S/182/60/000/003/004/007
A161/A029

AUTHORS: Bark, S.Ye.; Kozlova, A.V.; Kuvshinnikov, V.M.; Skvortsova, M.I. Ustinov, V.A.

TITLE: Non-Oxidant Steel Heating in Continuous Three-Zone Furnace With the Use of Oxygen

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 3, pp. 28 - 33

TEXT: The article contains a brief discussion of the general design principles of new heating furnaces developed in the USSR (at TsNIITMASh, Teploproyekt, ZIL) and by "Incandescent" (British), working with heated air, and detailed description of an experimental furnace using air mixed with oxygen and natural gas. The advantage of the new design is its simplicity and dependable operation. The furnace (Fig. 4, drawing) has three chambers, all 240 mm wide and 420 mm high, with a 140 mm groove in the bottom. Steel blanks are pushed into the grooves. There are 4 burners in the first 980 mm long chamber (design of the burner described and shown in Fig. 2). The second 700 mm long chamber is separated by a wall from the first, and the products of incomplete combustion get into the second through an opening in the wall. The second chamber is separated

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into two horizontal compartments by a carborundum plate; incomplete combustion products flow through it, and air is let in by a 40 mm diameter opening to continue combustion. Air is let also into the third 280 mm long chamber where combustion is completed. Operation is controlled by throttle diaphragms. The furnace frame is sealed tight, and covers in the vault are sealed with sand. Heated blanks move out through an opening in the bottom fitted with a special door. The walls are screened off with duralumin sheets to keep down the temperature on the outside. The combustion products pass through a recuperator out of the building, and a smoke exhauster on the way from the charging door prevents combustion products from bursting out into the shop. The work capacity of the furnace is 207 to 259 kg/h. Blanks are pushed in (by the pusher, "6" in Fig. 4) every 2.5 min. The furnace operation is described. The data include the quantities of gas and oxygen used; the temperature of air fed into the burners; the chemical composition of combustion products in the chambers, etc. Metal structure shown in two photographs (Figs. 6 amd 7) is obtained ("a") after non-oxidant heating to 1,250°C, and ("b") after subsequent water quenching and normalization (packing in cast iron chips). The furnace design has proved suffi-

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ciently good to start design development and output for the industry. It is concluded that in further work the furnaces may be improved to raise their efficiency from 24 - 28 to 40%, and cut the oxygen consumption from 50 - 60 to 35 - 40 m^3/ton. Besides, regenerative furnaces must be further studied in which air is heated to 1,000°C and protective atmosphere fed to the blank surface. There are 7 figures.

Card 3/3

Synthetic Zeolites: (Cont.) SOV/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

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Synthetic Zeolites: (Cont.) SOV/6246

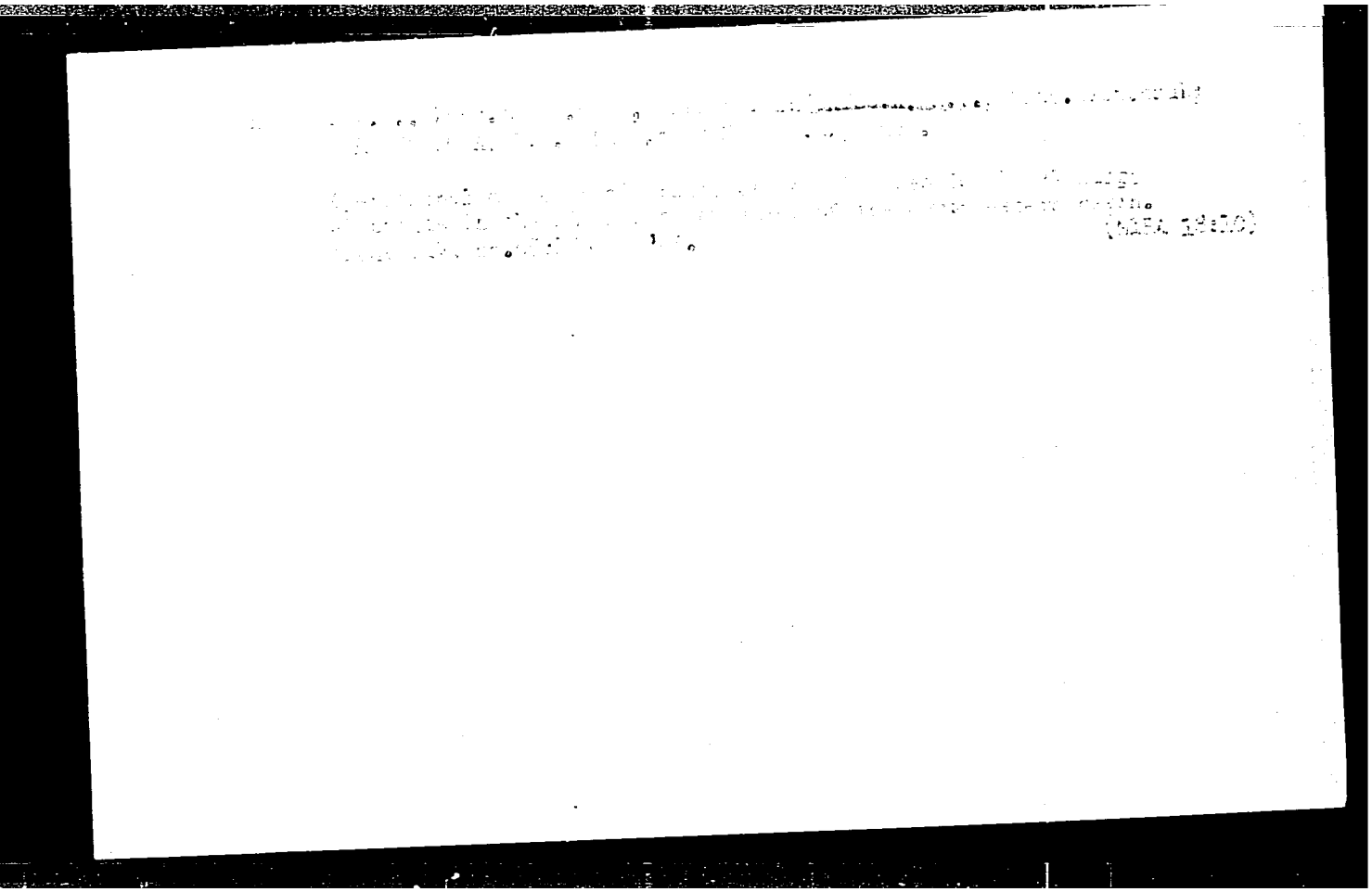
Bark, S. Ye., N. V. Kel'tsev, I. P. Ogloblina, N. M. Sergeyeva, M. I. Skvortsova, and N. S. Torocheshnikov. The Application of Synthetic Zeolites as Molecular Sieves for Preparing Protective Atmospheres 276

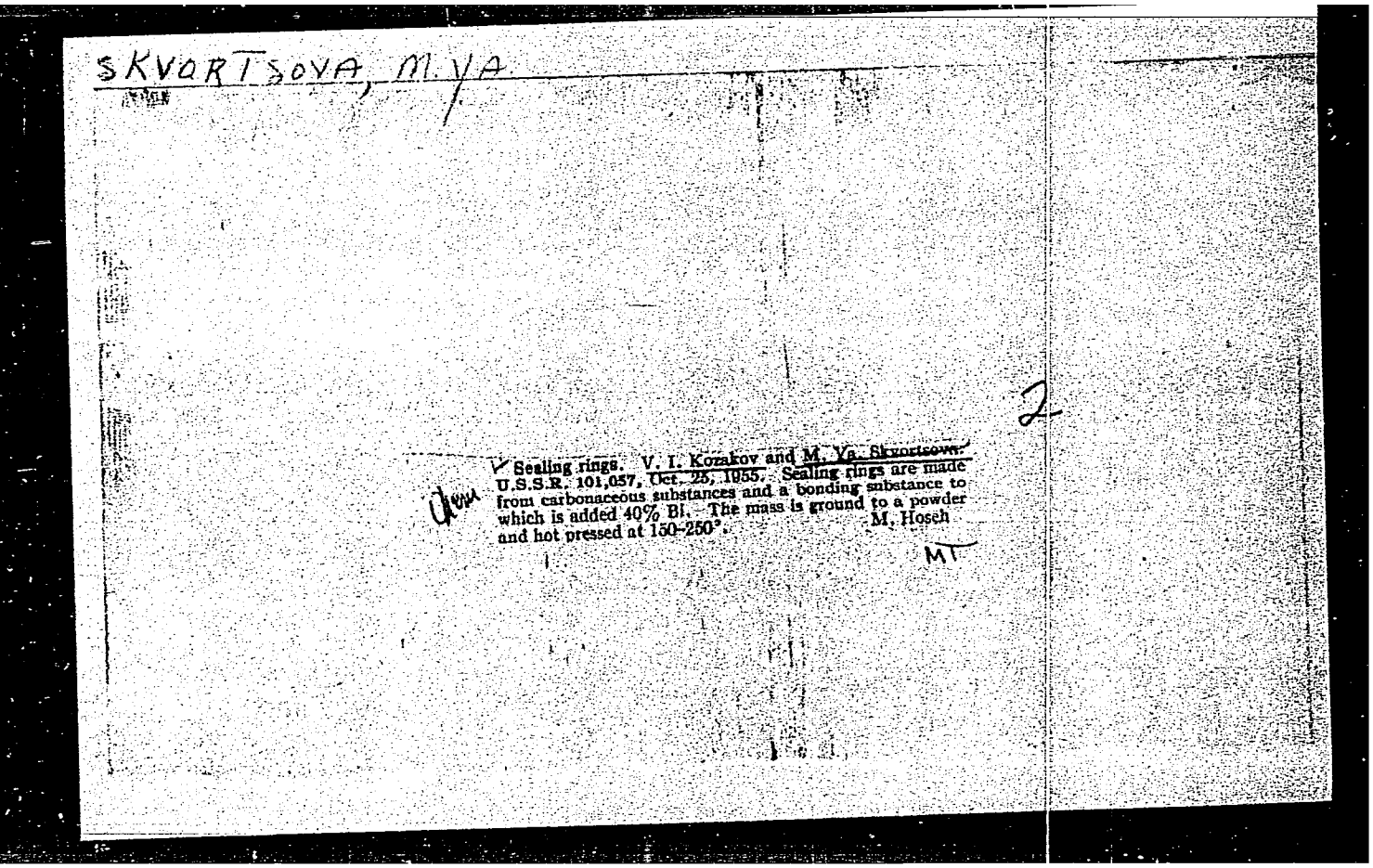
AVAILABLE: Library of Congress

SUBJECT: Chemical Engineering

BN/fmr/jk
3/13/63

Card 12/12 3/3





SKVORTSOVA, M. YA.

2

Sealing rings. V. I. Kozakov and M. Ya. Skvortsova. U.S.S.R. 101,057, Oct. 25, 1955. Sealing rings are made from carbonaceous substances and a bonding substance to which is added 40% Bi. The mass is ground to a powder and hot pressed at 150–250°. M. Hosch

MT

CHUDARS, Ya. [Cudars, J.]; SKVORTSOVA, N.

Physical basis for the determination of the moisture of peat by the neutron method. Izv. AN Latv. SSR no.5:75-83 '62. (MIRA 16:7)

(Peat--Analysis) (Neutrons) (Moisture)

CHUDARS, Ya.[Cudars, J.]; SKVORTSOVA, N.; MAKSIMOV, R.

Comparison of the possibilities of determining the moisture content of building materials using neutron radiation and neutron backscattering methods. Izv. AN Latv. SSR no.10: 91-98 '62. (MIRA 16:1)

1. Institut fiziki AN Latviyskoy SSR.

(Building materials—Testing)
(Neutrons) (Moisture)

SKVORTSOVA, N. A. Cand. Tech. Sci.

Dissertation: "Investigation of the Geometry of Internal Evolvent Gearing for the Case when the difference of Gear-Tooth Numbers is Unity."

28 Nov. 49

Moscow Order of the Labor Red Banner Higher Technical School imeni Bauman

SO Vecheryaya Moskva
Sum 71

SKVORTSOVA, N. A.

"Investigation of the Geometry of Internal Evolvent Gearing in a Case Where the Difference of Gear-Tooth Numbers is Unity." Thesis for degree of Cand. Technical Sci. Sub 28 Nov 49, Moscow Order of the Labor Red Banner Higher Technical School imeni Bauman.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

SKVORTSOVA, N. A.

(2) Mech Des

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Skvorcova, N. A. Internal involute gearing with tooth-number difference of one. Akad. Nauk SSSR. Trudy Sem. Teorii Mašin i Mehanizmov 7, no. 25, 85–90 (1949). (Russian)

If z and z' are the numbers of teeth, and $z-z'=1$, the transmission ratio is z. The feasibility of large z for internal involute gearing has been questioned because standard hob profiles cannot be used. Using the hob profile of Gavrilenko [A geometric theory of involute gearing, Mašgiz, 1949] the authoress has successfully produced gears of $z=24$, 31, 40, 49, and 100. *A. W. Wundheiler* (Chicago, Ill.).

SKVORTSOVA, N.A., inzh.

Freight mooring of the Votkinsk Hydroelectric Power Station on the Kama River. Energ. stroi. no.26:68-69 '61. (MIRA 15:7)

1. Stroitel'stvo Votkinskoy gidroelektrostantsii.
(Votkinsk Hydroelectric Power Station—Wharves)

POPOV, S.A., kand. tekhn. nauk, dots.; LUKICHEV, D.M., kand. tekhn. nauk, dots.; SKVORTSOVA, N.A., kand. tekhn.nauk, dots.; NIKONOROV, V.A., kand. tekhn. nauk, dots.; MINUT, S.B., dots.; RESHETOV, L.N., doktor tekhn. nauk, prof.; NIKOLAYEVSKIY, Ye.V., assist.; MASTRYUKOVA, A.S., kand. tekhn. nauk;

[Theory of mechanisms] Teoriia mekhanizmov; kurs lektsii. [By] S.A.Popov i dr. Pod red. L.N.Reshetova. Moskva, No.5. 1962. 123 p. (MIRA 16:7)

1. Moscow. Moskovskoye vyssheye tekhnicheskoye uchilishche. (Mechanisms)

GAVRILENKO, V.A., doktor tekhn.nauk, prof. Prinimali uchastiye: DAVIDOV, Ya.S.; SKVORTSOVA, N.A.; LUKICHEV, M.S.; REZEZOVA, N.Ye.; CHASOVNIKOV, L.D., kand. tekhn. nauk, retsenzent; DAVIDOV, Ya.S., kand. tekhn. nauk, red.; MERENSKAYA, I.Ya., red. izd-va; UVAROVA, A.F., tekhn. red.

[Gear transmissions in the manufacture of machinery; theory of involute gears]Zubchatye peredachi v mashinostroenii; teoriia evol'ventnykh zubchatykh peredach. Moskva, Mashgiz, 1962. 530 p. (MIRA 15:11)

(Gearing)

SKVORTSOVA, N.A., kand.tekhn.nauk, dotsent; LUKICHEV, D.M., kand.tekhn.nauk, dotsent

Selection of parameters of involute internal gears. Vest.mashinostr. 44 no.3:3-9 Mr '64. (MIRA 17:4)

FLID, R.M.; SKVORTSOVA, N.F.

Catalytic alkylation of benzene with dimethyl ether. Khim. nauka i prom. 3 no.2:286-287 '58. (MIRA 11:6)

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

(Benzene) (Alkylation) (Ether)

SOV/80-59-1-41/44

AUTHORS: Plig, R.M., Minsker, K.S. and Skvortsova, N.F.

TITLE: Production of Methyl Chloride by the Catalytic Hydrochlorination of Dimethyl Ester (Polucheniye khloristogo metila kataliticheskim gidrokhlorirovaniyem dimetilovogo efira)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 230-235 (USSR)

ABSTRACT: The dimethyl ester is formed as a by-product in a number of technological processes, and this raises the problem of its effective utilization. The authors show that it can be used for obtaining methyl chloride in its catalytic interaction with hydrogen chloride. The most active catalyzers are γ-Al_2O_3 (375 to 400°C); $CdCl_2$ on the activated carbon AR-3 (275 to 300°C) and $ZnCl_2$ on the activated carbon AR-3 (120 to 200°C). At the volume velocity of 300 to 400 l/l cat.hr the yield of CH_3Cl attains the following values: 95 to 96%; 85 to 97% and 78 to 82% respectively. A preliminary saturation of the catalyzer surface with hydrogen chloride is necessary for the main-

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Production of Methyl Chloride by the Catalytic Hydrochlorination of Dimethyl Ester

tenance of high activity of the process.
There are 2 tables and 2 Soviet references.

SUBMITTED: May 13, 1957

Card 2/2

SKVORTSOVA, N.I.; CHUDARS, Ya.E. [Cudars, J.]

Feasibility of determining the humidity of peat by the neutron method. Inzh.-fiz.zhur. 5 no.4:58-63 Ap '62. (MIRA 15:4)

1. Institut fiziki AN Latviyskoy SSR, Riga.
(Peat--Testing) (Neutrons)

SKVORTSOVA, N. I. Cand Chem Sci

Dissertation: "Synthesis of the New Analogs of Lonone." 9/5/50

All-Union Sci Res Inst of Synthetic and Naturals Scents, Ministry of Food Industry USSR

SO Vecheryaya Moskva
Sum 71

KONDRATSKIY, A.P.; SOKOL'NIKOV, N.P.; SKVORTSOVA, N.I., kandidat khimicheskikh nauk, redaktor.

[Manual for laboratory workers in essential-oil enterprises] Rukovodstvo dlia laborantov efiromaslichnykh predpriiatii. Moskva, Pishchepromizdat, 1953. 126 p. (MLRA 7:3)
(Essences and essential oils)

BELOV, V.N., doktor khimicheskikh nauk, laureat *Stalinskoy premii*; *DIL'MAN, T.A.*, inzhener; KROKHIN, N.G., kandidat tekhnicheskikh nauk; PETROVA, L.N., kandidat khimicheskikh nauk; SKVORTSOVA, N.I., kandidat khimicheskikh nauk; RODIONOV, Vladimir Mikhaylovich, akademik, redaktor.

[Chemistry and technology of aromatic substances] Khimiia i tekhnologiia dushistykh veshchestv. Moskva, Gos. izd-vo Ministerstva legkoi i pishchevoi promyshl., 1953. 299 p. (MLRA 7:1)
(Essences and essential oils)

SKVORTSOVA, N.I.

USSR/Chemistry--Aromatics

Card 1/1 Pub. 86--4/33

Authors : Belov, V. N., and Skvortsova, N. I.

Title : Aromatic substances

Periodical : Priroda 43/11, 33--41, Nov 1954

Abstract : A historical account is given of the extraction of perfumes from organic material and the way in which this contributed to the development of organic chemistry is pointed out. After the chemical formulas of natural perfumes were established, chemists succeeded in producing them synthetically and then proceeded to the synthetization of aromatic compounds not found in nature.

Institution : ....

Submitted : ....

AUTHORS: Byelov, V. N.; Dayev, N. A.; Skvortsova, N. I.; Smol'yaninova, Ye. K. (Moscow)

TITLE: Progress in Chemistry of *Perfumes* (Uspekhi khimii dushistykh veshchestv)

PERIODICAL: Uspekhi Khimii, 1957, Vol 26, Nr 1, pp 96-134 (U.S.S.R.)

ABSTRACT: A review is presented of various research work in the chemistry of perfumes and important semiproducts of their synthesis. The achievements of various Soviet and foreign researchers are listed. One group of Soviet chemists - Samokhvalov, Miropol'skaya, Vakulova, Preobrazhenskiy (10 - 12) have synthesized pseudoionone from methylheptenone through condensation with ester of gamma-bromocrotonic acid by means of the Reformatskiy reaction. The Lurie and Skvortsova team synthesized a number of ionone analogues with more complex side chain in the C_2 atom. B. A. Arbuzov and Mukhamedova (47-48) prepared isomers and ionone analogues with the methylene bridge in the cyclohexane ring and obtained analogous products through condensation with ketones for campholene aldehyde. A special section is devoted to the study of ambergris and the synthesis of perfumes with the scent of amber. Soviet chemists described the syntheses of three macrocyclic compounds: heptadecanolide from sebacic acid (75); dihydroambretolide from azelaic acid (76); and

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consider that the extent of the research work carried on in this direction is still insufficient to offer a rapid solution to the complex problems facing the perfume industry.

Four tables; there are 217 references, of which 67 are Slavic.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 3/3

SOKOL'NIKOV, N.P., inzh.; KONDRATSKIY, A.P., prof. [deceased]; VOYTKEVICH, S.A., kand.khim.nauk, retsenzent; SKVORTSOVA, N.I., kand.khim. nauk, spetsred.; KALMENS, R.I., red.; DOBUZHINSKAYA, L.V., tekhn.red.

[Production of essential oils] Tekhnologiia efiromaslichnogo proizvodstva. Moskva, Pishchepromizdat, 1958. 201 p. (MIRA 12:6) (Essences and essential oils)

MOLDOVANSKAYA, G.I.; NOVIKOVA, Ye.N.; SKVORTSOVA, N.I.; ZOBOV, Ye.N.

Utilization of the polarographic method for the analysis of orris oil. Trudy VNIISNDV no.4:194-197 '58. (MIRA 12:5)
(Essences and essential oils--Analysis)
(Polarography)

SOV/79-29-9-65/76

5(3)

AUTHORS: Skvortsova, N. I., Tokareva, V. Ya., Belov, V. N.

TITLE: Synthesis of Nerolidol, Methyl Nerolidol, Farnesal and Methyl Farnesal

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 3113-3117(USSR)

ABSTRACT: Among the investigations published in recent years the synthesis of the compounds with terpenoid structure, which are important for perfumery, was carried out by using geranyl chloride (I) (8-chloro-2,6-dimethyl octadiene-2,6) and methyl geranyl chloride (II) (8-chloro-2,3,6-trimethyl octadiene-2,6) as intermediate products (Refs 1-5). Since there are good methods of synthesizing these chlorides and since they will be industrially produced in the near future the authors used chloride (I) and (II) for the synthesis of the following compounds: nerolidol (V) (2,6,10-trimethyl dodecatriene-2,6,11-ol-10), methyl-nerolidol (VI)(2,3,6,10-tetramethyl dodecatriene-2,6,11-ol-10), farnesal (VII)(2,6,10-trimethyl dodecatriene-2,6,10-al-11), methyl farnesal (VIII)(2,3,6,10-tetramethyl dodecatriene-2,6,10-al-11) (Reaction Scheme). The formation of geranyl acetone (III) (2,6-dimethyl undecadiene-2,6-on-10) by reacting geranyl chloride with acetic acid ester is described in publications (Refs 5, 6). In the present paper the synthesis of geranyl

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Synthesis of Nerolidol, Methyl Nerolidol, Farnesal and Methyl Farnesal

acetone and methyl geranyl acetone (IV) (2,3,6-trimethyl undecadiene-2,6-on-10) was carried out without separation of the substituted acetoacetic ester from the reaction mixture. The transformation of the ketones (III) and (IV) into the tertiary alcohols (V) and (VI) was made by reacting these ketones with vinyl magnesium bromide according to H. Normant (Ref 7). The transition from the tertiary alcohols (V) and (VI) into the aldehydes (VII) and (VIII) took place via the alkyl regrouping and the oxidation according to the method generally used for such transformations (Ref 6). The constants of the synthesized nerolidol and farnesal samples agree with those given in publications. Methyl nerolidol and methyl farnesal have hitherto been unknown. There are 12 references, 6 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv (Scientific Research Institute of Synthetic and Natural Aromatic Substances)

SUBMITTED: August 25, 1958

BELOV, V.N., prof.; DAYEV, N.A.; SKVORTSOVA, N.I.

Achievements in and prospects for the development of the industry of odorous substances. Zhur. VKHO 5 no.4:362-370 '60. (MIRA 13:12)

(Odorous substances)

SAVORTSOVA, N. I., CHUDAR, Ya. E.

"On the Possibility of Determining the Moisture of Peat by the Neutron Method"

paper presented at the All-Union Seminar on the Application of Radioactive Isotopes in Measurements and Instrument Building, Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

SKVORTSOVA, N.I.; TOKAREVA, V.Ya.; BELOV, V.N.

Synthesis of methyl farnesol, farnesol, methyl farnesal, and farnesal. Trudy VNIISNDV no.5:37-40 '61. (MIRA 14:10)
(Farnesal) (Farnesol)

KARYAKIN, A.V.; TOKAREVA, V.Ya.; SKVORTSOVA, N.I.

Quantitative determination of α- and β- ionones in their mixtures. Trudy VNIISNDV no.5:72-75 '61. (MIRA 14:10)
(Ionone)

SKVORTSOVA, N.I.; BRENCH, T.A.; BABUSHKINA, M.P.; GUREVICH, A.V.

Preparation of methylgeranyl chloride. Trudy VNIISNDV no.6: 17-19 '63. (MIRA 17:4)

MELESHKINA, G.V.; SKVORTSOVA, N.I.

Diene synthesis in the preparation of odorous substances. Trudy VNIISNDV no.6:21-25 '63. (MIRA 17:4)

BELOV, V.N.; SKVORTSOVA, N.I.

Advances in the synthesis of odorous substances of isoprenoid structure. Usp. khim. 32 no.3:265-304 Mr '63. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv (VNIISNDV).
(Odorous substances) (Isoprenoids)

BELOV, V.N., [illegible]; SKVORTSOVA, N.A.

Advances in the synthesis of macrocyclic and other odorous substances. Usp.khim. 33 no.7:785-815 Jl '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i prirodnykh dushistykh veshchestv.

PROMONENKOV, V.K.; SKVORTSOVA, N.I.; BELOV, V.N. [deceased]; KAMENSKIY, A.B.; RODIONOVA, N.V.

Some transformations of 3-methyl-4-(cyclopenten-2'-yl)buten-2-al. Zhur. org. khim. 1 no.8:1431-1434 Ag '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

GOL'DBERG, M.S., doktor med. nauk; GLEBOVA, L.F., kand. med. nauk; DOKUCHAYEVA, V.F., kand. med. nauk; PERSHIN, A.A., kand. med. nauk; SKVORTSOVA, N.N., kand. med. nauk; POLEZHAYEV, N.G., kand. biol. nauk; SENDERIKHINA, D.P., kand. biol. nauk; KIMINA, S.N., nauchn. sotr. Prinimal uchastiye NEDOGIBCHENKO, M.K.; LYUDKOVSKAYA, N.I., tekhn. red.

[Methodological instructions on the organization of research on the pollution of air and the study of the effect of atmospheric pollution on the health and sanitary and hygienic living conditions of the population] Instruktivno-metodicheskie ukazaniia po organizatsii issledovaniia zagriazneniia atmosfernogo vozdukha i izucheniia vliianiia atmosfernykh zagriaznenii na zdorov'e i sanitarno-gigienicheskie usloviia zhizni naseleniia. Moskva, Medgiz, 1963. 203 p. (MIRA 16:12)

1. Russia (1923- U.S.S.R.) Vsesoyuznaya gosudarstvennaya sanitarnaya inspektsiya. 2. Starshiy gosudarstvennyy sanitarnyy inspektor Gosudarstvennoy sanitarnoy inspektsii Ministerstva zdravookhraneniya SSSR (for Nedogibchenko).
(Air--Pollution)

SKVORTSOVA, N.N., mladshiy nauchnyy sotrudnik

Hygienic evaluation of carbon monoxide pollution of air in the vicinity of iron plants [with summary in English]. Gig. i san. 22 no.12:3-9 D '57 (MIRA 11:3)

1. Iz Instituta obshchey i kommunal'noy gigiyeny AMN SSSR.
(AIR POLLUTION
by carbon monoxide in vicinity of iron-works (Rus)
(CARBON MONOXIDE,
air pollution in vicinity of iron-works (Rus)

SKVORTSOVA, N. ., DYACHEV, S. ., KONDRON, I. S., SOLTYSSKIY, YE. I., KOLTUNOVA, A. S., ITSKOVA, A. I., RAPOPORT, E. A.

"Hygienic Standardization of the Content of Mineral Salts in the Drinking Water."

report submitted at the 13th All-Union Congress of Hygientists, Epidemiologists and Infectionists, 1959.

SKVORTSOVA, N. N., Cand of Med Sci -- (diss) "Hygenic Evaluation of the Polution of the Atmosphere by Carbon Monoxide in the Area of Ferrous Metallurgical Plants," Moscow, 1959, 15 pp (Acad of Med Sci USSR) (KL, 5-60, 130)

DOKUCHAYEVA, V.F., kand.med.nauk; SKVORTSOVA, N.N., vrach.

Use gas correctly. Zdorov'e 6 no.12:29 D '60. (MIRA 13:12)
(GAS BURNERS—SAFETY MEASURES)

DOKUCHAYEVA, V.F., starshiy nauchnyy sotrudnik; SKVORTSOVA, N.N., starshiy nauchnyy sotrudnik

Contamination of the air by manganese compounds and their effect on the organism. Pred.dop.kontsent.atmosf.zagr. no.6:68-80 '62. (MIRA 15:9)

1. Iz Instituta obshchey i kommunal'noy gigiyeny imeni A.N. Sysina AMN SSSR.
(MANGANESE COMPOUNDS--PHYSIOLOGICAL EFFECT) (AIR--POLLUTION)

SKVORTSOVA, N. T.

FAYNBERG, A.I., kand.ekon.nauk; DOMBROVSKIY, A.A., kand.ekon.nauk; POPOV, N.S., kand.ekon.nauk; SKVORTSOVA, N.T., kand.ekon.nauk; STROGANOVA, T.A., kand.ekon.nauk. Prinimali uchastiye: BOLOTINA, O.A., kand.ekon.nauk; GUL'BINOVICH, M.I., PROTSENKO, D.I., red.; SALAZKOV, N.P., tekhn.red.

[Economics, organization, and planning of municipal services] Ekonomika, organizatsiia i planirovanie gorodskogo khoziaistva. Pod obshchei red. A.I.Fainberga. Moskva, Izd-vo M-va kommun. khoz.RSFSR, 1959. 451 p. (MIRA 13:2)
(Municipal services)

FEDOROVICH, M.M., prof.; CHEREYSKAYA, N.N., dots., kand. ekon. nauk; NELIDOV, I.Ye., dots., kand. tekhn. nauk; KOZHIN, L.P., kand. ekon. nauk; RUMYANTSEVA, Z.P., dots., kand. ekon. nauk; BUGROV, Ye.P., doktor tekhn. nauk, prof.; SKVORTSOVA, N.T., kand. ekon. nauk; FEDOROVICH, M.M., prof., red.; PETRUSHEV, I.M., red.; PONOMAREVA, A.A., tekhn. red.

[Mathematical methods in production planning] Matematicheskie metody v planirovanii proizvodstva. Moskva, Izd-vo ekon. lit-ry, 1961. 150 p. (MIRA 14:8)

1. Moskovskiy inzhenerno-ekonomicheskiy institut im. S.Ordzhonikidze (for Fedorovich, Chereyskaya, Nelidov, Kozhin, Rumyantsev, Bugrov, Skvortsova)

(Economics, Mathematical)

SKVORTSOVA, N.T.

Ontogenesis of leaves and comparative anatomical characteristics of nine tomato varieties. Bot.zhur. 41 no.3:389-393 Mr '56. (MLRA 9:8)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.
(Tomatoes) (Leaves)

SKVORTSOVA, N.T.

Anatomy of the flower in Magnolia grandiflora L. Bot.zhur. 43 no.3:401-408 Mr '58. (MIRA 11:5)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
(Magnolia) (Inflorescence)

SKVORTSOVA, N. T.

Structure of the epidermis in representatives of the family Hamamelidaceae. Bot. zhur. 45 no.5:712-717 My '60.
(MIRA 13:7)
(Witch hazel) (Epidermis) (Botany--Anatomy)

SKVORTSOVA, N.T.

Anatomical structure of the conducting system of petioles in plants of the families Hamamelidaceae and Altingiaceae. Dokl.AN SSSR 133 no.5:1231-1234 Ag '60. (MIRA 13:8)

1. Botanicheskiy institut imeni V.L. Komarova Akademii nauk SSSR. Predstavleno akad. G.N. Sukachevym.
(Leaves--Anatomy)
(Witch hazel)

SKVORTSOVA, N.T.

Leaf venation in species of the family Hamamelidaceae. Trudy Len. khim.-farm. inst. 12:75-83 '61. (MIRA 15:3)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.

(WITCH HAZEL)
(LEAVES--ANATOMY)

SKVORTSOVA, N.T.

Morphology of the genus Hamamelis L. Bot. zhur. 50 no.8:1143-1148 Ag '65. (MIRA 18:10)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.

L 58523-65 EWG(j)/EWG(r)/EWG(v)/EWG(a)-2/EWG(c)/EWT(1)/FS(v)-3 Pb-4 DD
ACCESSION NR: AP5014230 UR/0385/65/001/002/0133/0137
612.744 : 019 : 612.014.41

AUTHOR: Lebedeva, N. A.; Skvortsova, N. V.; Ivanov, I. I.

TITLE: Effect of high pressure on the properties of actomyosin from warm-blooded and cold-blooded animals

SOURCE: Zhurnal evolyutsionnoy biokhimii i fiziologii, v. 1, no. 2, 1965, 133-137

TOPIC TAGS: actomyosin, high pressure effect, protein metabolism, adenosine triphosphoric acid

ABSTRACT: ATPase activity in actomyosin isolated from the muscles of warm-blooded animals (rabbits, pigeons) was found to be much more resistant to high pressures ranging from 500 to 3500 atm than it was in actomyosin isolated from cold-blooded animals (carp, frogs). Solutions of rabbit and pigeon actomyosin were much less viscous than those of carp and frog actomyosin. The addition of ATP to these solutions reduced viscosity 85-90 and 65-75%, respectively. The former solutions were much more resistant to high pressure than the latter, possibly because of structural differences between homoiothermic and poikolothermic animals. The application

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ACCESSION NR: AP5014230

of 500-4000 atm of pressure had no effect on the total SH groups in the actomyosin of the animals studied, but it increased the quantity of freely reacting SH groups in all cases. Although actomyosin in both the homoiotherms and poikolotherms varied with respect to ATPase activity, viscosity, and content of freely reacting SH groups after exposure to high pressure, the protein complex, regardless of its source, dissolved more or less readily in 0.6 M KCl. The behavior of actomyosin in animals at different stages of evolution suggests that there are different protein "families" involved. Orig. art. has: 1 figure, 3 tables.

ASSOCIATION: Kafedra biokhimii Leningradskogo pediatricheskogo meditsinskogo instituta (Department of Biochemistry, Leningrad Pediatrics Medical Institute)

SUBMITTED: 11Sep64 ENCL: 00 SUB CODE: LS

NO REF SOV: 007 OTHER: 001

Card 2/2

SKVORTSOVA, Nina Yakovlevna; SMORODOV, P.V., red.; PETROVA, O.B., tekhn. red.

[What we get from the hybrid of forage cabbage with rutabaga] Chto nam daet gibrid kormovoi kapusty s briukvoi. Petrozavodsk, Gos. izd-vo Karel'skoi ASSR, 1960. 15 p. (MIRA 14:12)

1. Glavnyy agronom sovkhoza "Bol'shevik" Sortaval'skogo rayona (for Skvortsova).
(Forage plants) (Hybridization, Vegetable)

SKVORTSOVA, N. Ye. and PENIN, N. A.

"The Properties of Germanium Detectors With a Welded Contact on Ultrahigh Frequencies," by N. A. Penin and N. Ye. Skvortsova, Radiotekhnika i Elektronika, No 8, Aug 56, pp 1071-1079

The capacitance and resistance of the barrier layer of germanium detectors with a welded contact in the interval from 1,000 to 6,000 megacycles for different positive displacement currents were investigated.

It was demonstrated that the capacitance and conductance of the barrier layer at high frequencies vary linearly with positive displacement current and that the capacitance and resistance of the barrier layer are inversely proportional to the square root of the frequency.

The experimental data obtained were in good agreement with the diffusion theory of electron-hole transition, which takes into account the injection of the nonequilibrium charge carriers.

In a footnote the following observation was made: "We could not follow through the frequency dependence of sensitivity in a large interval of frequencies because of the difficulty of measuring small quantities of power in wide frequency ranges."

Sum 1258

AUTHOR SKVORTSOVA, N.E. PA - 2590

TITLE The Study of Input Resistances and the Control of an Equivalent Scheme of Germanium Detectors in the Frequency Range of 1000 — 10 000 Mc/s. (Issledovaniye vkhodnykh soprotivleniy i eksperimental'naya proverka ekvivalentnoy skhemy germaniyevykh detektorov v diapazone 1000 - 10000 Mgts Russian)

PERIODICAL Radiotekhnika i Elektronika, 1957, Vol 2, Nr 3, pp 296-310 (U.S.S.R.)
Received 5/1957 Reviewed 6/1957

ABSTRACT This work was undertaken for the purpose of examining the possibility of using a scheme with germanium detectors within the range of from 1000 to 10 000 Mc/s and to determine the dependence of the input resistance of the detectors on frequency, the type of excitation, the specific resistance of germanium and the peculiarities of detector construction. An equivalent electric scheme with the usual detector construction was used. The amount of the capacity and the resistance of a rectification current was determined in two different manners by the application of the theory of the linear passive fourpole. Herefrom the amount of the elements of the equivalent scheme were then computed. The theoretical analysis of thia scheme showed that the increase of the capacity of the detector shell of from 0 to 0,25 nF causes no essential modification of the input resistance of the detector within the centimeter range of the waves at a wave length of less than 5 cm. A modification of the order of inductivity of the contact wire, the capacity and the resistance of the rectifying layer offers the possibility of modifying the input resistances of the detectors within a wide range. The detectors within the 50 Ohm line in most cases have a co-

AUTHORS: Penin, N.A. and Skvortsova, N.Ye. 109-3-2-15/26

TITLE: Impedance of the Rectifying Junction of Germanium and Silicon Detectors at Ultrahigh Frequencies (Polnoye soprotivleniye vypryamlyayushchego kontakta germaniyevykh i kremniyevykh detektorov na sverkhvysokikh chastotakh)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.II, No.2, pp. 267 - 275 (USSR).

ABSTRACT: The impedance was measured by two methods. In the first method, the impedance was determined by measuring the high-frequency impedance of the detector (see Ref.1). In the second method, a special compensating transformer was employed. The transformer, tuned to a given wavelength in such a way as to obtain a transformation ratio equal to unity, was connected at the input of the detector holder. The tuning of the transformer was also arranged in such a way as to compensate all the reactive elements of the equivalent detector circuit. Under these conditions, the load of the coaxial line was equal to the impedance of the rectifying junction plus the series resistance of the semi-conductor wafer. The trimming of the transformer was done by means of three detector cartridges. The measurements were carried out at wavelengths ranging from 30 to 6 cm by means of a coaxial line having a wave impedance

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Impedance of the Rectifying Junction of Germanium and Silicon Detectors at Ultrahigh Frequencies

of 50 Ω . The investigated detector was situated in a coaxial holder and the capacitance and resistance of the rectifying layer were determined by measuring the real and the imaginary components, x and y , of the rectifying junction impedance. The positive biassing currents employed in the investigations were in the range from 0 to 20 mA. The results are given in Figs. 1, 2, 3, 4 and 5. The curves of Fig.1 represent x and y components for a germanium detector having a soldered point contact and a resistivity of ρ = 0.006 Ωcm as a function of the biassing current I ; Curve 1 was taken at a wavelength λ = 6.12 cm, Curve 2 at λ = 21.2 cm and Curve 3 at λ = 30 cm Curves of x and y as a function of I , at λ = 6.12 cm, are shown in Fig.2 for the following values of ρ : 1) ρ = 0.006 Ωcm, 2) ρ = 0.02 Ωcm and 3) ρ = 0.2 Ωcm. Fig. 3 shows the same parameters as in Fig.2, except that the measurements were made at λ = 30 cm. Values of x and y as a function of I for a germanium detector fitted with a pressure-type contact are shown in Fig.4, while similar curves for a silicon detector type ГК-B2 are given in Fig.4. Theoretically, the impedance of a semi-conductor junction can be represented by the equivalent circuit shown in Fig.6, where R, C_D and C_3 can

Impedance of the Rectifying Junction of Germanium and Silicon Detectors at Ultrahigh Frequencies

be expressed by Eqs.(1), (2) and (3), respectively; in these equations, S is the area of the contact, ε is the permittivity of germanium, N_d is the donor concentration in the n-region, φ_k is the contact potential difference and

$$C_o = S\sqrt{\frac{\varepsilon q N_d}{8\pi\varphi_K}} \quad .$$

An analysis of the above expressions and a comparison with the experimental results show that the theory is in good agreement with the measurements. The theoretical and experimental results are compared in Fig.7. There are 7 figures, 1 table and 4 references, 3 of which are Russian and 1 English.

SUBMITTED: May 28, 1957

AVAILABLE: Library of Congress

Card3/3 1. Germanium-Detectors 2. Silicon-Detectors 3. Impedance-Measurement

SOV/58-59-7-16214

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 227 (USSR)

AUTHORS: Rusin, F.S., Skvortsova, N.Ye., Sokolov, Yu.F.

TITLE: Methods for Determining the Parameters of the Rectifying Contact of Point Microwave Detectors

PERIODICAL: V sb.: Poloprovodnik. pribory i ikh primeneniye. Nr 3. Moscow, "Sov. radio", 1958, pp 13 - 30

ABSTRACT: The authors describe methods for determining the basic parameters of the point contacts of microwave detectors. They estimate the maximum microwave power that is permissible under the described measurement methods. They describe methods of measuring the impedance Z of the rectifying contact, from whose dependence on the constant displacement current it is easy to obtain the values of C_o (the charge capacity) r (the resistance against fanning out through the thickness of the semiconductor), and τ (the lifetime of the minority carriers). They

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SOV/58-59-7-16214

Methods for Determining the Parameters of the Rectifying Contact of Point Microwave Detectors

provide a method for determining the parameters of the rectifying contact from the dependence of the detector's voltage sensitivity β_u on the constant positive displacement current.

The authors' résumé

Card 2/2

SOV-109-3-4-12/28

AUTHORS: Penin, N. A., Rusin, F. S. and Skvortsova, K. Ye.

TITLE: Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths (Vkhodnyye soprotivleniya germaniyevykh i kremniyevykh detektorov v diapazone santimetrovykh voln)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 4, pp 543-546 (USSR)

ABSTRACT: It is assumed that the equivalent input circuit of a rectifier diode can be represented by a parallel input capacitance $C_п$, a series inductance L and an RC circuit representing the impedance of the rectifying junction. The elements $C_п$ and L represent the inter electrode capacitance and the whisker inductance of the detector, and they are independent of the currents passing through the detector. The junction resistance R and the capacitance C_D plus C_z (see Fig.1) are functions of frequency and the biasing.

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Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths

currents passing through the junction. The overall input impedance of the detector is expressed by Eq.(1). The elements R, C_D and C_z are expressed by Eqs.(2) and (3), where

$$C_{z0} = S\sqrt{\frac{\varepsilon q N_d}{8\pi\varphi_k}}$$

is the charge capacitance in the absence of an external bias, S is the contact area, φ_k is the contact potential difference, I is the current passing through the contact, I_s is the saturation current of the junction and τ is the effective lifetimes of the charges. Eq.(1) can be used to construct the impedance locus of the detector. The resulting impedance circle is expressed by Eq.(4); the centre of the circle is given by the coordinates expressed by Eqs.(5) and (6), while the radius of the circle is determined from Eq.(7). Eq.(4) was used to construct the impedance loci for a germanium detector having a resistivity of 0.006Ω·cm

Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths

for wavelengths of 21, 6.2 and 3.2 cm. The resulting curves are shown in Fig.2. The impedances of the same detector were measured experimentally and the results are also plotted in Fig.2. It was found that there was a good agreement between the calculated and the experimental results. Eqs.(1), (2) and (3) were used to determine the frequency dependence of the detector input impedance and the resulting curves are shown in Fig.3. The author expresses his gratitude to S. G. Kalashnikov for valuable advice and constructive criticism. The paper contains 3 figures and 4 references, of which 3 are Soviet and 1 English.

SUBMITTED: May 28, 1957

1. Detectors (RF)--Impedance 2. Impedance--Measurement 3. Germanium--Applications 4. Silicon--Applications 5. Mathematics --Applications

Card 3/3

SKVORTSOVA, N Ye.

9(4) 24(6) PHASE I BOOK EXPLOITATION SOV/1765

Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi

Poluprovodnikovaya elektronika (Semiconductor Electronics) Moscow, Gosenergoizdat, 1959. 222 p. 13,950 copies printed.

Ed.: V.I. Shamshur; Tech. Ed.: K.P. Voronin.

PURPOSE: The book is intended for engineering and technical personnel working with semiconductor devices.

COVERAGE: The book is a collection of lectures delivered at the All-Union Seminar on Semiconductor Electronics in March 1957. The seminar was organized by the Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A.S. Popov. The authors of the lectures have attempted to systematize the basic information on the operation of semiconductor devices. The articles describe the operation and characteristics of crystal diodes and transistors and discuss their application in various low-frequency, high-frequency and pulse circuits. No personalities are mentioned. References appear at the end of each article.

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TABLE OF CONTENTS:

of temperature on diode operation. There are 2 Soviet references (including 1 translation).

cussion of servomechanism transistor components, such as a-c amplifiers, modulators, and phase-sensitive amplifiers. There are 7 references of which 6 are Soviet (including 1 translation), and 1 English.

verter circuits using transistors. Special attention is given to the operation and design of inverter circuits with a signal generator. There are no references.

B.N. Kononov. Voltage Stabilizers Using Semiconductor Devices 215
The author discusses voltage stabilizing circuits using silicon crystal diodes and transistors. He also explains equations for series and feedback stabilization and discusses transistor stabilizing circuits with temperature compensation. There are 4 references of which 1 is Soviet and 3 English.

AVAILABLE: Library of Congress

JP/sfm
5-26-59

30435
S/109/61/006/012/010/020
D246/D305

9.4340 (1143, 1150)

AUTHORS: Ivanov, S.N., Skvortsova, N.Ye., and Sokolov, Yu.F.

TITLE: Frequency characteristics of welded contact germanium diodes at inverse voltages

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 12, 1961 2028 - 2035

TEXT: In the present article the frequency characteristics are analyzed of n- and p- type Ge diodes with welded contact (with half-sphere geometry). The diodes were manufactured by the process described by the authors previously (Ref. 6: Radiotekhnika i elektronika, 1959, 4, 9, 1528). Diodes with ohmic contact were also investigated, made of p-type Ge by the same process as those of n-type. It may be assumed that the geometry of ohmic contacts and contacts with barrier layer are the same, i.e. that the series resistance r_s in both types is the same. The characteristics were investigated in the equivalent circuit of the diode consisting of the series resistance r_s, connected in series with a parallel com-

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Frequency characteristics of welded ...

bination of R-leakage resistance and C-capacitance. At low frequencies r_{si}^{0} was measured by extrapolating the resistance in the forward direction. With current varying between 100 and 500 microamps. no modulation of conductivity has been observed. The SHF measurement of contact impe-dance Z was carried out between 3 x 109 - 6 x 10^{10} sec^{-1} by the method given by Yu.F. Sokolov (Ref. 7: Radiotekhnika i elektronika, 1961, 6, 3, 399) and by F.S. Rusin, N.Ye. Skvortsova, and Yu.F. Sokolov (Ref. 8: Sb. Poluprovodnikovyye pribory i ikh primeneniye, 1968, 3, 13) using the above mentioned equivalent circuit. Three methods are suggested of measuring r_s. 1) Determining r_s from the measurements of resistance of diodes with ohmic contact Z_{om}; 2) Determining r_s from the extrapolation of ReZ towards large current; 3) Determining r_s from the value of C which is given by

$$C(U) = \frac{\pi d^2}{2}\sqrt{\frac{eqN}{8\pi(\varphi_k + U)}}, \qquad (5)$$

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Frequency characteristics of welded ...

in which ε - specific inductive capacitance; q - charge of electron N - impurity concentration in the n-region; φ_K - contact potential difference, from which $r_s\sqrt{C}$ = const. The experimental results show that the character of basic properties is the same for n- and p-type germanium. The results of measurements of r_s are tabulated in Tables 1 and 2. The capacity of the barrier layer C and the leakage resistance R has been found to be independent of frequency and proportional to $(\varphi_K + U_{rev})^{-1/2}$ or, as expected, it is a charge capacitance. The evaluation of R is stated to be possible only for diodes, for which the loss resistance R_L is much larger than r_s. R has been found to be directly proportional to the reverse voltage and is of the order of $\sim 10^3$ ohm for the given frequency range. The frequency depencence of the loss resistance is shown in Fig. 7. The results obtained show therefore the following: 1) r_s in contrast to r_{si}^0 is independent of frequency in a given frequency range. It cannot be explained by the modulation of the semi-conductor conductan-

Frequency characteristics of welded...

ce. If $r_s = \rho/\pi d$, and ρ - modulation do not exist, it has to be assumed that changes in r_s are determined by those of d. In fact the expression for r_s should be

$$r_s = \frac{\rho}{\pi(d + 2L_o)} \qquad (8)$$

where L_o is the length of the diffusion path. At high frequencies the diffusion component of SHF current is limited by the region of technological boundary of transition $L_\omega \sim \sqrt{D/\omega}$. Since it may be shown that $L_\omega \ll d$, r_s would be determined by $r_s = \rho/\pi d$ and would be independent of frequency: r_s has been found smaller for n-type germanium diodes as compared with p-type because of the greater mobility of majority carriers. The dependence of the loss resistance on frequency and its differing from r_{si}^o are due to the different values of r_s at low and SHF frequencies and to the frequency dependence of R. The author acknowledge the constructive criticism of

Card 4/8

30435
S/109/61/006/012/010/020
Frequency characteristics of welded ... D246/D305

their work by S.G. Kalashnikov. There are 9 figures, 2 tables and 10 references; 5 Soviet-bloc and 5 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: A. Uhlir, Proc. I.R.E., 1958, 46, 6, 1099; M. Uenohara, Proc. I.R.E., 1960, 48, 2, 169; S.T. Eng; R. Solomon, Proc. I.R.E., 1960, 48, 3, 358; D.E. Sawyer, J. Appl. Phys., 1959, 30, 3, 166.

SUBMITTED: February 14, 1961

4

Card 5/8

L 12642-63 BDS

ACCESSION NR: AT3002998 S/2927/62/000/000/0145/0152

49

AUTHOR: Ivanov, S. N.; Skvortsova, N. Ye.; Sokolov, Yu. F.

TITLE: Reverse-bias frequency characteristics of welded-contact germanium diodes [Report of the All-Union Conference on Semiconductor Devices held in Tashkent from 2 to 7 October 1961]

SOURCE: Elektronno-dy*rochny*ye perekhody* v poluprovodnikakh. Tashkent, Izd-vo AN UzSSR, 1962, 145-152

TOPIC TAGS: germanium diode, welded-contact germanium diode

ABSTRACT: Effect of superhigh frequency (SHF) on the series equivalent resistance and other characteristics of Ge diodes was determined experimentally. Two kinds of n-type Ge diodes were tested: (1) with a welded contact and (2) with an "ohmic" contact. Three methods of determining the series equivalent resistance at SHF are discussed: (1) from ohmic-contact test, (2) by extrapolation, and, (3) by measuring capacitance. Measurements were made at 0.59x, 1.23x, 1.94x, and 5.9x10 sup 10 cps. Barrier-layer capacitance and leakage resistance were measured as a function of the reverse bias voltage at 7 frequencies, from 3 x 10 sup 9 to 6 x 10 sup 10 cps. Loss resistance was measured at (a) frequencies up to 5 x 10 sup 10 cps and (b) reverse bias voltages up to 2 v. In conclusion, an explanation based on the above

Card 1/2

L 12642-63
ACCESSION NR: AT3002998

measurements is offered of the fact that the series equivalent resistance depends on frequency in the SHF band. Orig. art. has: 6 figures and 9 formulas.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences SSSR) Akademiya nauk Uzbekskoy SSR (Academy of Sciences UzSSR) Tashkentskiy gosudarstvenny*y universitet (Tashkent State University)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: 00 NO REF SOV: 006 OTHER: 005

Card 2/2

31498
S/109/62/007/002/023/024
D256/D303

9, 4330 (1139, 1143, 1161)

AUTHOR: Skvortsova, N.Ye.

TITLE: Measuring negative resistance and capacity of tunnel diodes

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 2, 1962, 353 - 356

TEXT: A method is described for measuring negative differential resistance $R_{D-} = f_1(u)$ and capacity $C = f_2(u)$ of a tunnel diode in the regions of negative slope of the characteristic ($u_1 > u > u_2$) using a potential divider and shunting the diode with an additional ohmic resistance. It is shown that for the points u_1 and u_2 $R_D \rightarrow \infty$ and the total impedance of the tunnel-diode can be approximated by a simplified expression $\overline{Z}_D = \frac{1}{j\omega C(u)}$. For other voltages it is possible to create artificially the condition $R_D \rightarrow \infty$ by using

Card 1/2

a suitable shunting resistance. The shunting resistance, therefore, was adjusted for measurement at each point of the characteristic. The circuit diagram of the arrangement is presented. There are 3 figures and 2 non-Soviet-bloc references. The references to the English-language publications read as follows: M.E. Hines, Bell System Techn. J., 1960, 39, 3; E. Gottlieb, Electronic Industries, 1960, 19, 3, 110.

SUBMITTED: September 12, 1961

KOVALEV, A.N.; SKVORTSOVA, N.Ye.

Effect of the degree of doping of germanium on the principal parameters on tunnel diodes. Radiotekh. i elektron. 8 no.6:1009-1018 Je '63. (MIRA 16:7)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Tunnel diodes)

L 35015-65 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c) JD/AT
ACCESSION NR: AP5005363 S/0109/65/010/002/0385/0387
27
B

AUTHOR: Belova, N. A.; Lyubchenko, V. Ye.; Skvortsova, N. Ye.

TITLE: Investigation with the aid of p-n junctions of the effect of concentration on the lifetime of minority carriers in heavily doped germanium

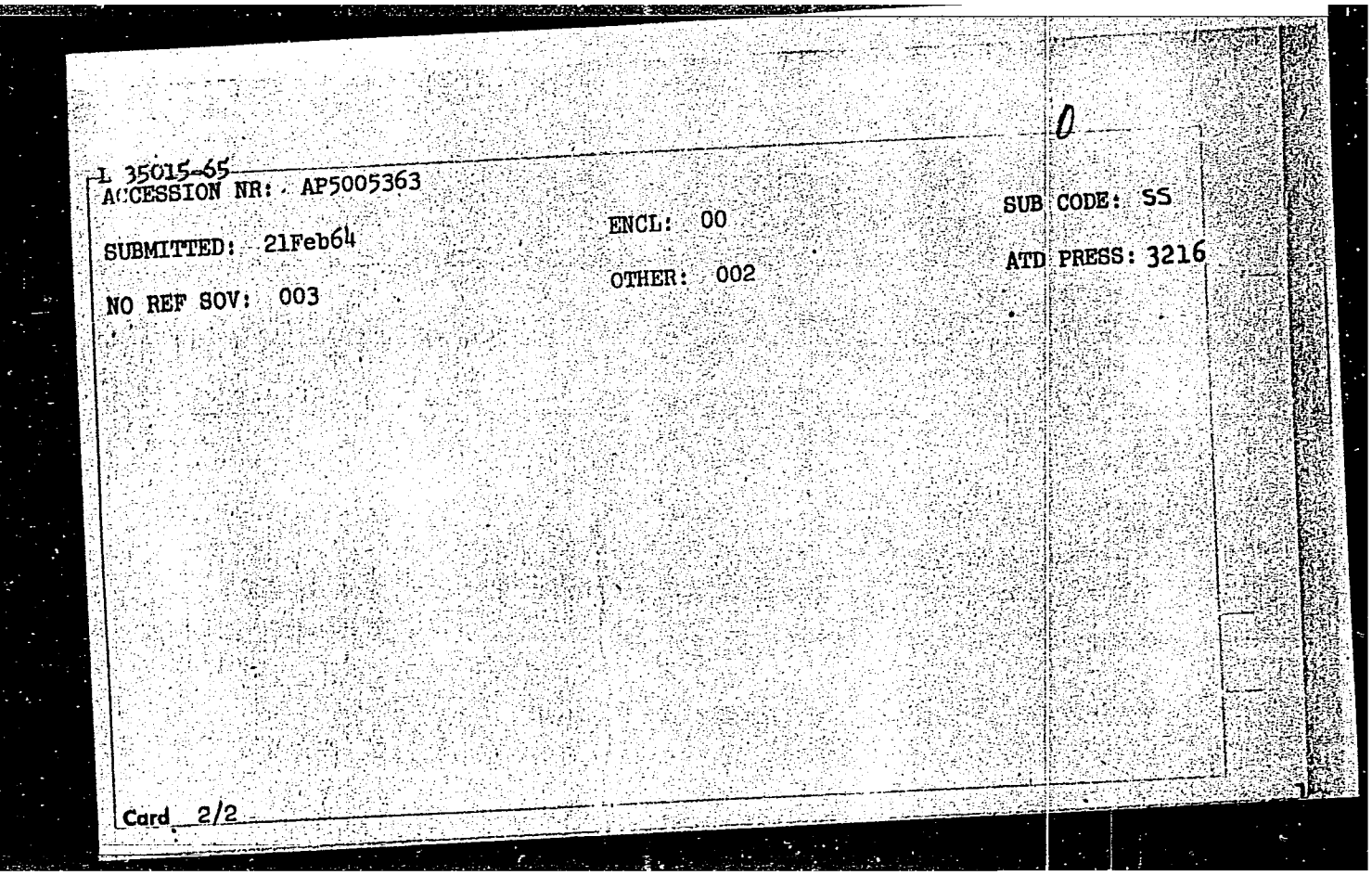
SOURCE: Radiotekhnika i elektronika, v. 10, no. 2, 1965, 385-387

TOPIC TAGS: semiconductor property, doped germanium, germanium semiconductor

ABSTRACT: This investigation continues the work of D. Meyerhofer et al. (Phys. Rev., 1962, 126, 1329) on minority-carrier lifetimes in germanium. The diffusion capacitance of the junction was calculated from the diode impedance, measured at 800—3500 Mc, and a function C^{-2} (V), where V is the applied voltage, was plotted. The impurity concentration in the p-region was $7 \times 10^{19}/cm^3$. The lifetime of holes in the n-region was plotted. For concentrations 2×10^{17}—$10^{19}/cm^3$, the mechanism of shock recombination by traps seems to dominate. Orig. art. has: 4 figures and 2 formulas. [03]

ASSOCIATION: none

Card 1/2



L 35015-65
ACCESSION NR: AP5005363

SUBMITTED: 21Feb64 ENCL: 00 SUB CODE: SS

NO REF SOV: 003 OTHER: 002 ATD PRESS: 3216

Card 2/2

IVANOV, Sergey Nikolayevich; PENIN, Nikolay Alekseyevich; SKVORTSOVA, Nera Yefimovna; SOKOLOV, Yuriy Fedorovich; VOLKOVA, I.M., red.

[Physical principles of the operation of semiconductor microwave diodes] Fizicheskie osnovy raboty poluprovodnikovykh SVCh diodov. [By] S.N.Ivanov i dr. Moskva, Sovetskoe radio, 1965. 190 p. (MIRA 18:5)

IVANOV, Sergey Nikolayevich; PENIN, Nikolay Alekseyevich; SKVORTSOVA, Nera Yefimovna; SOKOLOV, Yuriy Fedorovich; VOLKOVA, I.M., red.

[Physical principles of the operation of superhigh frequency semiconductor diodes] Fizicheskie osnovy raboty poluprovodnikovykh SVCh diodov. Moskva, Sovetskoe radio, 1965. 190 p. (MIRA 18:7)

MIRA, N.A.; LYUBCHENKO, V.Ye.; SKVORTSOVA, N.Ye.

Study of the concentration dependence of the life of the minority carriers in heavily doped germanium using p-n junctions. Radiotekh. i elektron. 10 no.2:385-387 F '65. (MIRA 18:3)

L 12069-66 EWT(1)/T/EWP(k)/EWA(h) IJP(c) AT

ACC NR: AP5021483 SOURCE CODE: UR/0046/65/011/003/0398/0399

AUTHOR: Ivanov, S. N.; Skvortsova, N. Ye.; Stepanov, B. G.

ORG: Institute of Radio Engineering and Electronics AN SSSR (Institut radiotekhniki i elektroniki AN SSSR)

TITLE: Investigation of GaAs p-n junctions operating as converters of ultrasonic oscillations into electric oscillations

SOURCE: Akusticheskiy zhurnal, v. 11, no. 3, 1965, 398-399

TOPIC TAGS: gallium arsenide, semiconductor diode, pn junction, acoustoelectric transducer, ultrasonics, frequency dependence

ABSTRACT: The authors investigated the performance of GaAs diodes to determine the effect of the geometric dimensions of the base on the efficiency of such a diode as an ultrasonic transducer. This influence can be investigated by varying in definite fashion the relation between the thickness of the base and the wavelength of the applied ultrasonic oscillations, and observing the frequency dependence of the conversion efficiency. The measurements were made at frequencies for which the wavelength was approximately equal to the base thickness. The diodes were prepared by diffusion of zinc in n-type GaAs plates and tested by applying rectangular ultrasonic pulses to the investigated diode through an ultrasonic delay line (Fig. 1). The output-signal voltage was found to exhibit a definite dependence on the frequency of the ultrasonic oscillations. The transformed signal had a maximum when the thickness d of the diode

UDC: 534.232

Card 1/2

ACC NR: AP5021483

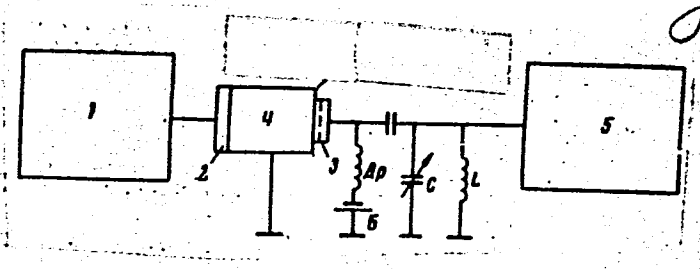


Fig. 1. Diagram of test setup.

1 - Pulse generator, 2 - quartz plate, 3 - tested diode, 4 - delay line (10 microseconds), 5 - oscilloscope

base region was connected with the wavelength λ by the relation $d \simeq \lambda(2n + 1)/4$ ($n = 0, 1, 2, \ldots$). In the experiments d was equal to 1.7×10^{-1} cm, making it possible to observe in the 7--14 Mcs range up to six frequencies corresponding to the maximum of the converted signal. This relation is similar to that of a compound vibrator, and it is shown on the basis of several other properties that the model of the compound vibrator can be used for the analysis of the performance of an electro-acoustic diode transducer. The conversion efficiency depends on the choice of the geometrical dimensions of the diode. Orig. art. has: 2 figures and 5 formulas.

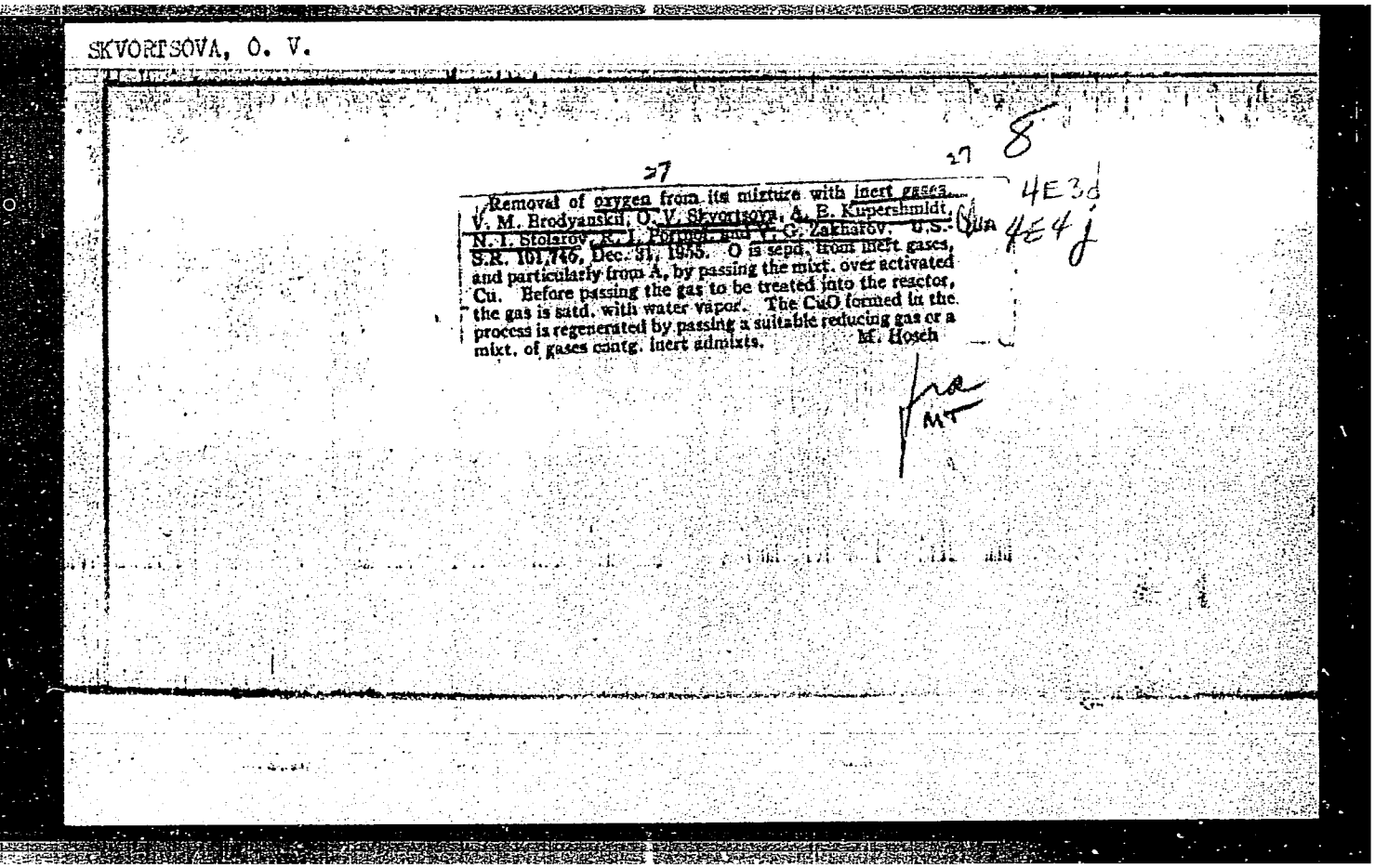
SUB CODE: 20/ SUBM DATE: 06Jul64/ ORIG REF: 001/ OTH REF: 006

Card 2/2

SKVORTSOVA, O.I.; ZELENSKAYA, L.N.

Some cases of moniliasis of the internal organs. Vrach. delo no.8:130-131 Ag '61. (MIRA 15:3)

1. Terapevticheskoye otdeleniye 12-oy bol'nitsy Stalingrada (zav. - O.I. Skvortsova) i kafedra mikrobiologii (zav. - dotsent L.N. Zelneskaya) Stalingradskogo meditsinskogo instituta.
(MONILIASIS)



SKVORTSOVA, O. V.

27 27 8

4E3d 4E4j

Removal of oxygen from its mixture with inert gases. V. M. Brodyanskii, O. V. Skvortsova, A. B. Kupershmidt, N. I. Stolarov, R. I. Portnoi, and V. G. Zakharov. U.S.S.R. 101,746, Dec. 31, 1955. O is sepd. from inert gases, and particularly from A, by passing the mixt. over activated Cu. Before passing the gas to be treated into the reactor, the gas is satd. with water vapor. The CuO formed in the process is regenerated by passing a suitable reducing gas or a mixt. of gases contg. inert admixts. M. Hosch

MT

USSR/Chemistry - Oxygen FD-1734

Card 1/1 : Pub. 50-10/18

Authors : Brodyanskiy, V. M., Cand Tech Sci; Skvortsova, O. V.

Title : Extension of the period of uninterrupted operation of regenerators at oxygen installations

Periodical : Khim. prom., No 1, 47-48, Jan-Feb 1955

Abstract : Propose a method whereby the solid carbon dioxide which clogs regenerators of liquid oxygen installations is removed by blowing with high-pressure air. Recommend that this method be used instead of the old procedure of heating the regenerators. One figure, one graph. One reference, USSR, since 1940.

KUSOV, V.N.; LOSEVA, Ye.I.; KAMARDINA, M.G.; ROMANOVSKIY, I.D.; SKVORTSOVA, P.G.

Distribution of the tick Ornithodoros tartakovskyi Olenev in Kzyl-Orda Province. Trudy Inst. zool. AN Kazakh. SSR 19: 161-172 '63. (MIRA 16:9)

(Kzyl-Orda Province--Ticks)

SKVORTSOVA, R.I.

Carbohydrate and phosphorus metabolism of muscle in the process of ontogenesis of the chicken, and the role of carnosine and anserine in the processes of phosphorylation. Biokhimiia 18 no.5:594-602 S-O '53. (MLRA 6:10)

1. Kafedra biokhimii zhivotnykh Moskovskogo gosudarstvennogo universiteta.
(Phosphorylation) (Anserine) (Carnosine) (Muscle)

USSR / Human and Animal Physiology (Normal and Pathological). Effect on Physical Factors. Ionizing Irradiations T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958 98054

Author : Minayev, P. F.; Skvortsova, R. I.

Inst : Not given

Title : The Influence of X-Rays on the Metabolism in Nerve Tissue

Orig Pub: V sb.: Vopr. biokhimii nervn. sistemy. Kiyev, AN USSR, 1957, 289-294

Abstract: No abstract

Card 1/1

SKVORTSOVA, S. I., LOGVINOVA, O. F., and MIKAYEV, P. F. (USSR)

"Biochemical Changes in the Brain under Normal and Pathological Conditions."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SKVORTSOVA, R.I.

Oxidative phosphorylation and conversions of pyruvic acid in brain mitochondria of normal and irradiated animals. Radiobiologiia 2 no.2:189-193 '62. (MIRA 15:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PHOSPHORYLATION) (MITOCHONDRIA)
(RADIATION--PHYSIOLOGICAL EFFECT)

ACCESSION NR: AT3013149 S/3018/63/000/000/0607/0616

AUTHOR: Skvortsova, R. I.; Kantorova, V. I.; Logvinova, O. F.

TITLE: Damage of certain oxidation processes in the mitochondrions and tissue of the cerebellum and the state of cerebellum mitochondrions at different periods after local irradiation

SOURCE: Tret'ya Vsesoyuznaya konferentsiya po biokhimii nervnoy sistemy*. Sbornik dokladov. Yerevan, 607-616

TOPIC TAGS: X-irradiation, cerebellum radiation damage, oxidative phosphorylation, cerebellum cell mitochondrion, purkinje cell mitochondrion, isoelectric point, citric acid level, finding citric acid level, Safronov's method, ribonucleoproteid isoelectric point change, purkinje cell change, cellular metabolism, krebs cycle, isoelectric point alkalinization, cerebellum metabolism

ABSTRACT: The cerebellum of male guinea pigs was X-irradiated locally with 8-9 kr dose (RUM-3 unit, 15 ma, 165 kv, 118-130 r/min, focal length 20 cm) to study the effects of radiation on oxidative phosphorylation, citric acid level, and isoelectric points of ribonucleoproteids in purkinje cell mitochondrions. Indices for

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ACCESSION NR: AT3013149

oxidative phosphorylation in the mitochondrions were oxygen consumption and process intensity (measured by mineral phosphate decrease). Citric acid level in cerebellum tissue was determined by Safronov's method which is based on changing citric acid into pentabromacetate by oxidation and bromination in the presence of bromine and manganese ions, and then using the color reaction of the newly formed pentabromacetate with pyridine and alkali as an index. Ribonucleoproteids of purkinje cell mitochondrions were fixated at different periods (20 min-5 mos) after irradiation to determine changes in their isoelectric points. Results show that the phases of cerebellum functional radiation damage are related to phase changes in cerebellum structure. The period of highest functional damage in the cerebellum corresponds to the highest period of oxidative phosphorylation inhibition in the mitochondrions and to the breaking of krebs cycle in its initial stage resulting in a sudden accumulation of citric acid. Also, at the same time the number of mitochondrions in the purkinje cells decreases and the isoelectric points of their ribonucleoproteids shift in an alkaline direction. The period when functional disorders of the cerebellum are attenuated coincides with relative normalization of the other indices. Data in this study concur with the literature position that alkalinization of

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