/004/005/029/055
B108/B112

24.7400

AUTHORS: Rzhanov, A. V., and Arkhipova, I. A.

TITLE: Surface recombination on germanium with a large quantity of water adsorbed

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1274 - 1278

TEXT: The changes in the character of the recombination curves during gradual drying of p-type germanium were examined. Conclusions: Virtually no quantitative relationship exists between the changes in the maximum surface recombination rate of germanium with adsorbed water and the slope of the capture curves. Recombination is accomplished at discrete levels as well as on continuous energy levels in the surface forbidden band. As a first approximation it is assumed that the effective capture cross sections of the discrete and continuous levels are determined only by the donor or acceptor character of the respective centers and that they are independent of the energy position of the level. An approximately linear increase of the recombination rate on the side of positive surface potentials was observed on the p-type specimens (resistivity ~20 ohm.cm).
Card 1/2

Surface recombination on ...

S/181/62/004/005/029/055
B108/B112

A detailed description of the experiments will follow later. There are
3 figures. f.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva (Physics Institute
imeni P. N. Lebedev) Moscow

SUBMITTED: January 2, 1962

Card 2/2

ARKHIPOVA, I.A.; RAFIKOV, S.R.; SUVOROV, B.V.

Production of nicotinic and isonicotinic acids and their amides
by the hydrolysis of nitriles. Zhur.prikl.khim. 35 no.2:389-
393 F '62. (MIRA 15:2)

1. Institut khimicheskikh nauk AN KazSSR.
(Nicotinic acid) (Isonicotinic acid) (Nitriles)

S/079/63/033/002/007/009
D204/D307AUTHORS: Arkhipova, I.A., Rafikov, S.R. and Suvorov, B.V.

TITLE: Hydrolysis of terephthalodinitrile with aqueous ammonia under pressure

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 2, 1963,
637 - 641

TEXT: The above reaction was studied to determine the possibility of selectively preparing the desired intermediate products. Terephthalodinitrile (TDN), prepared by the oxidative ammonolysis of p-xylene of Pb vanadate, was reacted with aqueous ammonia (taken in various TDN: ammonia:water molar ratios, n) at 200-300°C, in a stainless steel autoclave under pressures from 5 to 40 atm., over 3 hours. For n = 1:14:210, the yields of the diammonium salt of terephthalic acid (I) increased from ~ 30 % at 200°C to ~ 100 % at 300°C, whilst the yields of $\text{NH}_4\text{COOC}_6\text{H}_4\text{CONH}_2$ (II) fell from ~ 50 % at 200°C to ~ 10 % at 250°C. At 200°C, with TDN:H₂O = 1:210, increasing the molar ratio of NH₃:TDN to 8 favored the formation of I and II, whilst 30-40 % of

Card 1/2

Hydrolysis of terephthalodinitrile ... S/079/63/033/002/007/009
D204/D307

each of $\text{NH}_2\text{COC}_6\text{H}_4\text{CN}$ and $\text{NH}_2\text{COC}_6\text{H}_4\text{CONH}_2$ was formed at $\text{NH}_3:\text{TDN} = 1-2$.
A small amount of ammonium p-cyanobenzoate was also formed with low concentrations of NH_3 . At 250°C , increased concentrations of water promoted the rate of reaction and favored the formation of the final products of hydrolysis. During the formation of $-\text{CONH}_2$ from $-\text{CN}$, the ammonia behaved only as a catalyst; in the conversion of $-\text{CONH}_2$ to COONH_4 , however, considerably higher concentrations of NH_3 were required. There are 3 figures.

ASSOCIATION:

Institut khimicheskikh nauk Akademii nauk
Kazakhskoy SSR (Institute of Chemical
Sciences of the Academy of Sciences of the
Kazakh SSR)

SUBMITTED:

March 14, 1962

Card 2/2

RAFIKOV, S.R.; ANKHIFOVA, I.A.

Study of thermal decomposition kinetics of ammonium salts and
acid amides. Zhur. ob. khim. 34 no.12:1086-1090 D 164
(MIRA 18:1)

1. Institut khimicheskikh nauk AN Fozakhtskoy SSR.

ARKHINOVA, I.A.; RAFIKOV, S.R.

Study of the thermal decomposition of ammonium salts of terephthalic
nicotinic and adipic acids. Zhur. prikl. khim. 37 no.11:2168-2173
N 164 (MIRA 18:1)

ACCESSION NR: AP4043789

S/0190/64/006/008/1496/1497

AUTHOR: Koton, M. M.; Kiseleva, T. M.; Arkhipova, I. L.

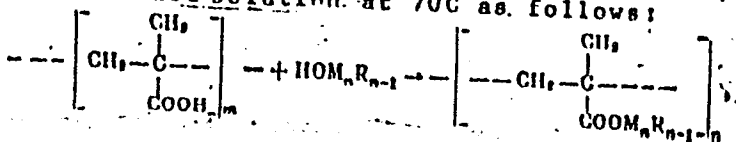
TITLE: Synthesis of metal-containing polymers by reaction in a poly(methacrylic acid) chain

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1496-1497

TOPIC TAGS: metal containing polymer, metal containing polymer synthesis, poly(tri-n-butyltin methacrylate), poly(triphenyltin methacrylate), poly(diphenylantimony methacrylate), poly(triphenyllead methacrylate), poly(phenylmercury methacrylate), thermostable polymer

ABSTRACT: Thermally stable organometallic copolymers which are soluble in organic solvents were synthesized by reacting poly(methacrylic acid) with alkyl- or aryl-metal hydroxides. The copolymers were synthesized in alcohol solution at 70C as follows:

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ACCESSION NR: AP4043789

where M is Sn, Pb, Hg, or Sb, and R is C₆H₅ or C₄H₉. The synthesized copolymers were poly(tri-n-butyltin methacrylate), which is soluble in benzene, toluene, dimethylformamide; poly(triphenyltin methacrylate), which is partially soluble in dimethylformamide; poly(triphenyllead methacrylate), which is insoluble in organic solvents; poly(diphenylantimony methacrylate), which is soluble in dimethylformamide; and poly(phenylmercury methacrylate), which is soluble in dimethylformamide. Depending on the viscosity of poly(methacrylic acid), various copolymers of tri-n-butyltin methacrylate, ranging from rubber-like to solid-type, were obtained. The structure of the synthesized copolymers was proven by the hydrolysis of poly(triphenyltin methacrylate), which yielded pure triphenyltin hydroxide. It is noted that the thermal stability of the copolymers is not lower than that of homopolymers of the respective organometallic monomers. Orig. art. has: 1 formula.

ASSOCIATION: Institut vy*sokomolekulyarny*kh soyedineniy AN SSSR.
(Institute of Macromolecular Compounds, AN SSSR)

Card 2/3

АРХИПОВА, К.М.

SUDAKOV, V.A.; ARKHIPOVA, K.M.

Effect of electric ac railroads on overhead telecommunication lines.
Sbor. nauch. rab. po prov. sviazi no.6:112-123 '57. (MIRA 11:5)
(Electric railroads) (Telecommunication)

ARKHIPOVA, K.M.

External and mutual resistances of a coaxial line shielded by a
spiral screen. Sbor. nauch. rab. po prov. sviazi no.6:124-139 '57.
(Coaxial cables) (MIRA 11:5)

ARKH, POVA, K.M.

6(0)

PHASE I BOOK EXPLOITATION SOV/2792

Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii

Problemy peredachi informatsii, vyp. 2 (Problems of Information Transfer, Nr. 2) Moscow, Izd-vo AN SSSR, 1959. 99 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: Ye.K. Vinnichenko; Tech. Ed.: Yu. Rykina; Editorial Board: A.A. Kharkevich (Resp. Ed.), V.N. Kuznetsov, I.A. Ovseyevich, V.N. Roginskiy, and V.G. Solomonov.

PURPOSE: This collection of articles may be useful to engineers engaged in the design of wire communication systems.

COVERAGE: The authors discuss the theory of transmission of information and describe methods used in transmission. They consider attenuation of a two-wire line and cable impedance and discuss problems of coding, decoding and predicting communication signals. They also consider statistical analysis of information and discuss systems used. No personalities are mentioned.

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Problems of (Cont.)

SOV/2792

References appear at the end of each article.

TABLE OF CONTENTS:

Foreword

Kuznetsov, V.N. Electromagnetic Field of a Contact Wire of Electrified Railroads Operating on A-c 3

The author determines the electromagnetic field around a wire located at a given height over the flat surface of the ground with a finite conductivity when alternating current passes through the wire. There are 7 references: 3 Soviet (including 1 translation), 3 English and 1 German. 5

Kuleshov, V.N. Additional Resistance of Cable Lines Due to Losses in Adjacent Strands 26

The author presents a method of calculating additional resistance of multiplexing cables due to losses in adjacent strands. There are 3 references: 2 Soviet and 1 English.

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Problems of (Cont.)

SOV/2792

Arkhipova, K.M. and V.A. Sudakov. Determination of Attenuation and a Propagation Constant of a Two-wire Line, Taking Into Account Finite Ground Conductivity

33

The authors present a method of calculating propagation constant from a transcendental equation obtained from field equations for air and ground. They also present numerical examples in which simplifications for actual frequency ranges and ground conductivity were made. There are 3 references: 2 Soviet and 1 English.

Sinay, Ya.G. The Least Error and the Best Method of Transmitting Stationary Information With Linear Coding and Decoding for the Case of Gaussian Communication Channels

40

The author derives a functional expressing the mean-square error of transmission and obtains the best method of transmitting information, with linear coding and decoding, by Gaussian communication channels. There are 3 references, all Soviet (including 1 translation).

Card 3/6

Problems of (Cont.)

SOV/2792

Kazaryan, R.A. Some Problem of Predication of Communication Signals

49

The author discusses problems of constructing circuits for signal prediction and analyses their operation under near-actual operating conditions. He also presents an example of extrapolating a speech signal. There are 11 references: 6 Soviet (including 1 translation) and 5 English.

Meshkovskiy, K.A. Some Problems of the Theory of Coding

57

The author discusses the principle of constructing, analyzing and comparing of codes. There are 5 references: 3 Soviet and 2 English.

Garmash, V.A. Methods of Using Punched-card Computing Machines for Statistical Information Analysis

65

The author shows the advantage of punched-card computing machines over other types of computers for statistical analysis of information. He also discusses methods of using these machines. There are 3 references, all Soviet.

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Problems of (Cont.)

SOV/2792

- Lebedev, D.S. Device for Printing Images on Punched Tape 73
The author describes a device for printing images on punched tape. The device is used in the study of statistics of television information. It converts a continuous signal obtained in scanning a motion picture into a sequence of binary numbers. There are 2 references, both Soviet.
- Lebedev, D.S., and V.A. Garmash. Statistical Analysis of Three-letter Combinations of a Russian text 78
The authors present methods and results of a study of frequency of three-letter combinations of a Russian text and determine the rate of transmission of telegraph information. There are 3 references: 1 Soviet and 2 English.
- Solomonov, V.G. Errors in the Synthesis of Characteristics 81
The author presents a theoretical proof of the possibility of synthesizing characteristics and analyzes the error of synthesis by means of a delay-line system. There are 5

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Problems of (Cont.)

references: 4 Soviet and 1 German.

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Tsemel', G.I. Some Problems in the Operation of a Time Equalizer 92
The author derives an expression for determining delay time of
a time equalizer from the pulse characteristic of a communica-
tion channel and describes the nature of equalizer distortions.
He also discusses deviations of the attenuation characteristic
of an equalizer operating in a linear spectrum. There are 9
references: 3 Soviet and 6 English.

AVAILABLE: Library of Congress

Card 6/6

JP/jb
12-1-59

~~ARKHIPOVA, K.M.~~; SUDAKOV, V.A.

Determination of the phase coefficient and of fading in a double
line in view of terminal ground conductivity. Probl.pered.inform.
no.2:33-39 '59. (MIRA 12:11)
(Electric lines) (Field theory)

9.1300

69810

AUTHORS: Arkhipova, K.M. and Sudakov, V.A. S/024/60/000/01/018/028
E310/E335 (Moscow)

TITLE: Filtering the H_{01} Wave in a Waveguide With an Iris

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, Nr 1, pp 144-148 (USSR)

ABSTRACT: Separation of the H_{01} waves from higher modes of the same type (H_{02} , H_{03} , etc) in cylindrical waveguides is considered an important problem in long-range waveguide communication. The difficulty lies in the fact that H_{02} , H_{03} , ... waves have the same structure as the H_{01} , i.e. they do not have a longitudinal electric component along the waveguide walls; thus, they pass without attenuation through any known filter designed to suppress waves with such a component. The article contains the results of theoretical study on the possibility of filtering out the H_{01} waves by means of waveguide's irises, thin discs with openings of equal radii in the centre of each. The irises are distributed uniformly along the

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Filtering the H_{01} Wave in a Waveguide With an Iris

length of the waveguide. To simplify calculations the conductivity of the dielectric inside the waveguide is assumed zero and the conductivity of the metallic walls of the waveguide and of the iris are assumed infinitely large. In the first paragraph, the electromagnetic field in a waveguide with irises is considered. In the second paragraph, the boundary conditions and the transcendent equations for constant transmission are given. In the third paragraph, an approximate method of calculating the wave filter is described and the derived formulae are utilised for calculating the practical example of a waveguide filter with the following data: wavelength - 0.54 to 0.68 cm, iris opening - 0.6 cm, waveguide diameter - 2.4 cm, spacing between the irises - 2.4 cm. There are 3 Soviet references.

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SUBMITTED: June 30, 1959

Card 2/2

9.1310 (also 1127, 3301)

28587

S/562/61/000/010/007/007
E140/E435

AUTHORS: Arkhipova, K.M. and Sudakov, V.A.

TITLE: H_{0m}-waves in a diaphragmed waveguide

SOURCE: Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii. Problemy peredachi informatsii, no.10, 1961, 108-118

TEXT: This paper was presented at the Seminar of the Laboratory held on May 16, 1959

In long distance waveguide communications lines using the H₀₁-wave, all parasitic flow can be eliminated by using suitable filters which suppress waves having a longitudinal electric component which, however, does not function for the H_{0m}-waves, $m \gg 2$. A round waveguide of the cross section shown in the figure is considered, where the dielectric constant in the interior of the waveguide is taken equal to zero and the conductivities of the metal walls and diaphragms taken infinite. The author first derives the transcendental equation for the propagation constant of the diaphragmed waveguide

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H_{0m}-waves in a diaphragmed ...

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$$\begin{vmatrix}
 \dots\dots S_{1-1}B_{1-1} & S_{10}B_{10} & S_{11}B_{11} & S_{12}B_{12} & \dots\dots \\
 \dots\dots C_{1-1}D_{1-1} & C_{10}D_{10} & C_{11}D_{11} & \dots\dots & \\
 \dots\dots S_{2-1}B_{2-1} & S_{20}B_{20} & S_{21}B_{21} & \dots\dots & \\
 \dots\dots C_{2-1}D_{2-1} & C_{20}D_{20} & C_{21}D_{21} & \dots\dots & \\
 \dots\dots & S_{30}B_{30} & \dots\dots & \dots\dots & \\
 \dots\dots & \dots\dots & \dots\dots & \dots\dots &
 \end{vmatrix} = 0. \tag{36}$$

where

$$B_{nq} = \frac{Z_1(k_{1n}a)}{k_{1n}Z_0(k_{1n}a)} - \frac{J_1(k_q^{(1)}a)}{k_q^{(1)}J_0(k_q^{(1)}a)}; \tag{34}$$

$$D_{nq} = \frac{Z_1(k_{2n}a)}{k_{2n}Z_0(k_{2n}a)} - \frac{J_1(k_q^{(2)}a)}{k_q^{(2)}J_0(k_q^{(2)}a)}; \tag{35}$$

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H_{0m}-waves in a diaphragmed ...

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$$S_{nq} = j \frac{\sin \left[\left(\alpha_q + \frac{2n\pi}{l} \right) \frac{l}{2} \right]}{\alpha_q + \frac{2n\pi}{l}} - j \frac{\sin \left[\left(\alpha_q - \frac{2n\pi}{l} \right) \frac{l}{2} \right]}{\alpha_q - \frac{2n\pi}{l}} ; \quad (29)$$

$$\frac{1}{2} M_{nl} = \sum_{q=-\infty}^{\infty} P_q C_{nq} ; \quad (30)$$

$$C_{nq} = \frac{\sin \left[\left(\alpha_q + \frac{(2n-1)\pi}{l} \right) \frac{l}{2} \right]}{\alpha_q + \frac{(2n-1)\pi}{l}} + \frac{\sin \left[\left(\alpha_q - \frac{(2n-1)\pi}{l} \right) \frac{l}{2} \right]}{\alpha_q - \frac{(2n-1)\pi}{l}}$$

$$Z_1(kr) = N_1(kb) J_1(kr) - J_1(kb) N_1(kr). \quad (18)$$

$$Z_0(kr) = J_0(kr) N_1(kb) + N_0(kr) J_1(kb).$$

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LX

H_{0m} -waves in a diaphragmed ...

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S/562/61/000/010/007/007
E140/E435

where the propagation constant γ_0 is related to the parameters α_q and q by

$$\alpha_q = \frac{\gamma_0}{l} + q \frac{2\pi}{l}. \tag{21}$$

and q is an index of summation ($-\infty < q < +\infty$). In view of the nature of Eq.(36), solutions for a , b and \downarrow must be obtained numerically. Utilizing the fact that if Eq.(36) has only a single root γ_{01} at a given frequency, only the H_{01} -wave would propagate in such a line. Over a given band of frequencies about the frequency of the solution, the distortion may remain in satisfactory limits. Then Eq.(36) can be simplified, retaining only two components ($n = 1, q = 0, 1$):

$$\begin{vmatrix} S_{10}B_{10} & S_{11}B_{11} \\ C_{10}D_{10} & C_{11}D_{11} \end{vmatrix} = 0. \tag{37}$$

For arbitrary integer n the value of $b - a$ can be chosen to
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H_{0m} -waves in a diaphragmed ...

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satisfy the condition

$$Z_{01} = 0 \quad \text{or} \quad (b - a) \sqrt{\omega^2 \mu \epsilon} = \pi n \quad (41)$$

If we put p_1 for the i -th root of the Bessel function J_1 , the parameter a will be defined by the condition

$$\frac{p_1}{\omega \sqrt{\mu \epsilon}} < a < \frac{p_2}{\omega \sqrt{\mu \epsilon}} \quad (44)$$

For given b and a we can now determine l

$$l = \frac{2\pi}{\sqrt{\omega^2 \mu \epsilon - \frac{p_1^2}{b^2}} - \sqrt{\omega^2 \mu \epsilon - \frac{p_1^2}{a^2}}} \quad (45)$$

and estimate the distortion from

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ARKHIPOVA, K.M.; SUDAKOV, V.A.

Calculation of losses in a septate waveguide with finite conductivity of the walls. Probl. pered. inform. no.15:94-102: '63
(MIRA 17:8)

L 17847-66 EWT(d) IJP(c) GS

ACC NR: AT6004697

SOURCE CODE: UR/0000/65/000/000/0147/0160

AUTHOR: Arkhipova, K. M.

ORG: none

47
43
BT1

TITLE: The calculation of the Kotel'nikov integral (Paper presented at a seminar of IPPI AN SSSR on 1 November 1962)

SOURCE: AN SSSR. Institut problem peredachi informatsii. Opoznanlye obrazov. Teoriya peredachi informatsii (Pattern recognition. Theory of information transmission). Moscow, Izd-vo Nauka, 1965, 147-150

TOPIC TAGS: integration, digital computer, computer application, algorithm

ABSTRACT: In various applications of the theory of probability and mathematical statistics calculation is often made of the Kotel'nikov integral

76, 44, 5

$$F(n, \alpha) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} [1 - \Phi^n(x)] e^{-\frac{(x-\alpha)^2}{2}} dx. \quad (1)$$

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ACC NR: AT6004697

or the auxiliary integral

$$F_1(n, \alpha) = \int_{-\infty}^{\infty} \Phi^n(x) e^{-\frac{(x-\alpha)^2}{2}} dx \quad (2)$$

However, for certain values of α and n the values of the integral are very close to unity, and since the computer can operate with a limited number of digits, the approach to unity cannot be carried out beyond a certain limit (0.999 999 999 in the case of Strela-3 computer). The author proposes an algorithm which avoids the difficulty by utilizing the small parameter approach (I. T. Turbovich, Metod blizkikh sistem, Fizmatgiz, 1961). Using the substitution

$$\Phi(x) = 1 - \delta_x, \quad (3)$$

where δ_x is an auxiliary function of x , the integral under consideration becomes equal to a finite sum of n single kind integrals differing only in the power of δ_x . Some values of the Kotel'nikov integral are listed in Table 1.

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ACC NR: AT6004697

Table 1. Values of the Kotel'nikov integral

α	$n=7$	$n=15$	$n=31$
0	0,875	0,938	0,969
1	0,614	0,739	0,282
2	0,288	0,406	0,517
3	$0,823 \cdot 10^{-1}$	0,135	0,198
4	$0,137 \cdot 10^{-1}$	$0,254 \cdot 10^{-1}$	$0,420 \cdot 10^{-1}$
5	$0,132 \cdot 10^{-2}$	$0,287 \cdot 10^{-2}$	$0,484 \cdot 10^{-2}$
6	$0,751 \cdot 10^{-4}$	$0,159 \cdot 10^{-3}$	$0,307 \cdot 10^{-3}$
7	$0,258 \cdot 10^{-5}$	$0,554 \cdot 10^{-5}$	$0,111 \cdot 10^{-4}$
8	$0,540 \cdot 10^{-7}$	$0,116 \cdot 10^{-6}$	$0,230 \cdot 10^{-6}$
9	$0,663 \cdot 10^{-9}$	$0,148 \cdot 10^{-8}$	$0,305 \cdot 10^{-8}$

Author thanks L. S. Gurevich, A. M. Kukinov, and V. P. Shval'b for consultations and help in the computer calculations, and D. S. Lebedev for the formulation of the problem. Orig. art. has: 15 formulas and 1 table.

Card 3/3 not

SUB CODE: 09, 12/ SUBM DATE: 25Sep65/ ORIG REF: 003

ARKHTEFOVA, L.A.

Using the hydraulic conveying of coal in the Kizel Basin and
methods of calculating hydraulic hoisting equipment. Trudy IGD
(Sverd.) no.8s77-83 '67. (MIRA 17:10)

ARKHIPOVA, L.D.

Mineralogy of Kobyletskaya Polyana in the Transcarpathian
Mountains. Min.sbor. no.5:243-252 '51. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Kobyletskaya Polyana--Mineralogy)

SREBRODOL'SKIY, B. I.; ARKHIPOVA, L. D.; KUZNETSOV, G. V.

Find of hauerite in the Rozdol native sulfur deposit.
Probl.geokhim. no.1:296-300 '59. (MIRA 13:7)
(Rozdol region--Hauerite)

ARKHIPOVA, L.I.

Prophylactic work of the gynecological center in treating pre-cancerous diseases of the cervix uteri. Vop.onkl 1 no.1:94-95 '55.
(MLRA 8:10)

1. Iz Leningradskogo gorenkodispensera (gl.vrach--L.I.Arhipova)
- g. Leningrad, Nevskiy pr.,132; kv.65.
(CERVIX, UTERINE, neoplasms,
precancer, ther.,hosp.statist.)

DEMIN, V.N.; ARKHIPOVA, L.I.

Some results of the oncological service in Leningrad and prospects for its development [with summary in English]. Vop.onk. 3 no.3: 348-351 '57. (MLRA 10.8)

1. Glavnyy onkolog Lengorzdravotdela (for Demin). 2. Glavnyy vrach Lengoronkodispensera (for Arkhipova). Adres avtorov: Leningrad, Malaya Sadovaya, d.1. Lengorzdravotdel
(NEOPLASMS, statist.
in Russia (Rus))

YEVSTIGNEYEVA, R.P.; ARKHIPOVA, L.I.; PREOBRAZHENSKIY, N.A.

Dipyrrolylmethene series. Part 4: Synthesis of asymmetric
dipyrrolylmethenes. Zhur.ob.khim. 31 no.9:2972-2975 S '61.
(MIRA 14:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.
Lomonosova.

(Methene)

MINYAYEV, V. A.; DEMIN, V. N.; ARKHIPOVA, L. I.

Oncological care and the role of the public health system in the prevention of cancer in Leningrad. Zdrav. Ros. Feder. 6 no.5: 25-27 My '62. (MIRA 15:7)

1. Zaveduyushchiy Leningradskim gorodskim otdelom zdravookhraneniya (for Minyayev). 2. Glavnyy onkolog Leningradskogo gorodskogo otdela zdravookhraneniya (for Demin). 3. Zamestitel' glavnogo vracha Leningradskogo gorodskogo onkologicheskogo dispansera (for Arkhipova).

(LENINGRAD--CANCER)

ARKHIPOVA, L.I.; BARABANSHCHIKOV, V.V.; BAKHVALOVA, Z.M.;
BOROVINSKAYA, M.A.; GOLOVCHINER, I.Ye.; DZHANGAROVA, P.G.;
YEVDOKIMOV, S.V.; KABANOV, M.M.; KNYAZEVA, T.D.; KOBOZEVA,
N.V.; KOLEGOV, N.I.; LOPOTKO, I.A.; NEGUREY, A.P.;
POLYAKOVA, Z.P.; ROMM, S.Z.; SVETLICHNYY, V.A.; STRAKUN,
I.M. TYAGUN, V.N.; FREYDLIN, S.Ya., prof.

[Dispensary service for the urban population] Dispanseriza-
tsiia gorodskogo naseleniia. Leningrad, Meditsina. 1964.
349 p. (MIRA 17:8)

L 29905-66 EWT(m)/EWP(e) WH

ACC NR: AP6006465

SOURCE CODE: UR/0064/65/000/010/0757/0758

AUTHOR: Shpunt, S. Ya.; Arkhipova, L. N.; Leneva, Z. L.; Guseva, Z.I.

ORG: none

TITLE: The decomposition of apatite by hydrofluoric acid yielding phosphoric acid

40
B

SOURCE: Khimicheskaya promyshlennost', no. 10, 1965, 757-758

TOPIC TAGS: fluorine, fluorine compound, hydrofluoric acid, filtration, phosphoric acid

ABSTRACT: The article gives the reaction and describes the flow schemes for the decomposition of apatite by hydrofluoric acid yielding phosphoric acid. The hydrofluoric acid for this purpose can be obtained from "poor" fluorspar with a large amount of impurity in the form of SiO_2 which, when the ore is treated with sulfuric acid, forms fluosilicic acid which also forwards the decomposition of the apatite. The CaF_2 obtained from the two stage decomposition reaction can be used to prepare pure hydrofluoric acid. In the experiments technical hydrofluoric acid containing $\sim 33\%$ HF and $\sim 5\%$ H_2SiF_6 was used. The experiments proceeded at $\sim 100^\circ\text{C}$ in a laboratory reaction vessels

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L 29905-66

ACC NR: AP6006465

fitted with an electric heater and a mixer and lasted about 30 min. The filtration rate of the precipitate reckoned in dry precipitate was 1,400 kg/(m².hr). The phosphoric acid yield contained 45-48% P₂O₅, 0.3-0.6% CaO and 5-8% F and can be used for the production of double superphosphate or of ammonium phosphates. The flow scheme for the preparation of double superphosphate through the reaction of phosphoric acid and calcium fluoride is also given. Orig. art. has 3 figures and 4 formulas.

SUB CODE: 07/ SOV REF: 002;
SUBM DATE: none/ SOV REF: 002

Card 2/2 CC

SHPUNT, S.Ya.; ARKHIPOVA, L.N.; LENEVA, Z.L.; GUSEVA, Z.I.

Obtaining phosphoric acid by the decomposition of magnesium-
containing phosphorites with fluosilicic acid. Khim. prom.
42 no.9:674-678 S '65. (MIRA 18:9)

ARKHIPOVA, L.N.; SHPUNT, S.Ya.

Solubility of calcium fluosilicate in aqueous solutions of fluosilicic acid. Trudy NIUIF no.208:55-69 '65.

Hydrolysis of calcium fluosilicate in water at 25°. Ibid.:69-88

Some properties of fluosilicic acid. Ibid.:88-103

(MIRA 18:11)

ARKHIPOVA, L.N.

SHPUNT, S.Ya.; VOSKRESENSKIY, S.K.; ARKHIPOVA, L.N.; MOSTOVICH, F.Ye.

Using phosphoric acid extracted from magnesium salts in the production of double superphosphate. Khim. nauka i prom. 2 no.2:270-271 '57. (MIRA 10:6)

1. Nauchno-issledovatel'skiy institut udobreniy i insektofungitsidov.
(Phosphoric acid) (Phosphates) (Magnesium salts)

SHPUNT, S.Ya., ARKHIPOVA, L.N., LENEVA, Z.I., GUSEVA, Z.I.

Decomposition of apatite by hydrofluoric acid with the recovery
of phosphoric acid. Khim. prom. 41 no.10:757-758 O '65.
(MIRA 18:11)

SHPUNT, S.Ya.; VOSKRESENSKIY, S.K.; ARKHIPOVA, L.N.; LENEVA, Z.I.;
Prinimali uchastiye: LI, K.P.; ROGOVA, G.I.; SHADRINA, S.A.;
OSIPOVA, T.N.

Decomposition of apatite in fluosilicic acid and the preparation
of monocalcium phosphate. Khim. prom. no.10:50-54 0 '61.

(MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy
i insektofungitsidov.
(Apatite) (Fluosilicic acid) (Calcium phosphate)

ARKHIPOVA, L.V.; VOL'FKOVICH, S.I.; IGNATOVA, N.P.; KOGAN, L.M.; STRO-
ganov, N.S.

Use of hexachlorobutadiene for combating "blooming" of industrial
water. Khim.prom. no.7:498-501 J1 '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet i Vsesoyuznyy nauchno-
issledovatel'skiy institut khimicheskikh sredstv zashchity ras-
teniy.

ARKHIPOVA, Marina Konstantinovna,; LEVIN, Mikhail Izrailevich,; BENENSON,
A.N., red.; YELAGIN, A.S., tekhn. red.

[Literature on economics] Literstura po ekonomike. Moskva, Izd-vo
"Sovetskaiia Rossia," 1958. 51 p. (MIRA 11:11)
(Bibliography--Economics)

Arkhipova, M.S.

130-7-17/24

AUTHORS: Arkhipova, M.S., Mishin, V.D., Smirnov, N.S., also Koftan, R., and Kanonykhin, G.I. and Lysekov, V.S.

TITLE: Symposium on Tin Economy in Tin-Plate Manufacture. (Ekonomiya olova pri proizvodstve beloy zhesti)

PERIODICAL: Metallurg, 1957, Nr 7, pp.30-34 (USSR)

ABSTRACT: The tin consumed in hot-dip tinning accounts for about half the cost of the tin-plate; only 75-80% of the tin is used for coating the sheet, the rest goes into various waste products: mainly flux and oil scum and crystals of the alloy $FeSn_2$ embedded in lumps of pure metallic tin. Recently ways of extracting tin from these waste products have been developed at various Soviet works and these are described in this symposium. The first contribution (pp.30-32) is by M. S. Arkhipova and V.D. Mishin of the Ural Polytechnic Institute and N.S. Smirnov of the Seversk Metallurgical Works. This describes pilot-plant work on the development of a hydro-metallurgical method of extracting tin from flux scum at the Seversk works; a full-scale plant has been working there since 1954. Flow diagrams for the process are given, together with a graph showing degree of extraction of tin against time of cementation, and optimal conditions are summarised. In the

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E 16176-66 EWT(m)/T/EWP(t) IJP(c) JD

ACC NR: AP5025323 SOURCE CODE: UR/0126/65/020/003/0390/0395

AUTHOR: Klotsman, S. M.; Arkhipova, N. K.; Timofeyev, A. N.; Trakhtenberg, I. Sh.

ORG: Institute of Physics of Metals, AN SSSR (Institut fiziki metallov AN SSSR) ³⁴ B

TITLE: Diffusion of silver in polycrystalline gold

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 3, 1965, 390-395

TOPIC TAGS: silver, gold, volumetric analysis, crystal structure, polycrystal, metal diffusion

ABSTRACT: The present work is a continuation of an earlier investigation by the authors (FTT, 1964, 5, 11, 3978 and FMM, 1963, 16, 4, 611) who needed to know the diffusion of silver in polycrystalline gold in order to continue their research on the effect of an electric field on the intercrystalline diffusion of silver. The volumetric diffusion D_v of silver in gold at 770 - 1040C was determined first by using two methods: (1) the relation of integral intensity I of the γ component of the radiation of silver 110 on the depth of diffusion penetration x, and (2)

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UDC: 539.292 :548.0

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ACG NR: AP5025323

by the direct use of measured values of integral activity. The effect of temperature on the value of D_v was represented by the straight line in the coordinates $\log D_v = f(1/T)$. The formula was derived for the calculation of volumetric diffusion of silver into polymetallic gold:

$$D_{os} = 0,083 \exp \left(-\frac{40400 \pm 500}{RT} \right) \text{ cm}^2/\text{cek.}$$

This agreed well with the results obtained by Mallard et al. (Phys. Rev., 1963, 129, 2, 617). Diffusion annealing at a temperature range of 540- 2750 was made for determining the coefficient of intergranular diffusion D_g . Calculation of D_g was made by the Fisher method (J. Appl. Phys., 1951, 22, 74). The final equation is

$$\delta D_{gp} = 9,5 \cdot 10^{-10} \exp \left(-\frac{16200 \pm 800}{RT} \right) \text{ cm}^2/\text{cek.}$$

where δ is the semiwidth of the grain boundary. Orig. art. has: 7 formulas, 6 figures and 1 table.

SUB CODE: 11,20/ SUBM DATE: 01Feb65/ ORIG REF: 004/ OTH REF: 003

Card 2/2

GORCHAKOVSKIY, I.I.; ARKHENOVA, N.I.

Vegetation of the outcrops of granite, diorite and other rocks
on the eastern slope of the Central Urals. Zap. Sverd. obl. VBO
no. 28:29-29 '64 (MIRA 1882)

ARKHIPOVA, M.S.

MISHIN, V.D.; SMIRNOV, V.I.; ARKHIPOVA, M.S.

Reprocessing the stannic wastes of a tinplating plant. Trudy Ural.
politekh.inst. no.58:97-112 '57. (MIRA 11:4)
(Tin industry--By products)

SMIRNOV, V.I.; ARKHIPOVA, M.S.; KHUDYAKOV, I.F.

Investigation of slags from the fire refining of nickel-copper
and methods of treating them. Trudy Ural. politekh. inst. no.98:
16-23 '60. (MIRA 14:3)

(Copper—Metallurgy)

(Slag)

~~ARKHIPOVA, M.V.~~; SKORLUPKIN, S.F., redaktor; KONASKOVA, I.R., tekhnicheskiy redaktor

[Posters on methods of working coal seams, safety engineering in the coal industry, electric equipment, and electric engineering in mining]
Plakaty po sistemam razrabotki ugol'nykh plastov, tekhnike bezopasnosti v ugol'noi promyshlennosti, gornoi elektromekhanike i elektrotekhnike.
[Moskva] Ugletekhizdat, 1956. 6 p. (MIRA 10:8)

1. Moskovskaya oblastnaya kontora knizhnoy trgovli.
(Posters) (Coal mines and mining)