25047
S/062/61/000/006/009/010
B118/B220

15.8150

AUTHORS: Mikhaylov, B. M., Shchegoleva, T. A., Shashkova, Ye. M., Sheludyakov, V. D.

TITLE: Polymers and trimers of alkyl mercapto-boranes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 6, 1961, 1163

TEXT: The authors stated that the reaction of diborane with mercaptans (1:2) in ether results in polymer alkyl mercapto-boranes. The diborane reacts with methyl mercaptan, forming a solid polymer $(CH_3SBH_2)_x$ which had been synthesized previously by A.Burg and R. Wagner (see below) without the use of a solvent. On reaction of ethyl mercaptan or n-butyl mercaptan with diborane, glass-like polymers of ethyl mercapto-borane $(C_2H_5SBH_2)_x$ or of n-butyl mercapto-borane $(n\text{-}C_4H_9SBH_2)_x$ are obtained after elimination of the ether by distillation. The polymers of ethyl mercapto-borane and n-butyl mercapto-borane are converted gradually at room temperature to the corresponding trimers of alkyl mercapto-borane.

Card 1/3

Polymers and trimers of alkyl...

The trimer of ethyl mercapto-borane $(C_2H_5SBH_2)_3$ has the following constants: boiling at 94-96°C (1 mm Hg); $d_4^{20} = 0.9772$; $n_D^{20} = 1.5323$; data obtained: H_{act} 2.98; 2.90; B 14.37 %; 14.27 %; molecular weight (determined cryoscopically): 217.8; 220.2. The trimer of n-butyl mercapto-borane decomposes on vacuum distillation: $d_4^{20} = 0.9376$; $n_D^{20} = 1.5130$; data obtained: H_{act} 2.17; 2.15; B 10.23; 10.32 %; molecular weight: 293.3; 294.9 corresponding to $(C_4H_9SBH_2)_3$. The solid polymer of methyl mercapto-borane is stable; however, when it is dissolved in tetrahydrofuran, it is converted to the trimer of methyl mercapto-borane: boiling at 80-81°C (1.5 mm Hg); $d_4^{20} = 1.0121$; $n_D^{20} = 1.5483$; data obtained: H_{act} 3.46; 3.37; B 17.80; 17.30 %; molecular weight: 182.5; 183.6 corresponding to $(CH_3SBH_2)_3$. The trimers of alkyl mercapto-boranes are fairly stable against the action of air and water. There is 1 non-Soviet-

Card 2/3

Polymers and trimers of alkyl...

bloc reference. The reference to the English-language publication reads as follows: A. Burg, R. Wagner, J. Amer. Chem. Soc. 76, 3307 (1954).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy USSR)

SUBMITTED: April 20, 1961

X

2790

S/079/61/031/01[illegible]/008/010
D227/D304

53150

AUTHORS: Sokolova, Ye. B., Shebanova, M.P., and Sheludyakov, V.D.

TITLE: Synthesis of di(methylindenyl)iron

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 10, 1961, 3379-3381

TEXT: The purpose of the present work was to synthesize di(methylindenyl)iron and study its properties. Three methods of preparing the compound were used. 1) Reacting 1-methylindenylmagnesium bromide with ferrous chloride. 2) Reacting 1-methylindenyllithium with ferrous chloride. 3) Reacting 1-methyl-indene with ferrous chloride in the presence of diethylamine. In the first method, 1-methylindene was added to a magnesium ethyl bromide solution in di-n-butyl ether until the color of the mixture changed to brown when $FeCl_2$ was added in portions. After refluxing for 5 hrs. at 110-120°C the mixture was distilled and the residue

Card 1/3

extracted with ether. On concentration and cooling of the extract a black colored solid crystallized out which had a m.pt. of 107 -108°C. In the second method, methylindene was added to n-butyl lithium in ether and the mixture heated on a water bath until its [illegible] dropped. After cooling to 0°C FeCl$_2$ was added and the mixture refluxed for 6 hrs. The reaction product was then concentrated and cooled. A black solid separated out after 12 hrs. About 1/4 of the solid was washed with water, 10% HCl, water and ether, and then recrystallized from ether. Further purification was conducted by distillation at 70°C, 2 mm and the m.pt. of the product was 107 -108°C. In the third method, FeCl$_2$ was added to a methylindene solution in diethylamine and the mixture stirred for 10 hrs. The residue after steam distillation of the product was dried and redistilled to yield a product m.pt. 107 -108°C. The investigations showed that di(methylindenyl)iron is unstable in [illegible] solvents in the presence of air, except in ether at low temperatures. It is [illegible] in the dry state and has

Card 2

27209
S/079/61/031/010/008/010
D227/D304

Synthesis of di(methylindenyl)iron

black crystalline solid m.pt. 107-109°C. There are 13 references: 7 Soviet-bloc and 6 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: P. Pouson, G. Wilkinson, J. Am. Chem. Soc. 76, 2024 (1954); P. Pouson, Quart. Rev. 9, 391 (1955); US Patent 2,779,074, H. Gilman, J. Biel, C. Brunnen, M. Bullock, G. Dunn, L. Miller, J. Am. Chem. Soc, 71, 1499 (1949).

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology im. D.I. Mendeleyev)

SUBMITTED: December 24, 1960

Card 3/3

39573
S/062/62/000/007/004/013
B117/B180

5.3410 2220

AUTHORS: Mikhaylov, B. M., Shchegoleva, T. A., Shashkova, Ye. M., and Sheludyakov, V. D.

TITLE: Organoboron compounds. Report 102. Monoalkyl mercapto derivatives of borane

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1962, 1218 - 1223

TEXT: The reactions of diborane and mercaptanes in ether solution were studied at room temperature. Independent of the component ratio, diborane and methyl mercaptane yielded a solid, storable polymer which dissolves in ether and benzene, and converts into a trimer in a solution of tetrahydrofuran. A viscous, colorless polymer was produced from diborane and ethyl mercaptane, independent of the component ratio. The reaction of diborane with n-propyl and n-butyl mercaptanes only yielded polymers at a ratio of 1 : 2. Trimers of ethyl, n-propyl, and n-butyl mercapto boranes formed spontaneously from the corresponding polymers. The resulting trimers are a new type of organoboron compound. They are very stable, have a cyclic

Card 1/2

structure, are virtually unaffected by air, not completely oxidized by hydrogen peroxide and are very slowly hydrolyzed by heating. They yield the corresponding borates by alcoholysis. This reaction is slow at room temperature, accelerating as the temperature rises. Alkyl mercaptoborane trimers and mercaptanes only react at 100 - 120°C, yielding large amounts of alkyl thioborates. 53% methyl thioborate and 89% ethyl thioborate were obtained by boiling a mixture of high-boiling mercaptane and trimer.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: January 30, 1962

MIKHAYLOV, B.M., FEDOTOV, N.S., SHCHEGOLEVA, T.A., SHELUDYAKOV, V.D.

Cation complexes of boron. Dokl.AN SSSR 145 no.2:340-343 JI '62. (MIRA 15:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR. Predstavlena akademikom B.A.Kazanskim.
(Boron compounds) (Metal ions)

MIKHAYLOV, B.M.; SHCHEGOLEVA, T.A.; SHASHKOVA, Ye.M.; SHELUDYAKOV, V.D.

Organoboron compounds. Report No.102: Monalkylmercapto derivatives of borane. Izv.AN SSSR.Otd.khim.nauk no.7:1218-1223 Jl '62. (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron organic compounds)

MIKHAYLOV, B.M.; SHELYDAYAKOV, V.D.; SHCHEGOLEVA, T.A.

Organoboron compounds. Report No.106: Reactions of alkyl mercapto-borane trimers with secondary and tiertiary amines. Izv.AN SSSR.Otd.khim. nauk no.9:1559-1564 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron organic compounds) (Amines)

MIKHAYLOV, B.M.; SHELUDYAKOV, V.D.; SHCHEGOLEVA, T.A.

New types of boron salts. Izv.AN SSSR.Otd.khim.nauk no.9:1698-1699 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron--Compounds)

MIKHAYLOV, B.M.; SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.; BLOKHINA, A.N.

Organoboron compounds. Report No.116: Reactions of polymers of alkyl mercaptoboranes with unsaturated compounds. Izv. AN SSSR. Otd.khim. nauk no.4:646-651 Ap '63. (MIRA 16:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Borine) (Olefins) (Polymers)

ACCESSION NR: AP3000122 S/0062/63/000/005/0816/0822

AUTHOR: Mikhaylov, B. M.; Shchegoleva, T. A.; Sheludyakov, V. D.

TITLE: Organic boron compounds. Report 117. Reactions of the amine complexes of alkylmercaptoboranes with halogen derivatives of hydrocarbons and HCl

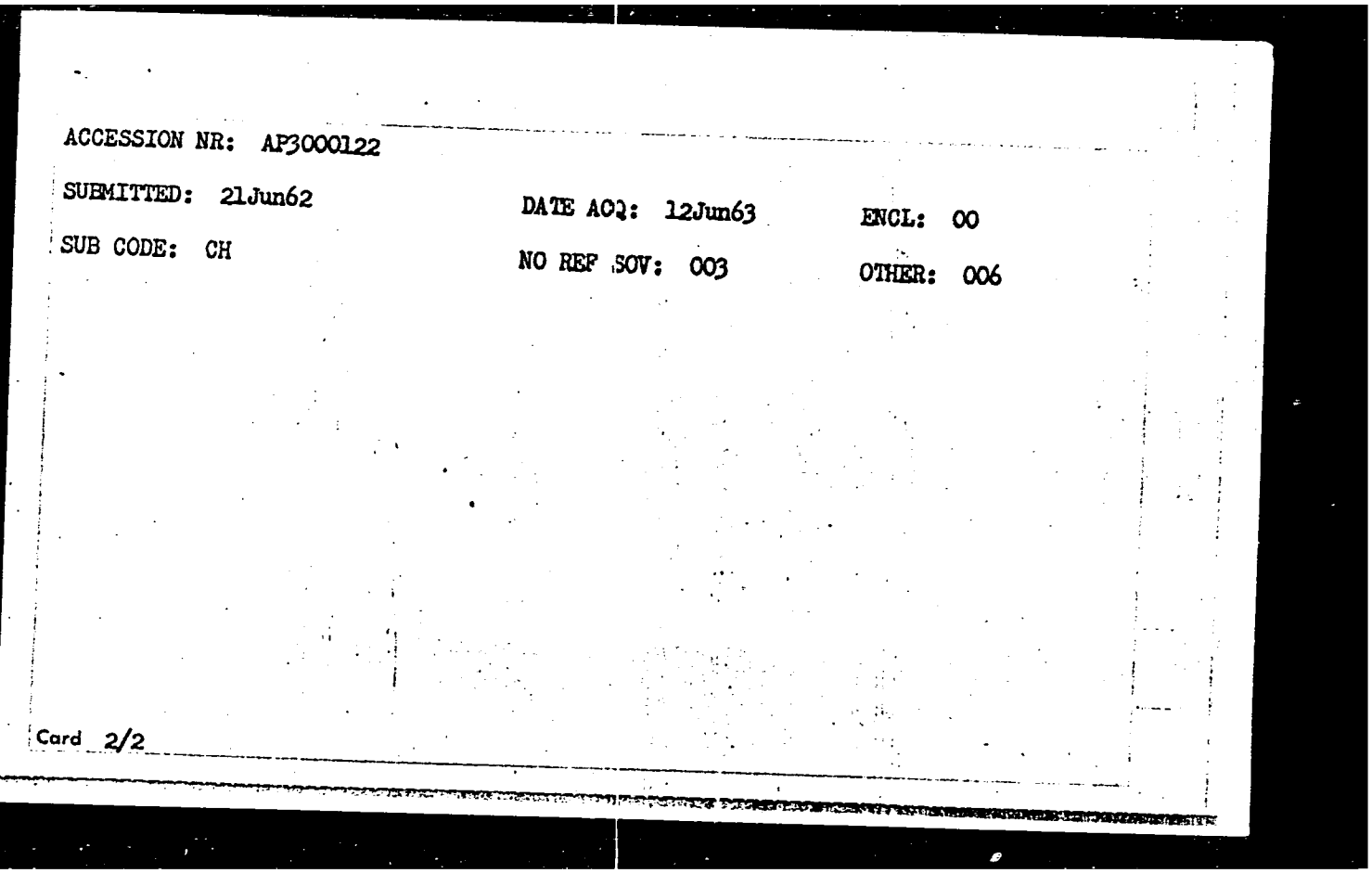
SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 816-822

TOPIC TAGS: reaction mechanisms, amine complexes of alkylmercaptoboranes, HCl, halogenated hydrocarbons

ABSTRACT: Di-(dimethylamine)borane salts were formed by the action of halogenated hydrocarbons and HCl on dimethylaminealkylmercaptoboranes. When complexes of alkylmercaptoboranes with tertiary amines reacted with alkyl halides, the alkylmercapto group was exchanged for a halide group, converting them into borane halide complexes. HCl cleaved the trialkylamine complexes of alkylmercaptoboranes, giving alkylmercaptoborane trimers and amine hydrochlorides. Dimethylamine-methylmercaptoborane reacted with dimethylamine hydrochloride to yield the chloride of di-(dimethylamine)borane. Orig. art. has: 11 equations.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo, Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

Card 1/2



ACCESSION NR: AP3000122

SUBMITTED: 21Jun62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 006

Card 2/2

SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.; MIKHAYLOV, B.M.

Nature of the coordination compounds formed by boron and diborane halides in ether solutions. Dokl. AN SSSR 152 no.4: 888-891 O '63. (MIRA 16:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.

5 K

S/0062/64/000/004/0632/0637

ACCESSION NR: AP4033385

AUTHOR: Sheludyakov, V. D.; Shchegoleva, T. A.; Mikhaylov, B. M.

TITLE: Organic boron compounds. Communication 129. Reaction of alkylmercaptoborane trimers with primary amines.

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1964, 632-637

TOPIC TAGS: organic boron compound, alkylmercaptoborane trimer, alkylmercaptoborane trimer amine reaction, reaction mechanism, synthesis methylamine methylmercaptoborane complex, borone chloride

ABSTRACT: The reaction of alkylmercaptoborane trimers with primary amines was studied. Action of methylamine on methylmercaptoborane gives the methyl mercaptide of bis(methylamine)borone regardless of the reagent ration (trimer:amine of 1:6 or 1:3). The mechanism suggested is the formation of an intermediate neutral complex, methylamine-methylmercaptoborane, which reacts more rapidly with methylamine than the trimer. The less stable ethylmercaptide of bis(ethylamine)borone is formed similarly. These compounds exchange the mercaptide ion for the chloride ion under action of ether solutions of HCl: $[H_2B(NH_2R')_2]SR + HCl \rightarrow [H_2B(NH_2R')_2]Cl +$

Card 1/2

ACCESSION NR: AP4033385

RSH. Similar exchange is effected with benzyl chloride. Normal-butylamine will not form the corresponding ethylmercaptide bis(n-butylamine)borone, only the complex $C_2H_5SBH_2 \cdot NH_2C_4H_9$. This will react with benzyl chloride to form the salt $[H_2B(NH_2C_4H_9)_2]Cl$. Borone salts with other amines in the capacity of addends were similarly formed by treating alkylmercaptoboranes with mixtures of the amine and benzyl chloride. The chlorides of bis(propyl, isopropyl, isobutyl, t-butyl, n-amyl, n-hexyl, or benzyl)borones are crystalline, stable, ether-insoluble materials. Orig. art. has: 2 tables and 12 equations.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 31Oct63

SUB CODE: OC ENCL: 00

NO REF SOV: 002 OTHER: 001

Card 2/2

L 52601-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL WW/RM
ACCESSION NR: AP5015854 UR/0062/64/000/012/2165/2170

AUTHOR: Mikhaylov, B. M.; Shchegoleva, T. A.; Sheludyakov, V. D.

TITLE: Organoboron compounds. Communication 132. Synthesis of cationic complexes from boron trihalides

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2165-2170

TOPIC TAGS: organoboron compound, halogenated organic compound, organic synthetic process

Abstract: Under the action of dimethylamine on boron trichloride and boron tribromide in a 2:1 reagent ratio, dichloro-bis(dimethylamine)-boronium chloride and dibromo-bis(dimethylamine)boronium bromide are formed, respectively. The same salts are produced by the reaction of dimethylaminoboron dihelides with dimethylammonium salts. A boronium salt containing two different amines in the inner sphere, dichloro-dimethylaminepyridineboronium chloride, was synthesized by the action of pyridine hydrochloride on dimethylaminoboron dichloride, as well as

Card 1/2

L 52601-65
ACCESSION NR: AP5015854

by the reaction of boron trichloride, pyridine, and dimethylamine (in a 1:1 ratio). When ether and tetrahydrofuran solutions of boron trichloride were treated with ferric chloride or stannic chloride, dichloro-bis(diethoxide)boronium and dichloro-bis(tetrahydrofuran)-boronium tetrachloroferrates and dichloro-bis(tetrahydrofuran)boronium hexachlorostannate were formed, indicating that in ether solutions boron trihalide exists not only in the form of etherates ($BX_3 \cdot OR_2$), but also in the form of cationic complexes, in equilibrium with the etherates. Orig. art. has 7 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 16Feb63 ENCL.: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 011 JPRS

Card 2/2

MIKHAYLOV, B.M.; SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.

Organoboron compounds. Report No.132: Synthesis of cation complexes from boron trihalides. Izv. AN SSSR Ser. khim no.12:2165-2170 D '64 (MIRA 18:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.; MIKHAYLOVA, B.M.

Organoboron compounds. Part 151. Kinetics of the hydrolysis of boron cation complexes. Zhur. ob. khim. 35 no.6:1066-1073 Je '65. (MIRA 18:6)

L 22203-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) AEDC(a)/ASD(f)-3/ASD(m)-3/AFMDC
MJW/JD
ACCESSION NR: AP5002882 S/0207/64/000/005/0159/0162

AUTHORS: Avdonin, V. I. (Novosibirsk); Novikov, I. I. (Novosibirsk); Sheludyakov, Ye. P. (Novosibirsk)

TITLE: Experimental determination of sound wave velocity in saturated water vapor at high pressures

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1964, 159-162

TOPIC TAGS: sound velocity, high pressure, temperature dependence, stainless steel/1Kh18N9T stainless steel, PMS 48 potentiometer, PPTN 1 potentiometer

ABSTRACT: A new experimental chamber has been devised for measuring sound velocity at temperatures up to 350C. Results are compared with those from previous apparatus, where the temperatures overlap. Both techniques are based on the method of standing waves. In the new apparatus, a new acoustical resonator made of stainless steel is used. The chamber has a length of 803.75 mm, an inner diameter of 65 mm, and a wall thickness of 10 mm. This was used in a new autoclave made of 1Kh18N9T stainless steel with a length of 124.0 cm, an inner diameter of 12.0 cm, and a wall thickness of 1.5 cm. Temperature control was obtained by two heating

Card 1/2

L 22203-65
ACCESSION NR: AP5002882

elements, one principal, one auxiliary. Temperature was measured in the autoclave by a 100-ohm platinum thermometer and by four copper-constantan thermocouples on PMS-48 and PPTN-1 potentiometers, with an accuracy within 0.2C. Results of measurements on sound velocity in saturated water vapor are shown graphically in Fig. 1 on the Enclosure in comparison with an empirical curve. It is seen that the experimental values between 150 and 350C are in good agreement with the empirical curve, and are in good agreement up to 320C with the theoretical values proposed by I. I. Novikov (Pokazatel' adiabaty* nasy*shchennogo vodyanogo para. Dokl. AN SSSR, 1948, t. 9, No. 8, str. 1425). At higher temperatures the difference becomes marked, and it is concluded that a factor for transition through the saturation curve must be added to the theoretical calculations. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 04May64

ENCL: 01

SUB CODE: GP

NO REF SOV: 004

OTHER: 000

Card 2/3

L 43725-65 EWT(1)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/EED(b)-3 Pc-4/Pr-4/Pu-4
ACCESSION NR: AP5003509 IJP(c) WW/RM S/0207/64/000/006/0119/0121

33
B

AUTHOR: Novikov, I. I. (Novosibirsk); Sheludyakov, Ye. P. (Novosibirsk)

TITLE: Experimental determination of the speed of sound in saturated vapors of benzene, carbon tetrachloride, and diethyl ether

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1964, 119-121

TOPIC TAGS: sound velocity, saturated vapor, benzene vapor, carbon tetrachloride vapor, diethyl ether vapor

ABSTRACT: The article reports on the measurement of the speed of sound in saturated vapors of liquids having low surface tension. These measured values were also compared with the values calculated by using the theoretical formula. The measurements were carried out by the standing wave method on improved equipment described elsewhere in the literature. The measurements in benzene were made in the 90—215°C temperature range, in carbon tetrachloride in the 70—262°C, and in diethyl ether in the 25—190°C temperature range. The value obtained for the speed of sound in benzene is in satisfactory agreement with the published data, but for diethyl there is a deviation of 8% between the experimental and published (theoretically calculated) value, probably due to the different degree of purity of the ether.

Card 1/2

L 43725-65
ACCESSION NRP AP5008509 0

The differences between the experimental and calculated values lie within the limits of experimental error. The comparison of experimental and calculated values was made for temperatures sufficiently removed from critical temperatures at which the theoretical formula is rigorously correct. Nevertheless, there is good agreement even at temperatures higher than those referred to in this study. Orig. art. has: 2 figures, 1 table, and 1 formula.

ASSOCIATION: none

SUBMITTED: 20Jun64 ENCL: 00 SUB CODE: GP,OC

NO REF SOV: 006 OTHER: 001

mc
Card 2/2

L 12864-66 EWT(1) IJP(c)

ACC NR: AP5021920 SOURCE CODE: UR/0207/65/000/004/0168/0169

AUTHOR: Novikov, I. I. (Novosibirsk); Sheludyakov, Ye. P. (Novosibirsk)

ORG: none

TITLE: Calculation of volumetric concentrations of diatomic molecules in saturated and superheated vapors of mercury using experimental data on the speed of sound

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1965, 168-169

TOPIC TAGS: sound wave, ideal gas, thermodynamic equilibrium

ABSTRACT: The authors consider vapors of mercury as an equilibrium mixture of two chemically reacting ideal (monatomic and diatomic)gases. It is assumed that thermodynamic equilibrium exists at every point in space and time during the dispersion of sound waves. In an earlier work, the authors measured the speed of sound in saturated and superheated vapors of mercury at temperatures of 225°-400°C and at a pressure of 0.05-2.2 kg/cm^2. Using these results, volumetric concentrations of diatomic molecules at seven isobars and on the line of saturation were determined. Results of calculations are shown. On each of the isobars, the

Card 1/2

L 12864-66

ACC NR: AP5021920

maximum concentration of diatomic molecules occurs at temperatures of saturation. Calculation of volumetric concentrations of diatomic molecules based on the speed of sound is shown to be more accurate than previous methods. Orig. art. has: 1 table, 2 formulas.

SUB CODE: 20/ SUBM DATE: 05Apr65/ ORIG REF: 002/ OTH REF: 000

Card 2/2 HW

L 26764-66 EWT(l)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/ETC(m)-6 IJP(c) JD/WW/JW/JG
ACC NR: AP6013935 SOURCE CODE: UR/0207/66/000/002/0137/0139

AUTHOR: Novikov, I. I. (Novosibirsk); Sheludyakov, Ye. P. (Novosibirsk)

ORG: none

TITLE: Thermodynamic (t,S) diagram for mercury plotted from experimental data on the velocity of sound

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1966, 137-139

TOPIC TAGS: entropy, thermodynamic characteristic, mercury, isobar, acoustic speed

ABSTRACT: The authors use the method proposed by Novikov and Trelin (I. I. Novikov, Yu. S. Trelin, "Constructing Entropy Diagrams from Experimental Data on the Speed of Sound", *Atomnaya energiya*, 1961, v 10, no 5) for plotting the entropy of mercury as a function of temperature. The results are given in the graph and tables. The dotted lines in the graph show the isobars according to data given by Vukalovich and Fokin (M. P. Vukalovich, L. R. Fokin, "Thermodynamic Properties of Mercury", Proceedings of the MEI, 1963). The maximum devergence with respect to temperature is no more than 1% in any case. Orig. art. has: 3 figures, 2 tables.

Card 1/3

L 26764-66

ACC NR: AP6013935

Isobars in t(°C), S(Kcal/kg gr) coordinates (p--kg/cm^2)

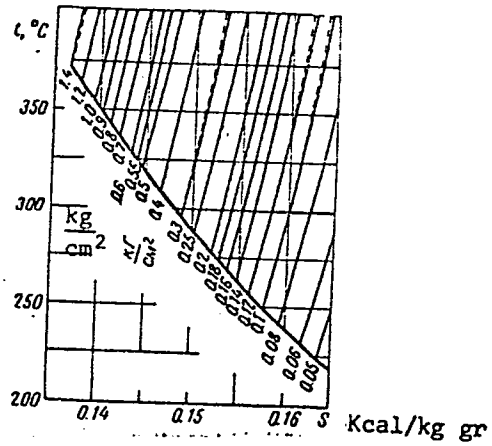
t	S	t	S	t	S	t	S	t	S	t	S
p = 0.05		320	0.1600	400	0.1604	360	0.1557	380	0.1497	400	0.1447
224.5	0.1634	320	0.1609	p = 0.16		380	0.1565	400	0.1504	p = 0.8	
240	0.1643	340	0.1618	268	0.1539	400	0.1573	p = 0.5		341.5	0.1412
260	0.1654	360	0.1626	280	0.1545	p = 0.25		318.8	0.1448	360	0.1419
p = 0.06		380	0.1634	300	0.1554	286.7	0.1504	340	0.1457	380	0.1427
230.9	0.1610	400	0.1642	320	0.1563	300	0.1510	360	0.1465	400	0.1434
240	0.1623	p = 0.12		340	0.1570	320	0.1518	380	0.1474	p = 0.9	
360	0.1633	256.7	0.1563	360	0.1578	340	0.1526	400	0.1482	349.2	0.1403
280	0.1644	260	0.1564	380	0.1585	360	0.1534	p = 0.55		360	0.1407
300	0.1654	280	0.1573	400	0.1593	380	0.1542	322.5	0.1441	380	0.1415
p = 0.08		300	0.1582	p = 0.18		400	0.1550	340	0.1448	400	0.1422
241.0	0.1595	320	0.1591	272.9	0.1530	p = 0.3		360	0.1456	p = 1.0	
260	0.1604	340	0.1599	280	0.1533	294.4	0.1489	380	0.1464	355.0	0.1394
280	0.1614	260	0.16075	300	0.1542	300	0.1492	400	.1471	360	0.1396
300	0.1623	380	0.1616	320	0.1551	320	0.1501	p = 0.6		380	0.1405
320	0.1632	400	0.1624	340	0.1559	340	0.1509	327.0	0.1434	401	0.1413
340	0.1641	p = 0.14		360	0.1567	360	0.1517	340	0.1439	p = 1.2	
360	0.6050	262.7	0.1550	380	0.1574	380	0.1525	360	0.1447	364.0	0.1380
380	0.1650	280	0.1558	400	0.1583	400	0.1532	380	0.14555	380	0.1386
400	0.1668	300	0.1566	p = 0.4		p = 0.4		400	0.14625	400	0.1394
p = 0.1		320	0.1574	277.3	0.1521	309.0	0.1466	p = 0.7		p = 1.5	
249.0	0.1577	340	0.1581	300	0.1532	320	0.1471	335.9	0.1422	373.0	0.1368
260	0.1582	360	0.1589	320	0.1540	340	0.1480	360	0.1432	380	0.13705
280	0.1591	380	0.1597	340	0.1548	360	0.1489	380	0.1440	400	0.13775

Card 2/3

L 26764-66
ACC NR: AP6013935

Isochors in t(°C), S(Kcal/kg gr) coordinates (v--m^3/kg)

t	S	t	S	t	S
v=0.2		360	0.1494	340	0.1590
371.7	0.1370	380	0.1509	360	0.1595
380	0.1372	400	0.1506	380	0.1600
400	0.1376	v=1.0		400	0.1605
v=0.3		284.3	0.1508	v=3.0	
347.2	0.1404	300	0.1512	237.5	0.1604
360	0.14075	320	0.15175	260	0.1611
380	0.1414	340	0.15225	280	0.16165
400	0.1420	360	0.1528	300	0.1622
v=0.4		380	0.1533	320	0.1627
330.3	0.1430	400	0.1538	340	0.1632
340	0.1432	v=1.5		360	0.1638
360	0.1436	226	0.1544	380	0.1643
380	0.1441	280	0.1547	400	0.1649
400	0.1446	300	0.1553	v=3.5	
v=0.5		320	0.1558	231.6	0.1617
318.7	0.1448	340	0.1564	260	0.1626
340	0.1453	360	0.1569	280	0.1632
370	0.1458	380	0.15745	300	0.1636
380	0.1463	400	0.1580	320	0.1643
400	0.1468	v=2.0		340	0.1649
v=0.7		253.6	0.1568	360	0.1655
301.8	0.1476	280	0.1575	380	0.1661
320	0.1482	300	0.1580	400	0.1667
340	0.1488	320	0.1585		



Isobars for mercury in (t,S) coordinates.

SUB CODE: 20/ SUBM DATE: 16Mar65/ ORIG REF: 001/ OTH REF: 002

Card 3/3 pla

ACC NR: AP7007684 SOURCE CODE: UR/0386/66/003/002/0101/0103

AUTHOR: Trelin, Yu. S.; Sheludyakov, Ye. P.

ORG: Institute of Thermophysics, Siberian Branch AN SSSR (Institut teplofiziki Sibirskogo otdeleniya AN SSSR)

TITLE: Experimental determination of the speed of sound in the critical region of carbon dioxide

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu, v. 3, no. 2, 1966, 101-103

TOPIC TAGS: carbon dioxide, acoustic speed, critical point

ABSTRACT: The authors carried out systematic measurements of the speed of sound in the critical region of CO_2. The measurements were made at 500 cps. The results of measurements along four isotherms, including the critical one, are shown in Fig. 1. The isotherms of the speed of sound have a sharp minimum near the critical point. The lowest error in the speed of sound, equal to 0.25%, is observed at the ends of the isotherms. On approaching the minima of the speed of sound, the error rises and reaches 1%. Values obtained by other authors for CO_2 were 140 m/sec, 150 m/sec, and 141.6 m/sec. The smallest value of the speed of sound recorded in this work is 132 m/sec. In processing the measurement results it was found that the points of the sound-speed minima on the isotherms plotted in temperature/pressure coordinates

Card 1/2 UDC: none

ACC NR: AP7007684

lie on a line which is the continuation of the liquid-vapor phase-equilibrium curve. Orig. art. has: 2 figures.

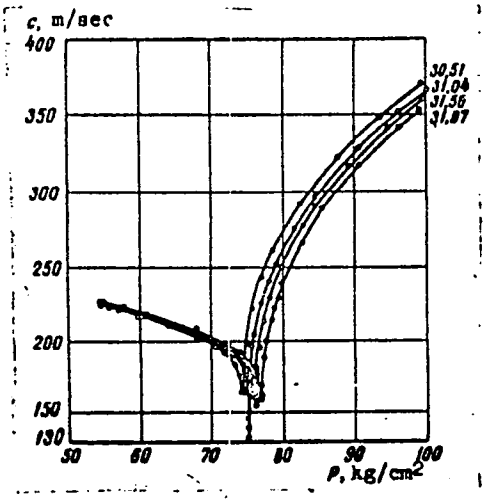


Fig. 1

SUB CODE: 20, 07 / SUBM DATE: 13Dec65 / ORIG REF: 002 / OTH REF: 003

Card 2/2

SHELUDYAKOV, Ye.Ye., polkovnik meditsinskoy sluzhby

Arteries of the retina in hypertension. Voen.-med. zhur. no.4:72-74 Ap '61. (MIRA 15:6)

(HYPERTENSION)
(RETINA--BLOOD SUPPLY)

L 11364-67 EWT(1) SCTB DD/GD

ACC NR: AT6036509 SOURCE CODE: UR/0000/66/000/000/0081/0083

AUTHOR: Buyanov, P. V.; Galkin, A. V.; Terent'yev, V. G.; Sheludyakov, Ye. Ye.; Pisarenko, N. V.; Yaroshenko, G. L.

32

ORG: none

TITLE: Problems of the selection of candidates for special crews [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 81-83

TOPIC TAGS: cosmonaut selection, bioastronautics, space physiology, space psychology, psychophysiology, cosmonaut training

ABSTRACT: The systematic exposure of young test pilots to aviation or space-flight conditions is of importance relative to perfecting methods for selecting pilots and cosmonauts. Considering the caliber of professional activity, the test pilot must be in excellent physical and mental condition.

Selection takes place in three stages: preliminary ambulatory selection, stationary examination in special medical establishments, and elimination during the first months of occupational activity.

Card 1/3

L 11364-67

ACC NR: AT6036509

During preliminary selection, the medical commission was given documents describing anamnesis data, general and physical development, and medical treatment in the preceding year. After familiarization with these documents, nearly half the applicants were rejected due to therapeutic status or poor eyesight. During preliminary ambulatory examinations, medical specialists (therapists, otolaryngologists, neuropathologists, surgeons) analyzed blood, urine, EKG's during rest and after exercise, x-ray films of thoracic organs and nasal accessory sinuses, and conducted vestibular and other functional tests. In some cases, spinal x-rays, pressure chamber exposure, etc., were conducted.

Rejections during the first examination phase were high. The main reasons for rejection were ear, nose, and throat ailments, neurocirculatory dystonia, and vestibulo-autonomic instability.

During the stationary phase, an expanded program of clinical, physiological, and specialized tests was used. From 25 to 50% of the candidates who had passed the first phase of examinations were rejected. The main causes of rejection were diseases of internal organs (nearly half the rejects), vestibulo-autonomic instability, ear, nose, and throat diseases, and spinal disorders.

Card 2/3

ACC NR: AP6036509

In recent years, rejection of candidates during the second phase has declined as a result of a more detailed examination during the first phase and new methods of examination. For instance, substitution of the standard OR-10 vestibular test with I. I. Bryanov's test (summation of vestibular stimuli during Coriolis accelerations) significantly decreased the number of rejects due to vestibular disorders. At the same time, ear, nose, and throat rejects were more accurately diagnosed by substituting otoscopy and manometric examinations (Boyachev and Gerasimov manometers) with pressure chamber tests. Spinal x-rays during the ambulatory phase could not be justified.

The occupational activity of a number of candidates produced some changes which precluded their further participation and caused their rejection from testing work. About 10% of the candidates were found to be unsatisfactory during this phase.

These data permit the examiner to foresee probable deviations in health under occupational conditions during the selection phase, to evaluate individual methods applicable to selection, and to prognose work capacity under the influence of external factors. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 05,06 / SUBM DATE: 00May66

Card 3/3

GORODINSKIY, S.M.; ZOLINA, Z.M.; KRAPIVENTSEVA, S.I.; SHELUDYAKOVA, M.P.; SHIRSKAYA, V.A.

Sanitary aspects of working conditions in spectrum analysis laboratories. Gig.sanit., Moskva no.3:32-38 Mar 1951. (CLML 20:7)

1. Of the Institute of Labor Hygiene and Occupational Diseases of the Academy of Medical Sciences USSR.

SHELUDYAKOVA, V. A.

Sheludyakova, V. A. - "The vegetation of north-east Yakut," In the symposium: Doklady na Pervoy Nauch. sessii Yakut. bazy AN SSSR, Yakutsk, 1948, p. 164-76

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

SHELUDYAKOVA, V.A.

Steppe vegetation in the regions of Yakutia north of the Arctic Circle. Trudy Inst. biol. IAFAN SSSR no.3:68-82 '57. (MIRA 11:5)
(Yakutia--Steppe flora)

L

COUNTRY : USSR
CATEGORY : Meadow Cultivation

ABS. JOUR. : RZhBiol., No. 3, 1959, No. 10815

AUTHOR : Sheludyakova, V. A.
INST. : Institute of Biology, Yakutsk Affiliate, AS USSR
TITLE : A Brief Sketch of the Meadows in Lena River Valley Within the Borders of Central Yakutsk Plain.

ORIG. PUB. : Tr. In-ta biol. Yakutskiy fil. AN SSSR, 1957, vyp. 3, 139-156

ABSTRACT : The Institute of Biology, Yakutsk Affiliate AS USSR carried out an investigation of the meadows in Lena River Valley within the borders of Yakutsk Plain. It was found that this segment is not homogeneous and is divided into two different sections. The first one - the upper section - where the principal meadow lands are located, has been opened for cultivation and is intensively utilized. The second section - the severely swamped lower segment - has the importance of a vast potential reservation which is little utilized at the present time but which has enormous areas of meadow lands requiring improvement work. A char-

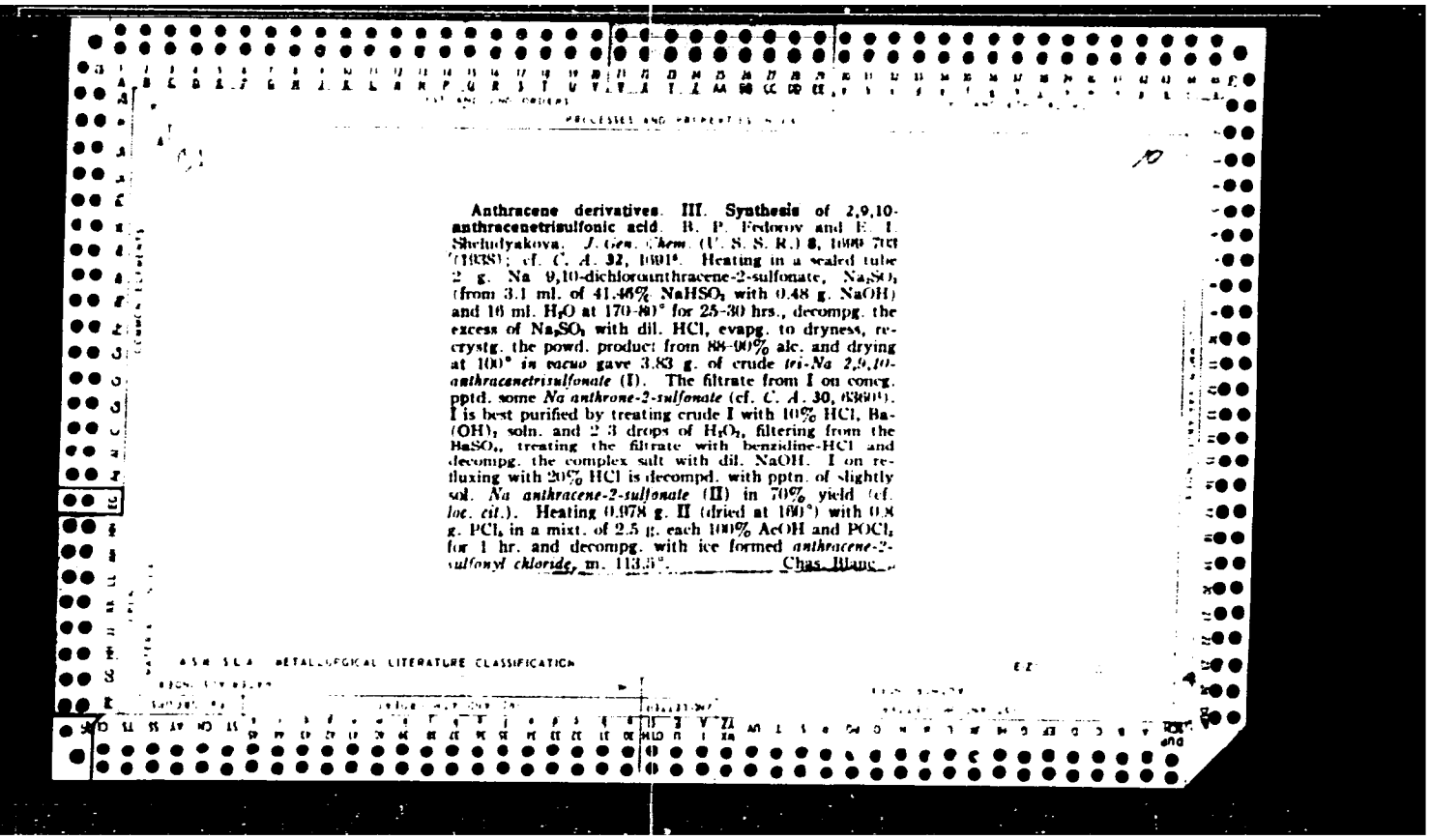
CARD: 1/2

SHELUDYAKOVA, R.M.

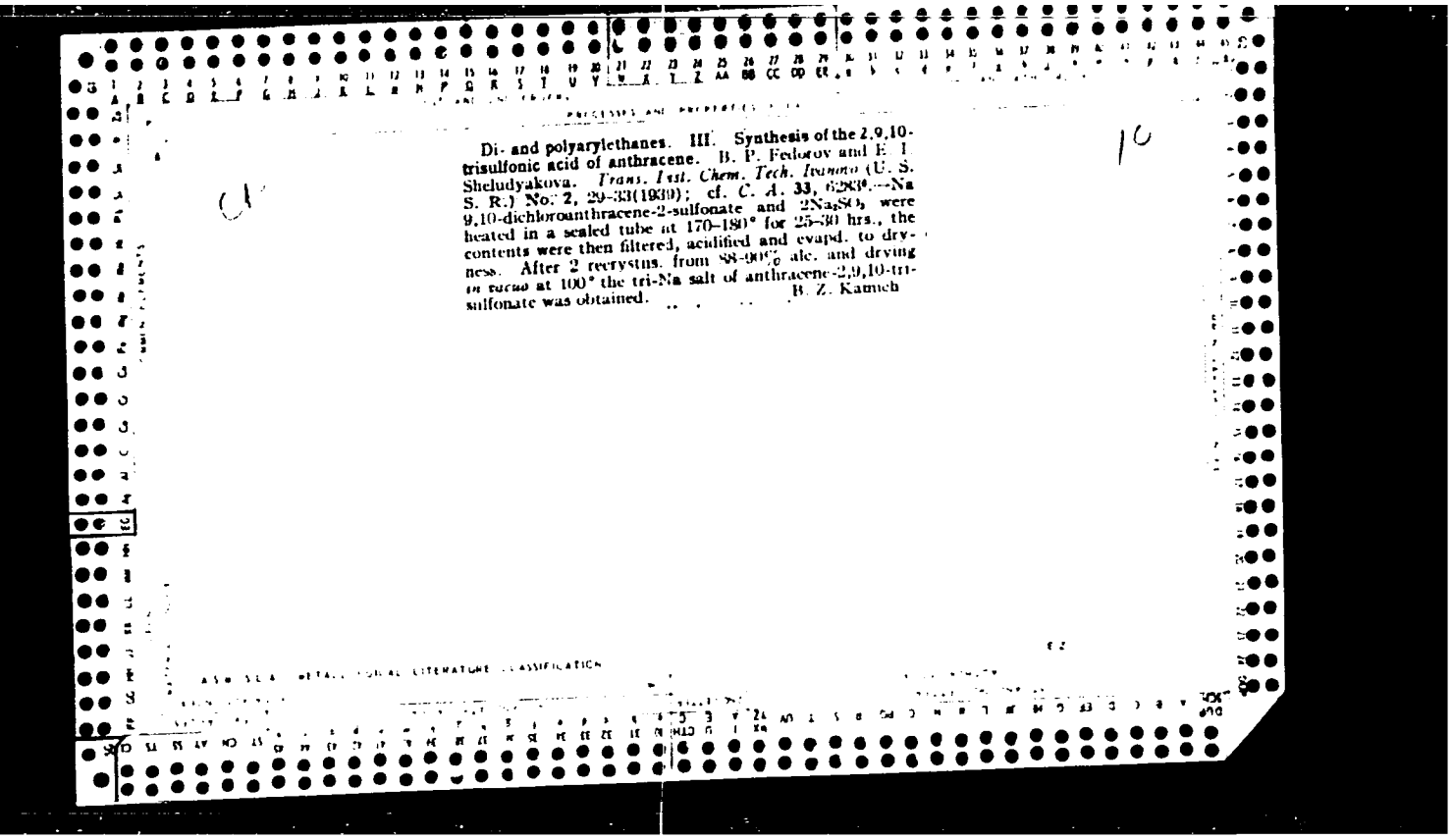
Some characteristics of agrometeorological conditions for the development of the late potato blight in the Ukraine. Trudy UkrNIGMI no.28:77-84 '62. (MIRA 15:8)
(Ukraine--Potato rot) (Ukraine--Meteorology, Agricultural)

LICHIKAKI, V.M.; SHELUDYAKOVA, R.M.

Packed ice crust and its distribution in the territory of the Ukrainian S.S.R. Trudy UkrNIGMI no.44:77-83 '64. (MIRA 17:11)



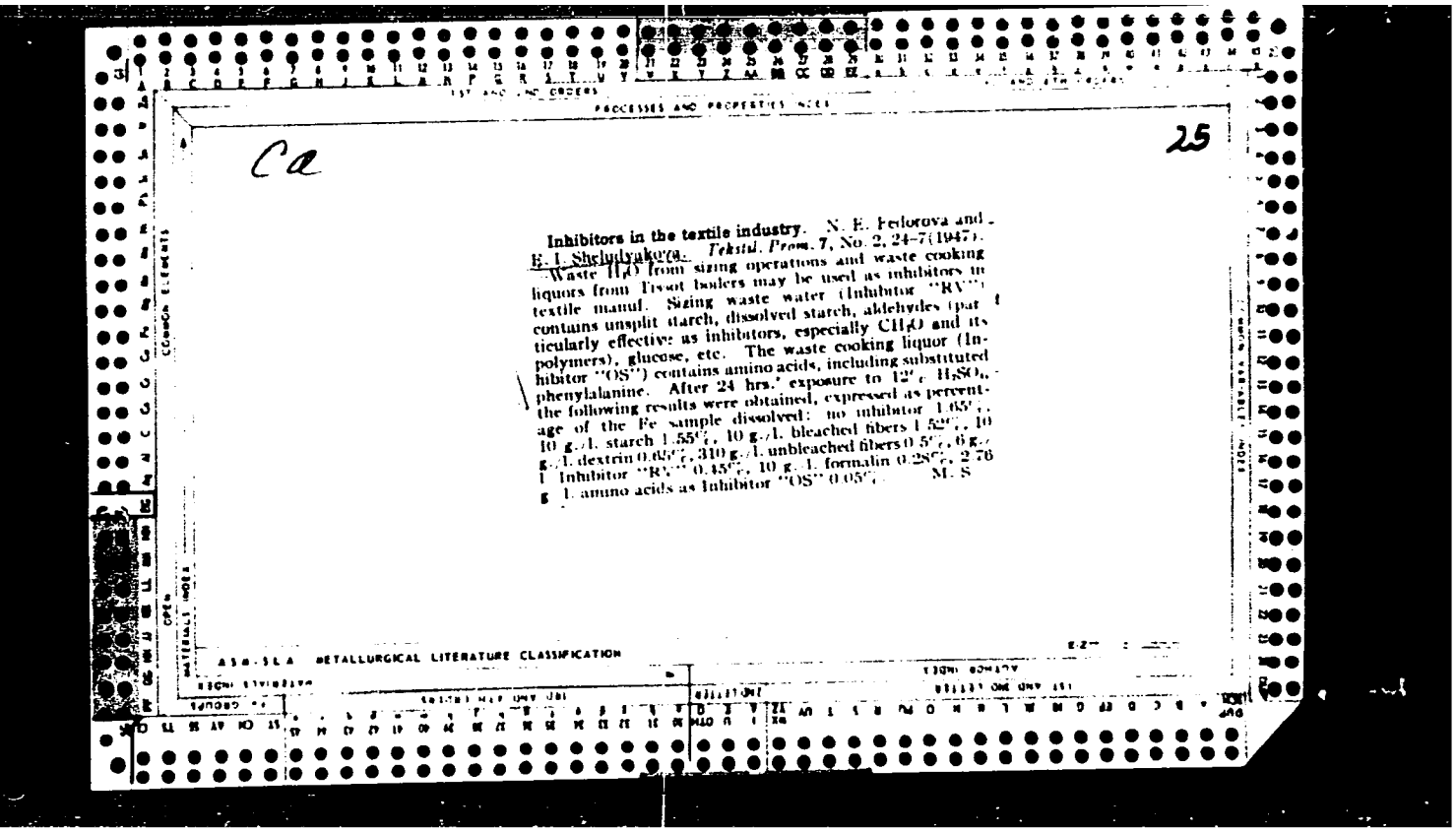
Anthracene derivatives. III. Synthesis of 2,9,10-anthracenetrisulfonic acid. B. P. Fedorov and E. I. Shchudyakova. *J. Gen. Chem.* (U. S. S. R.) **8**, 1699-703 (1938); cf. *C. A.* **32**, 1091⁸. Heating in a sealed tube 2 g. Na 9,10-dichloroanthracene-2-sulfonate, Na_2SO_3 (from 3.1 ml. of 41.46% $NaHSO_3$ with 0.48 g. NaOH) and 16 ml. H_2O at 170-80° for 25-30 hrs., decompg. the excess of Na_2SO_3 with dil. HCl, evapg. to dryness, recrystg. the powd. product from 88-90% alc. and drying at 100° *in vacuo* gave 3.83 g. of crude *tri-Na 2,9,10-anthracenetrisulfonate* (I). The filtrate from I on concg. pptd. some *Na anthrone-2-sulfonate* (cf. *C. A.* **30**, 6360⁹). I is best purified by treating crude I with 10% HCl, $Ba(OH)_2$ soln. and 2-3 drops of H_2O_2, filtering from the $BaSO_4$, treating the filtrate with benzidine-HCl and decompg. the complex salt with dil. NaOH. I on refluxing with 20% HCl is decompd. with pptn. of slightly sol. *Na anthracene-2-sulfonate* (II) in 70% yield (cf. *loc. cit.*). Heating 0.978 g. II (dried at 160°) with 0.8 g. PCl_5 in a mixt. of 2.5 g. each 100% AcOH and $POCl_3$ for 1 hr. and decompg. with ice formed *anthracene-2-sulfonyl chloride*, m. 113.5°. Chas. Blanc



Di- and polyarylethanes. III. Synthesis of the 2,9,10-trisulfonic acid of anthracene. B. P. Fedorov and E. I. Sheludyakova. *Trans. Inst. Chem. Tech. Ivanovo* (U. S. S. R.) No. 2, 29–33(1939); cf. *C. A.* 33, 6283⁶.—Na 9,10-dichloroanthracene-2-sulfonate and $2Na_2SO_3$ were heated in a sealed tube at 170–180° for 25–30 hrs., the contents were then filtered, acidified and evapd. to dryness. After 2 recrystns. from 88-90% alc. and drying *in vacuo* at 100° the tri-Na salt of anthracene-2,9,10-trisulfonate was obtained. B. Z. Kamieh

FEDOROVA, N.E.; SHELUDYAKOVA, E.I.

[Corrosion] inhibitors [for ferrous metals] in the textile industry. (Tekst.prom., 1947, No.2, 24-25). (MLRA 2:1)
(BA - B I Ap '50:344)



Ca

25

Inhibitors in the textile industry. N. E. Fedorova and E. I. Shchulyakova. *Tekstil. Prom.* 7, No. 2, 24–7(1947).—Waste H_2O from sizing operations and waste cooking liquors from Tvsot boilers may be used as inhibitors in textile manuf. Sizing waste water (inhibitor "RV") contains unsplit starch, dissolved starch, aldehydes (par ticularly effective as inhibitors, especially CH_2O and its polymers), glucose, etc. The waste cooking liquor (Inhibitor "OS") contains amino acids, including substituted phenylalanine. After 24 hrs.' exposure to 12% H_2SO_4, the following results were obtained, expressed as percentage of the Fe sample dissolved: no inhibitor 1.65%, 10 g./l. starch 1.55%, 10 g./l. bleached fibers 1.52%, 10 g./l. dextrin 0.65%, 310 g./l. unbleached fibers 0.5%, 6 g./l. Inhibitor "RV" 0.45%, 10 g./l. formalin 0.28%, 2.76 g./l. amino acids as Inhibitor "OS" 0.05%. M. S

A14-51A METALLURGICAL LITERATURE CLASSIFICATION

SH [illegible]YA, YE. I.

23372 Smyvaemost' Zagustok S Tkani. (Iz Opyta Fabriki Bim). Tekstil. Prom-st', 1949, No. 7, c. 31-34.

SO: LETOPIS NO. 31, 1949

SHELYDYAKOVA, Yu. I.

Preparation of stable diazo compounds. H. E. Fedorova and E. I. Shelydiakova (*Tekstil. Prom.*, 1934, No. 1, 46—48).—A conc. solution of 4-nitro-2-aminotoluene hydrochloride, containing 4 mol. of HCl per mol. of amine, was diazotised by the usual methods and, while stirring vigorously, dry ZnO (in a quantity equivalent to 1 mol. of the HCl) was added to the diazo solution. The $ZnCl_2$ formed with the diazo compound a di-salt, which precipitated from the saturated solution in the form of a stable, water-soluble, whitish-yellow compound. The di-salt was identical as regards its properties with the diazoles. Max. yield of the salt was obtained at an amine concn. of 90—100 g./l. The di-salt was also obtained by reaction with $CaCO_3$ or MgO. Application of the dyes in resist dyeing is discussed. [. Text. Inst. (R.B.C.).

SHELUDYAKOVA, E.I.

✓Neutralization of diazo solutions with chalk. N. F. Fedorova and E. I. Sheludyakova. *Textil-Praxis* 10, 968-71(1954).—See [illegible] H. L. H.

Stable diazo compounds. N. E. Fedorova and E. I. Sheludyakova. *Tekstil. Prom.* 14, No. 1, 46–8(1954).—In dyeing with ice dyes, stable active diazo compds. are used. They are obtained by addn. of $ZnCl_2$, $CdCl_2$, naphthalenesulfonic acids, etc. to diazonium hydrochlorides. For ruby shades, an Azoamine Ruby G, 4-nitro-2-amino toluene (I), is used. A stable salt of diazotized I can be obtained by treating I in soln., contg. 4 moles HCl per mole amine, with dry ZnO in an amt. equiv. to 1 mole HCl. The isolated double salt is water-sol., neutral to Congo red, and easily coupled with Azotol A. It dyes the fabric flame-red.

Elisabeth Barabash

SHELUDYAKOVA, Ye. I.

FEDOROVA, N.Ye.; SHELUDYAKOVA, Ye.I.

Neutralizing diazo-solutions with chalk. Tekst.prom.14 no.2:26-29 F '54. (MLRA 7:5)

1. Khimicheskaya laboratoriya fabriki BIM. (Dyes and dyeing)

SHELUDYAKOVA, I. E.

G-1

3

Stable diazo compounds. N. E. Fedorova and E. I. Sheludyakova. *Tekstil. Prom.* 14, No. 7, 38–9(1954). C. A. 48, 9701h.—Stabilization of diazotized amines (I) resulting from the neutralization of their solns. with chalk or ZnO is ascribed to a formation of a double salt between I and $CaCl_2$ or $ZnCl_2$. Elisabeth Barabash

SHELUDYAKOVA, Ye. I.

Neutralization of diazo solutions with chalk. N. E. Fedorova and E. I. Sheludyakova. *Tekstil. Prom.* 14, No. 2, 26-8(1954); cf. 10, No. 12, 49(1950).—Chalk, in amts. equiv. to the amt. of free HCl, can be advantageously used instead of AcONa to neutralize basic azo dyes. $CaCl_2$ formed is present as a double salt which increases the stability of the diazo compd.

Elisabeth Barabash

SHELUKHIN, A.P., polkovnik, delegat XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza

Collective of the S.M. Kirov Military Medical Academy of the Order of Lenin will carry out the tasks placed before it. Voen.-med. zhur. no.11:9 N '61. (MIRA 15:6)

1. Sekretar' partiynogo komiteta Voyenno-meditsinskoy ordena Lenina Akademii imeni S.M. Kirova.
(MILITARY MEDICINE)

AVDONIN, [illegible]; NOVIKOV, [illegible] (Novosibirsk); [illegible]
[illegible] (Novosibirsk)

Experimental determination of the speed of sound waves in [illegible] vapor at high pressures. PMTF no.5:155-162 [illegible]
(MIRA 16:4)

KLEYNERMAN, Yu.A., inzh.; KRASNOV, K.A., red.; SHELUKHIN, A.S., red.; KOGAN, F.L., tekhn.red.

[Garage and repair-shop equipment; reference catalog] Garazhnoe i remontnoe oborudovanie; katalog-spravochnik. Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1955. 179 p. (MIRA 12:3)

1. GARO, trust, Moscow. 2. Glavnyy inzhener tresta "Garazhnoye i avtoremontnoye oborudovaniye" Glavnogo upravleniya promyshlennykh predpriyatiy Ministerstva avtomobil'nogo transporta i shosseynykh dorog SSSR (for Krasnov).
(Automobiles--Maintenance and repair)

LOSAVIO, Georgiy Semenovich; SEMENOV, Nikolay Vasil'yevich; SHELUKHIN, A.S., redaktor; GALAKTIONOVA, Ye.N., tekhnicheskiy redaktor

[Easy ways of starting automobile carburetor engines at low temperatures] Sposoby oblegcheniia puska avtomobil'nykh karbiuratornykh dvigatelei pri nizkikh temperaturakh. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1957. 34 p. (MLRA 10:9)
(Automobiles--Starting devices)

ZHERNOVKOV, A.S.; NIKONENKO, I.N.; KOLYCHEV, A.L., red.; SHELUKHIN, A.S., red.; KOGAN, F.L., tekhn.red.

[Garage and automobile repairing equipment; a reference catalog] Garazhnoe i avtoremontnoe oborudovanie; katalog-spravochnik, Sostaviteli A.S.Zhernovkov i I.N.Nikonenko. Pod. obshchei red. A.L. Klycheva. Moskva, Nauchno-tekhn.izd-vo avtotransp. lit-ry, 1957. 191 p. (MIRA 11:3)

1.Russia (1917- R.S.F.S.R.) Ministerstvo avtomobil'nogo transporta i shosseynykh dorog. 2.Glavnyy inzhener Tresta po rukovodstvu zavodami po proizvodstvu garazhnogo oborudovaniya (for Kolychev)
(Automobiles--Service stations)

GRUZINOV, Vasiliy Il'ich; KLENNIKOV, Vladimir Mikhaylovich; SHELUKHIN, A.S., red.; MAL'KOVA, M.V., tekhn.red.

[Manual for first rank drivers] Uchebnik shofera pervogo klassa. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1958. 319 p. (Automobiles--Repairing) (MIRA 11:3)

KHOROZ, V.I., kand.tekhn.nauk; SHELUKHIN, A.S.

Moments of inertia for motor-vehicle wheels. Avt.prom. no.9:22-23 S '60. (MIRA 13:9)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut i Moskovskiy avtozavod imeni Likhacheva.
(Motor vehicles--Dynamics)

KNOROZ, V.I., kand.tekhn.nauk; PETROV, I.P.; SHELUKHIN, A.S.

Estimating the traction of the wheel. Avt. prom. 27 no. 4:8-12 Ap '61. (MIRA 14:4)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.
(Motor vehicles—Wheels)

KOVAL'CHUK, Vladimir Prokof'yevich; SHELUKHIN, A.S., red.;
GALAKTIONOVA, Ye N., tekhn. red.

[Manual for tire mounters] Posobie shinomontazhniku. Moskva, Avtotransizdat, 1962. 109 p. (MIRA 15:7)
(Automobiles--Tires)

GUREVICH, D.F., kand. tekhn. nauk; SHELUKHIN, A.S., inzh., retsenzent

[Design and construction of pipe fittings] Raschet i konstruirovanie truboprovodnoi armatury. Izd.3., perer. i dop. Moskva, Mashinostroenie, 1964. 831 p. (MIRA 18:6)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549020010-9"

KNOROZ, V.I., kand.tekhn.nauk; SHELUKHIN, A.S.

Experimental data on the rolling resistance of motor-vehicle tires on highways with hard pavement. Avt.prom. 30 no.2: 17-21 F '64. (MIRA 17:4)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.

O.LOV, Boris Viktorovich, doktor tekhn. nauk, prof.; MAZING, Georgiy Yur'yevich, kand. tekhn. nauk, dots.; PANICHKIN, I.A., doktor tekhn. nauk, retsenzent; SHELUKHIN, G.G., doktor tekhn. nauk, retsenzent; GOROKHOV, M.S., doktor tekhn. nauk, retsenzent; KOTEL'NIKOV, A.V., kand. tekhn. nauk, red.

[Thermodynamic and ballistic bases for the design of solid-propellant rocket engines] Termodinamicheskie i ballisticheskie osnovy proektirovaniia raketnykh dvigatelei na tverdom toplive. Moskva, Mashinostroenie, 1964. 406 p. (MIRA 17:11)

3405 SHELUKHIN I. P.

Opyt rentabel'noy raboty stroitel'nogo upravleniya No. I (Trest "Kirovshakhtostroy" Kombinata "Karagandashakhtostroy") M., 1954. 16S 22sm (M-vo ugol'noy prom-sti SSSR Tekhn. UPR Tsentr: in-t tekhn. informatsii 3.000 ekz. bespl. (54-57345) p 622.333: 622.25 + 622.0031

SHELUKIN, I. S.

Shelukin, I. S. and Skalozubova, A. N. "Cats," In symposium: Nauch. otchet Tulun. gos. selekts. stantsii za 1941-1944 gg., Moscow, 1948, p. 36-44

SO: U-3264, 10 April 53 (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

SHELUKHIN, I. S.

Shelukhin, I. S. and Skalozubova, A. N. "Barley," In symposium: Nauch. otchet Tulun. gos. selekts, stantsii za 1941-1944 gg., Moscow, 1948, p. 45-52

SO: U-3264, 10 April 53 (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

SHELUKHIN, I. S.

Shelukhin, I. S. and Skalozubova, A. N. "On the sowing times of oats according to previous data," In symposium: Nauch. otchet Tulun. gos. selekts, stantsii za 1941-1944 gg., Moscow, 1948, p. 99-101

SO: U-3264, 10 April 53 (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

USSR/Soil Science. Tillage. Land Reclamation. Erosion. J-5

Abs Jour: Ref Zhur-Biol , No 6, 1958, 24812.

Author : Shelukhin, I.S.
Inst :
Title : Problems of the Tillage of Soil in the Kupinskiy Rayon (Novosibirskoy Oblast).

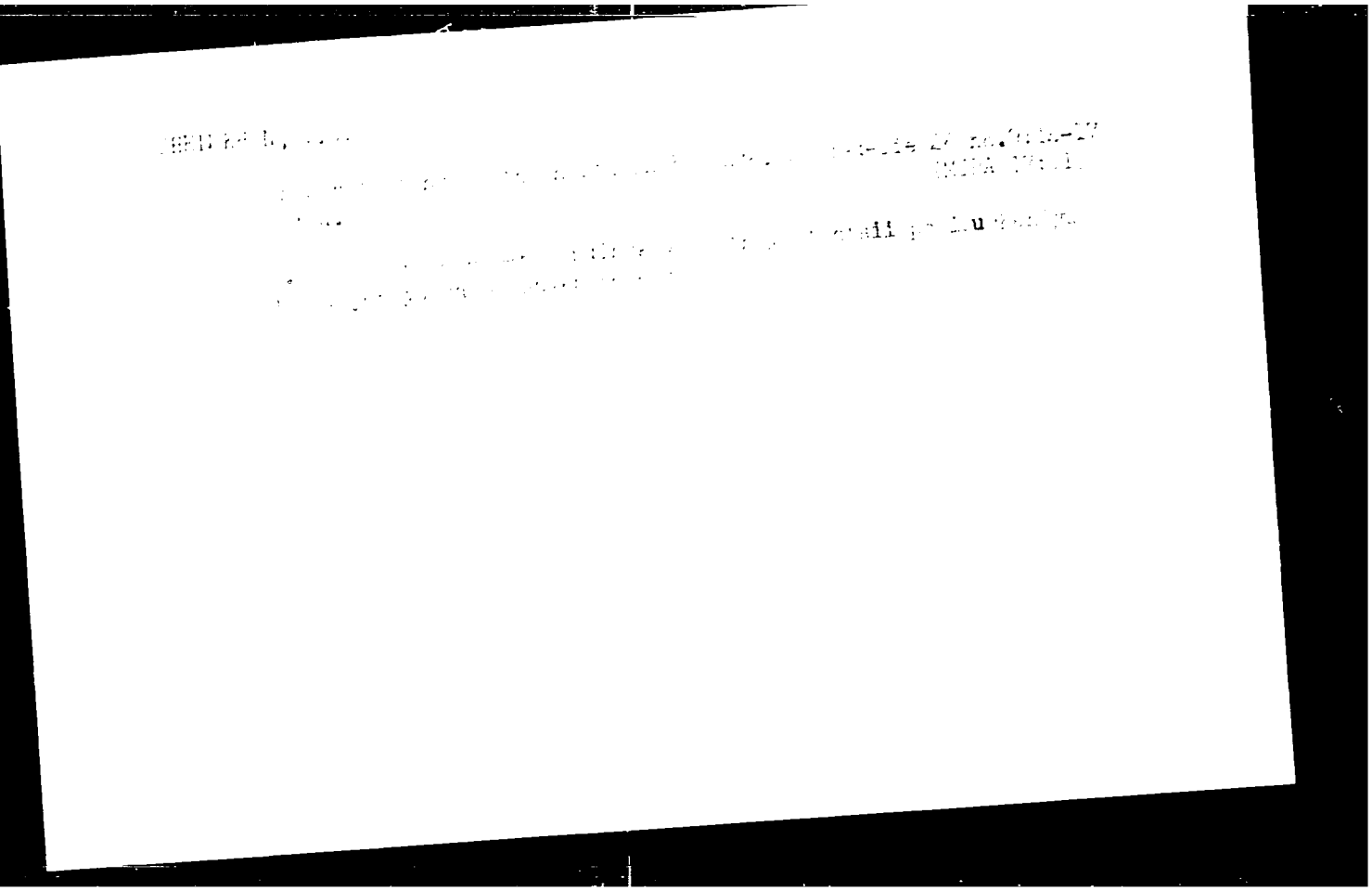
Orig Pub: S. kh. Sibirii, 1957, No 8, 28-32.

Abstract: No abstract.

Card : 1/1

SHVIUKIN, I.S.

Economic evaluation of land. Zemledelie 6 no.8:83-85 Ag '58.
(MIRA 12:11)
(Land)



[illegible], [illegible]

Dissertation: "Investigation of the European Spindle Tree Growing on the Improved Peat-Marsh Soils of the Lowland Type in the Belorussian SSR." Cand Agr Sci, Inst of Forestry, [illegible] Sci [illegible], [illegible] May 54. Vechernyaya Moskva, Moscow, [illegible] May 54.

SO: SUM [illegible], [illegible] Nov 1954

SHELUKHIN, N.V.

Natural thickets of the European spindle tree and its plantations on peat soils. Trudy Inst. lesa 46:35-39 '58. (MIRA 11:6)

1. Belorusskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva.
(Spindle tree)

SHELOKHIN, N.V.; POBEDOV, V.S.

Phosphorus uptake by conifer seedlings. Sbor. nauch. rab. Bel. otd. VBO no.3:236-239 '61. (MIRA 14:12)
(Coniferae) (Phosphorus)

SHELUKHIN, N. V.

"Acceleration of growth in forest nurseries under the infulence of micro-elements"

SHELUKHIN, I. V.; POTAPOV, A. N. ENG.

Tsimlyansk - Hydraulic Engineering

Hydromechanization at the TSimlyansk hydro-development. Medh. trud. rab. 6 No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress October 1952. UNCLASSIFIED.

1. ROZINOYEV, S. T., SHELUKHIN, F. V.

2. USSR (600)

4. Earthwork - Tsimlyansk Hydroelectric Power Station

7. Hydromechanization work under winter conditions. Mekh. stroi. 9 no. 12: 1952

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BARANOVA, N.M.; BASS, Yu.B.; BOGDANOVICH, V.V.; VIL'GOS, Ye.F.; GRAZHDANTSEV, I.I.; GRYAZNOV, V.I.; GUTOROVA, Ye.D.; KABRIZON, V.M.; MOLYAVKO, G.I.; MOROKHOVSKAYA, M.S.; NOSOVSKIY, M.F.; ROMODANOVA, M.P.; SOSNOV, A.A.; SHEVCHENKO, Ye.S.; USENKO, I.S.; Prinimali uchastiye: BAR', A.G., inzh.-gidrogeolog; SACHENKO-SAKUN, V.N., st. topograf; SHELUKHINA, A.V., st. tekhnik-geolog; [illegible], M.A., st. tekhnik-geolog; REUTOVSKAYA, E.A., tekhnik; SHCHERBAK, A.G., akademik, glav. red.[deceased]

[Nikopol' manganese-ore basin] Nikopol'skii margantsevo-rudnyi bassein. Moskva, Izd-vo "Nedra," 1964. 434 p. (MIRA 17:6)

Institut geologicheskikh nauk AN Ukr.SSR (for Baranova, Molyavko, Romodanova, Usenko). 2. Nauchno-issledovatel'skiy institut geologii Dnepropetrovskogo gosudarstvennogo universiteta (for Gryaznov, Nosovskiy). 3. Trest "Dneprogeologiya" (for Bogdanovich, Kabrizon). 4. Trest "Kiyevgeologiya" (for Bass). 5. Trest "Nikopol'-Marganets" (for Vil'gos, Grazhdantsev, Sosnov).

L 07969-67 EWT(1) GD
ACC NR: AT6022278 SOURCE CODE: UR/0000/66/000/000/0069/0079

AUTHOR: Vamberskiy, M. V.; Shelukhin, S. A.

ORG: none

TITLE: The application of the eigenvalue method in the calculation of the frequency characteristics of stripline Y-circulators

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya kvantovoy elektroniki. Doklady. Moscow, 1966, 60-79

TOPIC TAGS: waveguide, waveguide propagation, waveguide design, eigenvalue

ABSTRACT: An analysis of the operation of stripline Y-circulators is presented. The computations are based on a dispersion matrix and associated eigenvalues. The elements of the dispersion matrix

$$\overline{S} = \begin{vmatrix} \alpha & \beta & \gamma \\ \gamma & \alpha & \beta \\ \beta & \gamma & \alpha \end{vmatrix} \qquad (1)$$

are related with its eigenvalues as follows:

$$\alpha = \frac{1}{3}(e^{j\theta_1} + e^{j\theta_2} + e^{j\theta_3})$$

$$\beta = \frac{1}{3}[e^{j\theta_1} + e^{j(\theta_2 - 120^\circ)} + e^{j(\theta_3 + 120^\circ)}], \qquad (2)$$

Card 1/5

where the eigenvalues $e^{j\theta_0}$, $e^{j\theta_1}$, and $e^{j\theta_2}$ are the reflection coefficients at the junction, fed by a combination of waves corresponding to the eigenvectors of the matrix

$$\bar{\lambda}_0 = \begin{vmatrix} 1 \\ 1 \\ 1 \end{vmatrix}, \quad \bar{\lambda}_1 = \begin{vmatrix} 1 \\ e^{j120^\circ} \\ e^{-j120^\circ} \end{vmatrix}, \quad \bar{\lambda}_2 = \begin{vmatrix} 1 \\ e^{-j120^\circ} \\ e^{j120^\circ} \end{vmatrix}. \qquad (3)$$

To determine the eigenvalues for the configuration shown in figure 1, use is made of the relation for the characteristic impedance of transmission lines

$$Z_0 = \frac{U_{inc} - U_{refl}}{U_{inc} - U_{refl}} = \frac{U}{I} \qquad (4)$$

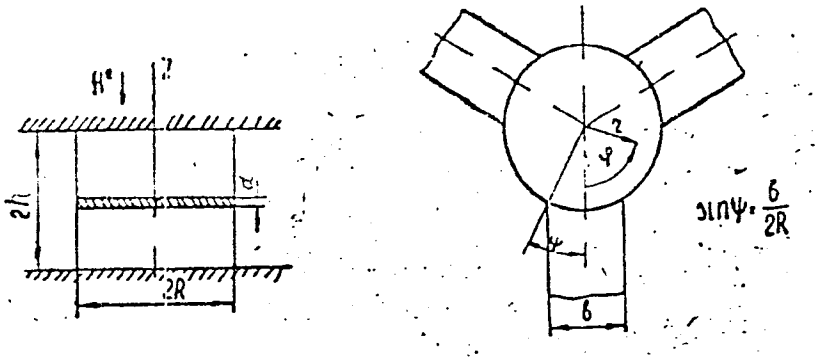


Fig. 1

The values of potential U and current I at the boundary ferrite-air can be expressed in terms of the fields and circulator dimensions h and b (see fig. 1)

$$U = E_z h, \quad (5) \qquad I = H_\varphi 2b, \quad (6)$$

Expression (4) may now be written as

$$\frac{1 + e^{j\theta_1}}{1 - e^{j\theta_1}} = \frac{ahE_z}{Z_0 2bH_\varphi}. \quad (7)$$

or explicitly, in terms of circulator parameters, as

$$\frac{1 + \frac{a3Z_\phi h}{4\pi Z_0 R} \sum_{3m+1} \left(\frac{\sin n\psi}{n\psi}\right)^2 \frac{1}{\frac{n}{x}\frac{k}{\mu} - \frac{I'_n(x)}{I_n(x)}}}{1 - \frac{a3Z_\phi h}{4\pi Z_0 R} \sum_{3m+1} \left(\frac{\sin n\psi}{n\psi}\right)^2 \frac{1}{\frac{n}{x}\frac{k}{\mu} - \frac{I'_n(x)}{In(x)}}}, \quad (8)$$

where $Z_\phi = \sqrt{\frac{\mu_0 \mu_\perp}{\varepsilon_0 \varepsilon}}$; $x = \frac{2\pi}{\lambda}\sqrt{\mu_\perp \varepsilon} R$; $\mu_\perp = \frac{\mu^2 - k^2}{\mu}$;

μ_0, ε_0 is the permeability and dielectric coefficients of the inner medium in the waveguide, ε is the dielectric coefficient of the ferrite, μ, k is the diagonal and nondiagonal tensor components of the ferrite's permeability coefficient, λ is the free space wavelength, R is the radius of the ferrite disc, $J_n(x)$ is the Bessel function of the first kind, n-th order and $J'_n(x)$ is its derivative with respect to x. Using expressions (2) and (8), the authors derive the expressions relating the properties of the Y-circulator α, β, γ to the ferrite parameters and the junction geometry:

$$\alpha = \frac{1}{3}\frac{-3F^4 + 2F^2(3C^2 - a^2) - C^2(3C^2 + 2a^2) + a^4 - j4aF[(C^2 - a^2) - F^2]}{(a^2 + C^2 - F^2)^2 + 4a^2F^2},$$

$$\beta = \frac{2a}{3}\frac{(\sqrt{3}C - a)(a^2 + C^2) - F^2(\sqrt{3}C + a) - jF[(a^2 - C^2 - 2\sqrt{3}aC) + F^2]}{(a^2 + C^2 - F^2)^2 + 4a^2F^2}, \quad (9)$$

$$\gamma = -\frac{2a}{3}\frac{(\sqrt{3}C + a)(a^2 + C^2) + F^2(a - \sqrt{3}C) - jF[(C^2 - a^2 - 2\sqrt{3}aC) - F^2]}{(a^2 + C^2 - F^2)^2 + 4a^2F^2}.$$

where

$$a = \frac{3\alpha h Z_\Phi}{4\pi R Z_0}; \quad C = \frac{k/\mu}{x}; \quad F = \frac{J_1'(x)}{J_1(x)}.$$

The results are used to generate a polar plot for the values of input impedance of the circulator for a specific case. Orig. art. has: 4 figures, 19 formulas.

SUB CODE: 09,17,12/ SUBM DATE: 11Apr66/ ORIG REF: 001/ OTH REF: 005

SHELUKHINA, L. A.

SHELUKHINA, L. A.: "The excretion of iron from the organism of patients with acute and chronic dysentery and its clinical significance". Moscow, 1955. Second Moscow State Medical Inst imeni I. V. Stalin.
(Dissertation for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

1510. DETERMINATION OF SERUM ALDOLASE ACTIVITY IN BOTKIN'S DISEASE (INFECTIOUS HEPATITIS) AND ITS DIAGNOSTIC SIGNIFICANCE (Russian text) - Shelukhina L. A. and Panina A. A. - TER. ARKH. 1957, 29/9 (78-82) Graphs 1 Tables 1

The aldolase activity is consistently increased. It is not increased in other forms of jaundice of non-infectious genesis.

Brokman - Warsaw (L, 6)

KYDYNOV, M., nauchnyy sotrudnik; BATYRCHAYEV, I.; LOPINA-SHENDRIK, M.D.; KALBAYEV, A.; IMANAKUNOV, B.; SULAYMANKULOV, K., kand.khim.nauk; DUYSHENALIYEVA, N.; AKBAYEV, A.; KAZIYEV, K.; GOLOVIN, F.I.; BAKASOVA, Z.; KOVALENOK, Z.P.; SHELUKHINA, N.P.; BUGUBAYEV, A.B., starshiy prepodavatel'; BAYBULATOV, E.B., mladshiy nauchnyy sotrudnik; FILIPPOV, N.A., mladshiy nauchnyy sotrudnik; MAMBETAKUNOV, T., aspirant; IMANKULOV, A., aspirant; TURMAMBETOV, S., mladshiy nauchnyy sotrudnik; MUKHAMEDZIYEV, M.M., nauchnyy sotrudnik; KONURBAYEV, A.O.; PAK, L.V.; RUDAKOV, O.L.; TOKTOSUNOV, A.; KULAKOVA, R.I.; ASHIRAKHMANOV, Sh., aspirant; ALYSHBAYEV, B.; SULTANALIYEV, A.; AKHMETOV, K.; POLONOVA, A.P.; NIKITINSKIY, Yu.I.; SHAMBETOV, S.Sh.; DZHUMBAYEV, B.O., nauchnyy sotrudnik; DRUZHININ, I.G., red.; ANOKHINA, M.G., tekhn.red.

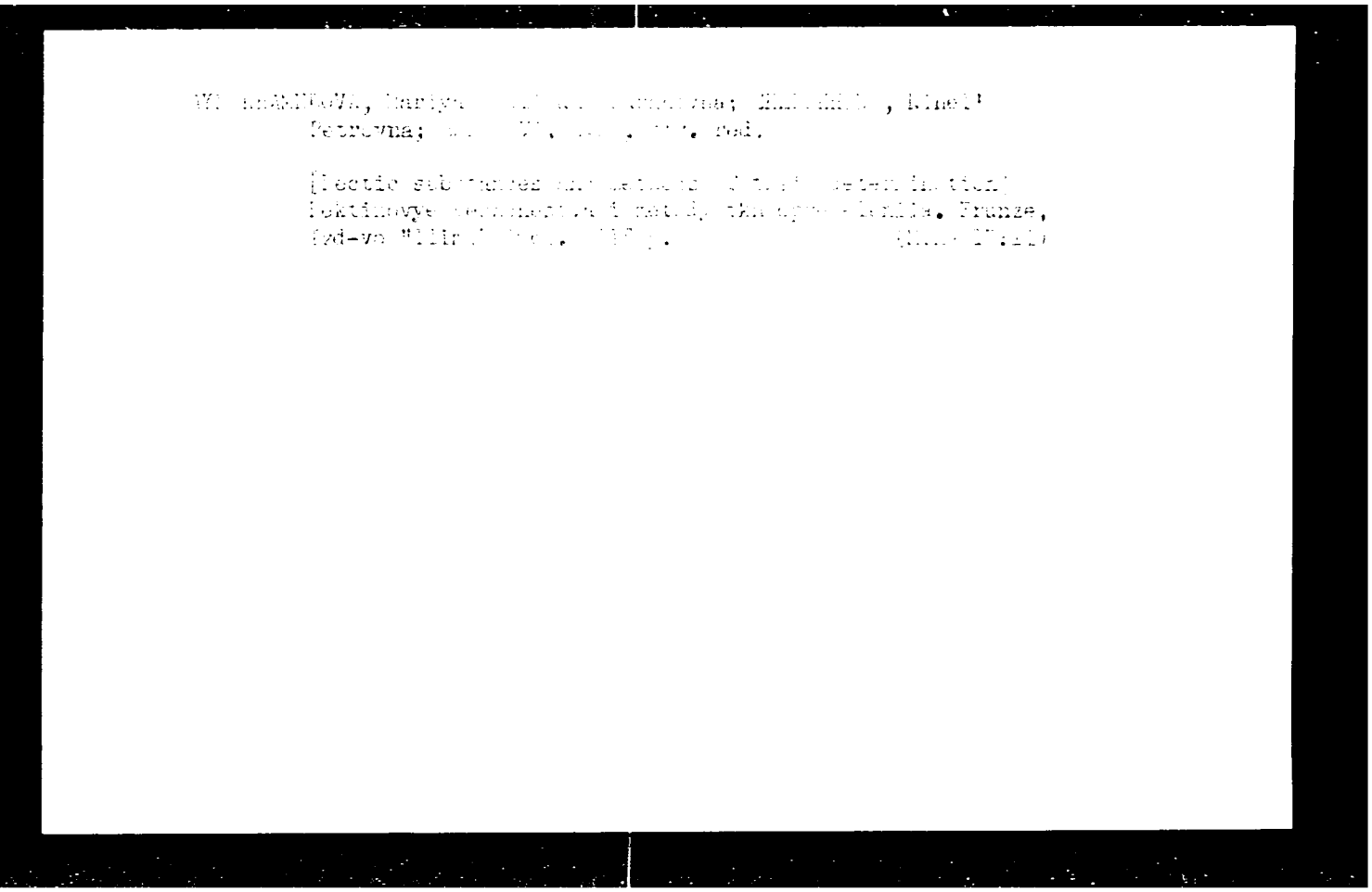
[Papers by junior scientists of the Academy of Sciences of the Kirghiz S.S.R.] Trudy molodykh nauchnykh rabotnikov AN Kirgizskoi SSR. Frunze, 1958. 411 p. (MIRA 12:3)

(Continued on next card)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549020010-9"

KYDYNOV, M.---(continued) Card 2.

1. Akademiya nauk Kirgizskoy SSR, Frunze. 2. Institut khimii AN Kirg.SSR (for Kydynov). 3. Kirgizskiy gosudarstvennyy universitet (for Bugubayev). 4. Institut geologii AN Kirg.SSR (for Baybulatov). 5. Institut vodnogo khozyaystva i energetiki AN Kirg.SSR (for Filippov). 6. Otdel fiziki i matematiki AN Kirg.SSR (for Mambetakunov, Imankulov). 7. Institut zoologii i parazitologii AN Kirg.SSR (for Turmambetov). 8. Kirgizskiy meditsinskiy institut (for Mukhamedziyev). 9. Otdel pochvovedeniya AN Kirg.SSR (Ashirakhmanov). 10. Institut botaniki AN Kirg.SSR (for Alyshbayev, Sultanaliyev, Akhmetov, Polonova, Nikitinskiy). 11. Institut istorii AN Kirg.SSR (for Dzhumbayev).
(Science--Collections)



SHELUKHINA, N. P.

PHASE I BOOK EXPLOITATION SOV/3618

Akademiya nauk Kirgizskoy SSR

Izvestiya. Seriya yestestvennykh i tekhnicheskikh nauk; tom 1, vyp. 1 (News. Series on Natural and Technical Sciences, Vol. 1, No. 1) Frunze, 1959. 164 p. 500 copies printed.

Ed.: P.T. Kashirin; Tech. Ed.: M.G. Anokhina.

PURPOSE: This book is intended for research scientists and teachers in institutes of higher education who may be interested in developments and research trends in various scientific fields.

COVERAGE: The book contains 12 articles by persons affiliated with the Academy of Sciences Kirgiz SSR on studies in physical chemistry, industrial chemistry, applied physics (blasting dynamics), electric power engineering, electronics, agronomy, metallurgy, pure mathematics, etc. A bibliography of 1957 publications of the Academy includes works on history, archeology, economics, linguistics, literature, geology, biological sciences (botany, zoology, medicine), and technology. No personalities are mentioned. References accompany most of the articles.

AVAILABLE: Library of Congress (Q 60.A516A2)

17

S/108/61/000/007/007/007
D204/D305

9,1300

AUTHORS: Bamberskiy, M V., and Shelukhina, T V.

TITLE: Thermal design of ferrite resonant switches

PERIODICAL: Radiotekhnika, no. 7, 1961, 64-74

TEXT: In designing resonant ferrite switches for medium and high power levels the problem arises of designing the switch so as to satisfy thermal working conditions. This is because the temperature of ferrite for a given construction should correspond to the values of the transmitted and reflected power, and the lowering of temperature may sometimes be required, for which a forced cooling system should again be designed. In the present article the author discusses the design of such switches at SHF from thermal considerations under the following assumptions: 1) There exists an ideal thermal contact between the feeder and the ferrite; 2) There is a forced air flow inside and outside the switch. From the practical point of view two cases are of the greatest interest: A) The design for the ferrite temperature as determined for a switch con-

Card 1/5

struction by the levels of transmitted and absorbed power, without forced cooling. This would apply to medium power switches dissipating up to 50 watt in the ferrite and B) a system with forced cooling as determined by the construction of the switch, i.e. high power switches, dissipating 50 -500 watt or more of power. The analysis is based on considering the construction of the switch in a rectangular waveguide as shown in Fig. 1. The temperature distribution within the volume of ferrite is not even. The problem of designing switches working at medium power levels without forced cooling reduces to problems in heat technology. The problem is attacked by neglecting the irregularities of the temperature curve around the waveguide perimeter, which results in a somewhat lower temperature of the ferrite. If there are two ferrite plates in the waveguide and the waveguide material is copper, the error introduced will be less than 10°C. The design of the switch is based on the diagram in Fig. 4. The heat balance is accordingly: $Q_1 = Q_2 + Q_3$ (12)

where Q_1 - heat dissipated by the two ferrite plates /Abstracter's note: Only one is shown in Fig. 4_/, Q_2 - heat radiated by the wave-

Card 2/5

guide along the location of ferrite plates; Q_3 - heat conducted by the rest of the waveguide. The analysis of systems with forced cooling, working at power levels of the order of several hundred watts or more is based on the design of the switch as shown in Fig. 7 with forced liquid cooling. It is assumed that all heat generated in ferrites is carried away. The value of α can be determined from the dimensions of cooling grooves, from the quantity of expended cooling liquid and from the magnitude of the Nusselt number which in turn is determined from the equations of the critical velocity of flow, which are different for laminar circulating or t[illegible]nt flow of liquid in cooling grooves (Ref. 2: S.S. Kutateladze, [illegible]. Borishanskiy, Spravochnik po teploperedeache (Guide on Thermal Transfer), GEI, 1958). The theory described in this article for the design of a cooling system has been experimentally proved on a sample resonant switch in a waveguide 72 x 34 mm. The temperature curves in the cross sectional area of the waveguide were measured using copper constantan thermocouples with and without the cooling system. The results of the experiment are shown in Fig. 11. The broken line in it represents the theoretical curve evaluated from

Thermal design of ferrite resonant...

the formula $\Delta t_x = \Delta t\, e^{-mx}$ (38) where Δt_x - the temperature difference between the waveguide wall and the cooling liquid at a distance X from the surface of ferrite; $m = \sqrt{\frac{\chi P_g}{\lambda_w f_g}}$. Fig. 11 shows good agreement of experiment with theory. There are 11 figures and 2 Soviet-bloc references.

SUBMITTED: October 28, 1960

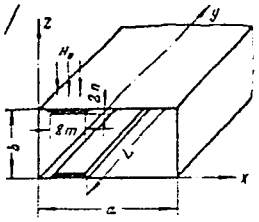
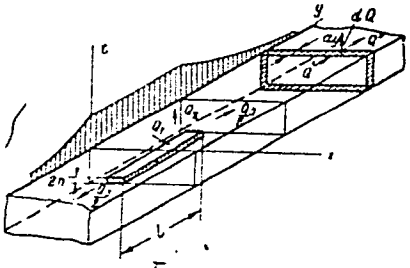


Рис. 1.

Fig. 1



Фиг. 4

Fig. 4

Card 4/5

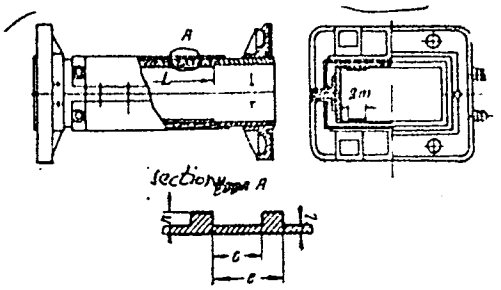


Fig. Рис. 7

Fig. 7

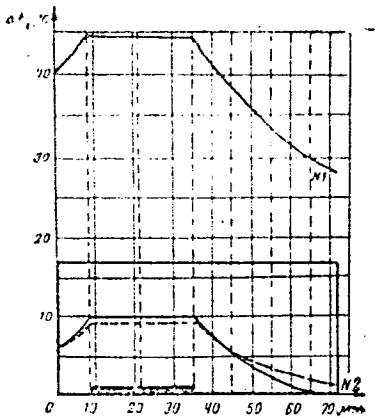


Рис. 11

Fig. 11

Card 5/5

SHELUKHINA, Ye. G.

Treatment of natural silk with "ishkhor." E. G. Shelukhina. *Tekstil. Prom.* 10, No. 11, 43–4(1950).—"Ishkhor" (I), an Uzbek word for alkali, is the ash obtained by burning a wild plant growing on saline soils. I contains mostly various Na salts; its insol. residue (20–38% of I) contains carbonaceous clay particles and K salts. Natural silk, with tenacity and elongation meeting the specifications, can be degummed in a soln. of I without using soap or soda.
Elisabeth Barabash

VENGERSKAYA, Kh.Ya.; SHELUKHINA, Ye.G.

Method for determining small quantities of phosphorus organic compounds in the air. Gig.i san. 26 no.12:88 D '61.
(MIRA 15:9)

1. Iz Uzbekskoy respublikanskoy sanitarno-epidemiologicheskoy stantsii i Uzbekskogo nauchno-issledovatel'skogo instituta sanitarii, gigiyeny i professional'nykh zabolevaniy.
(AIR--ANALYSIS) (PHOSPHORUS ORGANIC COMPOUNDS)

SHELYAKHOVSKAYA, N.

Mental state of preparedness for work. Prof.-tekh. obr. 22 no.3:24-25 Mr '65. (MIRA 18:7)

SHELUKHOVSKIY, I.

Building arched sheepfolds out of matted bundles of reeds.
Sel'.stroi. 10 no.4:11-12 Ap '55. (MLRA 8:6)

1. Zamestitel' nachal'nika Stavropol'skogo krayevogo upravleniya po stroitel'stvu v kolkhozakh.
(Farm buildings) (Rush work)