

Model Investigation of a Thermionic Electric Locomotive
Rectifier Under Inverter and Rectifier Operation

SCV/105-59-6-1/28

operation was carried out at control angles varying from $60-174^{\circ}$ under different operational conditions. The results of the investigation are discussed in detail, making use of 7 diagrams. With increasing distance between the locomotive and the substation the power performance deteriorates considerably; this entails a worse power factor of the locomotive and of the substation. The angle of transition between an inverter and a rectifier operation is not definitely set. Recuperation is possible at small control angles between $60-70^{\circ}$. An increase of the power factor and a diminution of the ripple coefficient is, however, only possible for a control angle as large as possible (little advanced ignition). The inductivity of the choke inductance must be increased only little, if instead of the control angle the ignition angle is kept constant. If the distance between the locomotive and the substation is large, the inverter backfeed energy is about equal to the rectifier backfeed energy. The power factor is diminished by a conversion to an inverter operation. There are 7 figures, 1 table, and 4 Soviet references.

ASSOCIATION:

Institut elektromekhaniki AN SSSR (Institute of Electromechanics AS USSR)

SUBMITTED:
Card 2/2

October 27, 1958

ROVINSKIY, Petr Abramovich; TIKAN, Valentin Antonovich;
ZAVALISHIN, D.A., otv. red.

[Cut-off valve frequency changers without a direct
current section] Ventil'nye preobrazovateli chastoty
bez zvona postoiannogo toka. Moskva, Nauka, 1965. 74 p.
(MIRA 18:12)

1. Chlen-korrespondent AN SSSR (for Zavalishin).

ZAVALISHIN, D.A. (Leningrad); ZAKHAREVICH, S.V. (Leningrad); TIKAN, V.A.
(Leningrad)

Analysis of the effect of active resistance on electromagnetic
processes in single-phase ionic converters of electric locomotives.
Izv. AN SSSR. Otd. tekhn. nauk. Energ. i avtom. no.5:3-18 S-0 '59.
(MIRA 13:1)

(Electric locomotives) (Electric current converters)

BELOZJOROVA, A.; DANILOV, V.; HANIKAT, E.; KAHU, M.; MAIOROVA, T.
[Mayorova, T.]; SOKOLOV, A.; SUROV, A. [Shurov, A.]; TIKAND, H.;
TUISK, A.; URB, E.; VEERSALU, E.; TIMAKOV, S.; JUHANI, I., red.;
EINBERG, K., tekhn. red.

[Achievements of Soviet Estonia in 20 years; statistical survey]
Noukogude Eesti saavutusi 20 aasta jooksul; statistiline kogumik.
Tallinn, Eesti riiklik kirjastus, 1960. 173 p. (MIRA 15:5)

1. Estonian S.S.R. Statistika Kesksvalitsus. 2. Sotrudniki Statisti-
cheskogo upravleniya Soveta Ministrov Estonskoy S.S.R. (for all
except Juhani, Einberg). 3. Direktor Statisticheskogo upravleniya
Soveta Ministrov Estonskoy S.S.R. (for Timakov).
(Estonia--Economic conditions)

GRUNER, Ede; SZENDE, Gyorgy; TIKAR, Istvan

Some questions relating to the development of Hungary's metal casting.
Koh lap 95 no.9:Suppl.: Ontode 13 no.9:200-204 S '62.

1. Gepipari Technologiai Intezet.

TIKAVYY, V.F.; TSUKUROVA, L.I.

Ion-exchange properties of zirconium phosphate. Izv. AN SSSR. Neorg.
mat. 1 no.1:108-112 Ja '65. (MIRA 18:5)

1. Belorusskiy gosudarstvennyy universitet imeni Lenina.

STAROBINETS, G.L.; TIKAVYY, V.F.

Sorption of binary solutions by butadiene-nitrile copolymers.
Koll.zhur. 23 no.1:112-117 Ja-F '61. (MIRA 17:2)

1. Belorusskiy universitet imeni Lenina, khimicheskiy fakul'tet,
Minsk.

L 12055-66 EWT(l)/EWT(m)/ETC(F)/EPE(r)-2/EWG(m)/EWP(t)/EWP(b) IJP(c)

ACC NR: AP6001305 SOURCE CODE: UR/0363/65/001/008/1386/1388
44 55 44 55 DS/JD/WW/JG/AT/RM

AUTHOR: Tikavyy, V. F.; Glukhova, N. P.

ORG: Belorussian State University im. V.I. Lenin (Belorusskiy gosudarstvennyy universitet) 65

TITLE: Ion exchange properties of zirconium phosphate in salt melts 1, 44, 55

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 8, 1965, 1386-1388 27

TOPIC TAGS: ion exchange, zirconium compound, nitrate 21, 44, 55

ABSTRACT: Ion exchange on zirconium phosphate was studied in the molten systems $\text{NaNO}_3\text{-LiNO}_3$ and $\text{KNO}_3\text{-LiNO}_3$ at 370C, and in the system $\text{CsNO}_3\text{-KNO}_3$ at 400C. The equilibrium melt was analyzed with a flame photometer, and the data were used to calculate the equivalent fraction of the ion in the melt and in the ion exchanger. The experimental exchange isotherms were distinctly S-shaped (see Fig. 1), showing that in the beginning the ion exchanger preferentially absorbs the cation with the smaller radius. However, as this cation saturates the exchanger, the latter begins to adsorb preferentially the cation with the larger radius, and the concentration range in which this occurs increases in the following order: $\text{CsNO}_3\text{-KNO}_3 > \text{KNO}_3\text{-LiNO}_3 > \text{NaNO}_3\text{-LiNO}_3$. The selectivity toward the smaller cation at low concentrations of the latter in $\text{CsNO}_3\text{-KNO}_3$ and $\text{KNO}_3\text{-LiNO}_3$ systems is apparently due to the fact that the addition of small amounts of the salt with the smaller cation to the melt of the salt with the larger cation inhibits the migration of the latter and hence decreases its chances of entering

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UDC: 646.831'185:541.183.12

L 12055-66

ACC NR: AP0001305

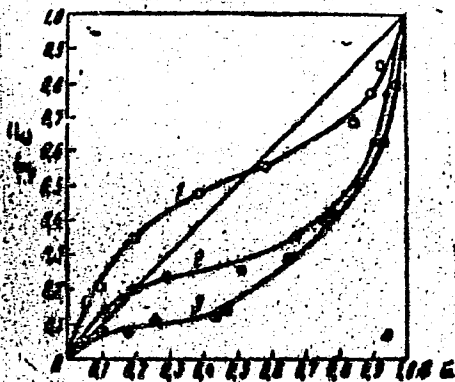


Fig. 1. Exchange isotherms in the systems:
1, $\text{NaNO}_3\text{-LiNO}_3$; 2, $\text{KNO}_3\text{-LiNO}_3$; 3, $\text{CsNO}_3\text{-KNO}_3$.
 E and \bar{E} , equivalent fraction of cation with smaller
radius in the molten phase and in the ion exchanger
respectively.

into the ion exchanger. In the $\text{NaNO}_3\text{-LiNO}_3$ system, the exchanger preferentially adsorbs the ion present in the lower concentration. As in aqueous solutions, zirconium phosphate has a high affinity for Cs^+ and K^+ ions in melts. Orig. art. has: 2 figures.

SUB CODE: 07, 11 / SUBM DATE: 20May65 / ORIG REF: 004 / OTH REF: 010

PC
Card 2/2

S/069/61/023/001/007/009
B 124/204

AUTHORS: Starobinets, G. L. and Tikavyy, V. F.

TITLE: Sorption of binary solutions by butadiene nitrile copolymers

PERIODICAL: Kolloidnyy zhurnal, v. 23, no. 1, 1961, 112-117

TEXT: The sorptive properties of rubber on the basis of butadiene nitrile copolymers containing 18, 26, and 40% acrylonitrile were studied. The butadiene nitrile copolymers contained 2% sulfur, 1.5% stearic acid, 1.5% Captax, and 5% ZnO per 100% by weight of the copolymer. Vulcanization at 143°C and 3 atm lasted for 40 minutes. The authors used as binary systems: 1) a system of a solvent and a polar non-solvent with higher specific cohesion energy than that of the polymer; 2) a system of a solvent and a non-polar non-solvent with a specific cohesion energy lower than that of the polymer. To the first kind of systems belong mixtures of aromatic hydrocarbons with aliphatic alcohols, to the second kind mixtures of aromatic hydrocarbons with aliphatic hydrocarbons. The systems of the first kind were analyzed by extraction of the samples, study of the total and of the partial sorption isothermal lines of the components,

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Sorption of binary solutions ...

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and by means of an interferometric technique, whereas the systems of the second kind were analyzed with the help of an WP2-23 (IRF-23)-type refractometer. The experimental data obtained for typical systems are shown in Figs. 1-3 in the form of curves of the molar fraction of the non-solvent in the polymeric phase (N_2^P), of the molar fraction of the non-solvent in the equilibrium binary solution (N_2), and in the form of curves of the total sorption $Q = f(N_2)$ and of the partial sorption of the non-solvent $Q_2 = f(N_2)$. The experiments were carried out in an air thermostat with a propeller mixer and a contact thermometer; temperature fluctuations did not exceed $\pm 0.5^\circ\text{C}$. The distribution coefficients of the components between the polymeric and the solution phase were calculated from the initial slopes of the equilibrium curves;

$$K_1 = (dN_1^P/dN_1)_{N_1 \rightarrow 0}; \quad K_2 = (dN_2^P/dN_2)_{N_2 \rightarrow 0};$$

in the same way, the sorption potentials of the components in calories per mole were calculated: $\psi_1 = RT \ln K_1$; $\psi_2 = RT \ln K_2$. The results obtained

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Sorption of binary solutions ...

for the system benzene-methanol at 25 and 50°C were used as an example. The distribution coefficient of the solvent and its sorption potential in the system of solvent and polar non-solvent are determined by the flexibility of the polymer chain. The latter decreases when going over from butadiene rubber to a copolymer with a nitrile content of 40%, whereas in a system of a solvent and a non-polar non-solvent the sorption potential of benzene rises with the concentration of the nitrile groups in the copolymer. Konovalov and Vrevskiy are mentioned. There are 3 figures, 1 table, and 8 references: 5 Soviet-bloc and 5 non-Soviet-bloc. ✓

ASSOCIATION: Belorusskiy universitet im. V. I. Lenina, Khimicheskiy fakul'tet, Minsk (Belorussian University imeni V. I. Lenin, Division of Chemistry, Minsk)

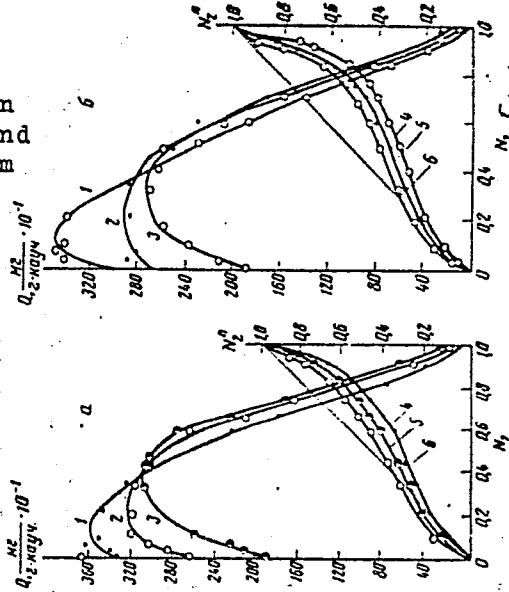
SUBMITTED: July 1, 1959

Card 3/7

Sorption of binary solutions ...

S/069/61/023/001/007/009
B 124/B204

Legend to Fig. 1: Sorption of benzene-methanol solutions by butadiene nitrile copolymers at 25°C (a) and 50°C (б). 1, 2, and 3 - curves of the total sorption of CKH-18 (SKN-18), CKH-26 (SKN-26), and CKH-40 (SKN-40); 4, 5, and 6 - equilibrium curves of SKN-18, SKN-26, and SKN-40.
a) $\text{mg/g rubber} \cdot 10^{-1}$.



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S/069/61/023/001/007/009
B 124/204

Sorption of binary solutions ...

Содержание нитрила в сополимере, % 1	K_1	K_2	ψ_1 кал/моль 2	ψ_2 кал/моль 2	K_1	K_2	ψ_1 кал/моль 2	ψ_2 кал/моль 2
2) Бензол — метанол, $t = 25^\circ$					3) Бензол — метанол, $t = 50^\circ$			
0	17,5	1,1	1705	57	10,0	1,3	1487	170
18	6,7	1,2	1133	108	5,0	1,4	1033	218
20	4,0	1,4	826	200	3,0	1,5	710	262
40	18,0	1,7	654	315	2,2	2,0	508	447
4) Бензол — гексан, $t = 25^\circ$					5) Бензол — нонан, $t = 25^\circ$			
0	1,16	0,9	88	-63	1,16	0,88	88	-77
18	2,64	0,82	579	-117	2,80	0,72	613	-195
26	3,58	0,65	760	-258	5,2	0,59	982	-314
40	5,26	0,54	989	-368	6,7	0,42	1133	-855

Legend to Table: Distribution coefficient of the solvent (K_1) and of the non-solvent (K_2) between polymer and solution. 1) Nitrile content in the copolymer, %; 2) cal/mole; 3) benzene-methanol, $t=25^\circ\text{C}$; 4) benzene-hexane, $t=25^\circ\text{C}$; 5) benzene-nonane, $t=25^\circ\text{C}$.

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Sorption of binary solutions ...

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B124/204

Legend to Fig. 2: Sorption of the solutions benzene-hexane (a) and benzene-nonane (б) by butadiene nitrile copolymers and СКБ (SKB): 1,2,3, and 4 - curves of total sorption of SKB, SKN-18, SKN-26, and SKN-40; 5,6,7, and 8 - equilibrium curves of SKB, SKN-18, SKN-26, and SKN-40;
 a) mg/g rubber. 10^{-1} .

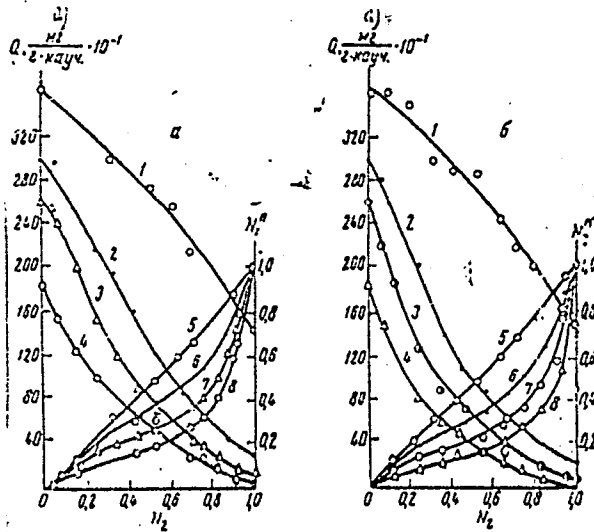


Fig. 2

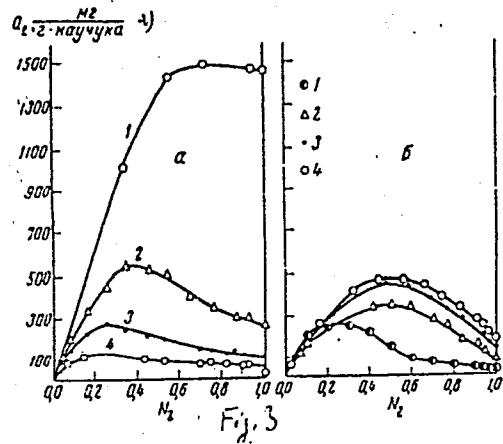
Card 6/7

S/069/61/023/001/007/009
B124/204

Sorption of binary solutions ...

Legend to Fig. 3: Isothermal lines of sorption of hexane (a) and of methane (б) by butadiene nitrile copolymers and SKB: 1, 2, 3, and 4 - SKB, SKN-18, SKN-26, and SKN-40.

a) mg/g rubber



Card 7/7

86151

5.5600 2209, 1282 S/065/60/000/009/005/006/XX
1274 E194/E184

AUTHORS: Starobinets, G.L., and Tikavyy, V.F.

TITLE: The Separation of Mixtures of Aromatic and Aliphatic Hydrocarbons by Means of Butadiene-Nitrile Co-polymers

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No. 9, pp. 16-19

TEXT: Previous work has shown that rubberlike polymers and co-polymers may find extensive application as selective sorbents and they may be used in several kinds of distributive and adsorption chromatography. In order to study the influence of the chemical composition of rubberlike polymer on the sorption properties work was done with resins based on butadiene-nitrile co-polymers containing 18, 26 and 40% nitrile acrylic acid. The binary solutions were of the type solvent/polar non-solvent, the specific energy of cohesion of which was greater than that of the polymer (in the present work benzene-aliphatic alcohols), and systems of the type solvent/non-polar non-solvent, the specific energy of cohesion of which is less than that of the polymer (benzene-aliphatic hydrocarbons). Experimental data obtained for Card 1/3

86151

S/065/60/000/009/005/006/XX
E194/E184

The Separation of Mixtures of Aromatic and Aliphatic Hydrocarbons
by Means of Butadiene-Nitrile Co-polymers

typical systems of benzene-methanol and benzene-hexane are given in Figs 1-3 as equilibrium curves. Fig.1 shows that as the content of nitrile in the polymer increases the asymmetry of the equilibrium curve decreases in the system polymer-benzene-methanol. Fig.2 shows that in the benzene-hexane system there is also a clearly expressed selective sorption of benzene. In this system as the nitrile content is increased in the co-polymer the sorption potential of benzene increased; this is explained by reference to Fig.3 which shows curves of partial sorption of hexane and methanol from the systems benzene-hexane and benzene-methanol. Various theoretical considerations are given. It is concluded that nitrile co-polymers with a high nitrile content are excellent sorbents for various kinds of separation of mixtures of aromatic and aliphatic hydrocarbons. Increase in the molecular weight of the aliphatic hydrocarbons should increase the efficiency of separation. The conclusion is confirmed by the experimental data. It is to be concluded that butadiene-nitrile co-polymers

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86151

S/065/60/000/009/005/006/XX
E194/E184

The Separation of Mixtures of Aromatic and Aliphatic Hydrocarbons
by Means of Butadiene-Nitrile Co-polymers

should be used to separate aromatic hydrocarbons from petroleum
distillates and for their quantitative determination.

There are 3 figures and 8 references: 4 Soviet and 4 non-Soviet.

ASSOCIATION: Institut nefti i gaza AN UzSSR
(Institute of Petroleum and Gas, AS UzSSR)

Card 3/3

X

STAROBINETS, G.L.; TIKAVYY, V.F.

Separation of mixtures of aromatic and aliphatic hydrocarbons
by means of butadiene-nitrile copolymers. Khim.i tekhnol. i
masel 5 no.9:16-19 S '60. (MIRA 13:9)

1. Institut nefti i gaza AN UzSSR.
(Hydrocarbons) (Butadiene) (Nitrile)

STAROBINETS, G.L.; TIKAVYY, V.F.

Dielectric permeability of systems composed of a rubberlike high polymer, a solvent, and a nonsolvent. Dokl. AN BSSR 3 no.6:249-252
Je '59. (MIRA 12:10)

1. Predstavleno akademikom AN BSSR N.F. Yermolenko.
(Polymers--Electric properties)

TIKAVYY, V. F. Cand Chem Sci — (diss) "Sorption of Binary Solutions by
Rubber-like Copolymers," Minsk, 1960, 15 pp, 150 copies (Belorussian State
U. im V. I. Lenin) (KL, 47/60, 98)

5 (4)

AUTHORS:

Starobinets, G. L., Tikavyi, V. F.

SOV/20-128-2-31/59

TITLE:

Dielectric Properties of Reticulate Rubberlike High Polymers Swollen in Binary Solvent - Nonsolvent Mixtures

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 2, pp 333-336 (USSR)

ABSTRACT:

The dielectric constant and the dielectric polarization of a vulcanized co-polymeric butadiene-styrene is investigated at 25°, swollen in benzene or carbon tetrachloride, mixed with a nonsolvent fluid, in this case with low alcohols. Further the partial isothermal line of the sorption of the low-molecular components of the polymer was determined as well as its distribution between both phases. Figure 1 shows the curve of the dielectric constant in a system polymer-benzene-methyl alcohol, figure 2 shows the relation between the isothermal line of the dielectric constant and the isothermal line of the partial sorption of the alcohol in the system polymer-carbon tetrachloride-ethyl alcohol. In all studied systems both isothermal lines pass a maximum in the same direction. It is confirmed that the dependence of the dielectric polarization in the combination of the swollen polymer agrees with the theory due to Onsager-Kirkwood (Ref 4) for the solution of polarized

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Dielectric Properties of Reticulate Rubberlike High Polymers Swollen in Binary Solvent - Nonsolvent Mixtures SOV/20-128-2-31/59

molecules in nonpolarized solvents. As shown on figure 3 the specific polarizations in system high polymer - benzene - n-butyl alcohol are placed on the line calculated in reference to Unsager-Kirkwood. An orientation of the dipoles in the alcohol molecule parallel to the double bond of the polymer occurs. The alcohol molecules form dimers with double bonds. There are 3 figures and 9 references, 6 of which are Soviet.

ASSOCIATION: Belorusskiy gosudarstvennyy universitet im. V. I. Lenina
(Belorussian State University imeni V. I. Lenin)

PRESENTED: May 4, 1959, by V. N. Kargin, Academician

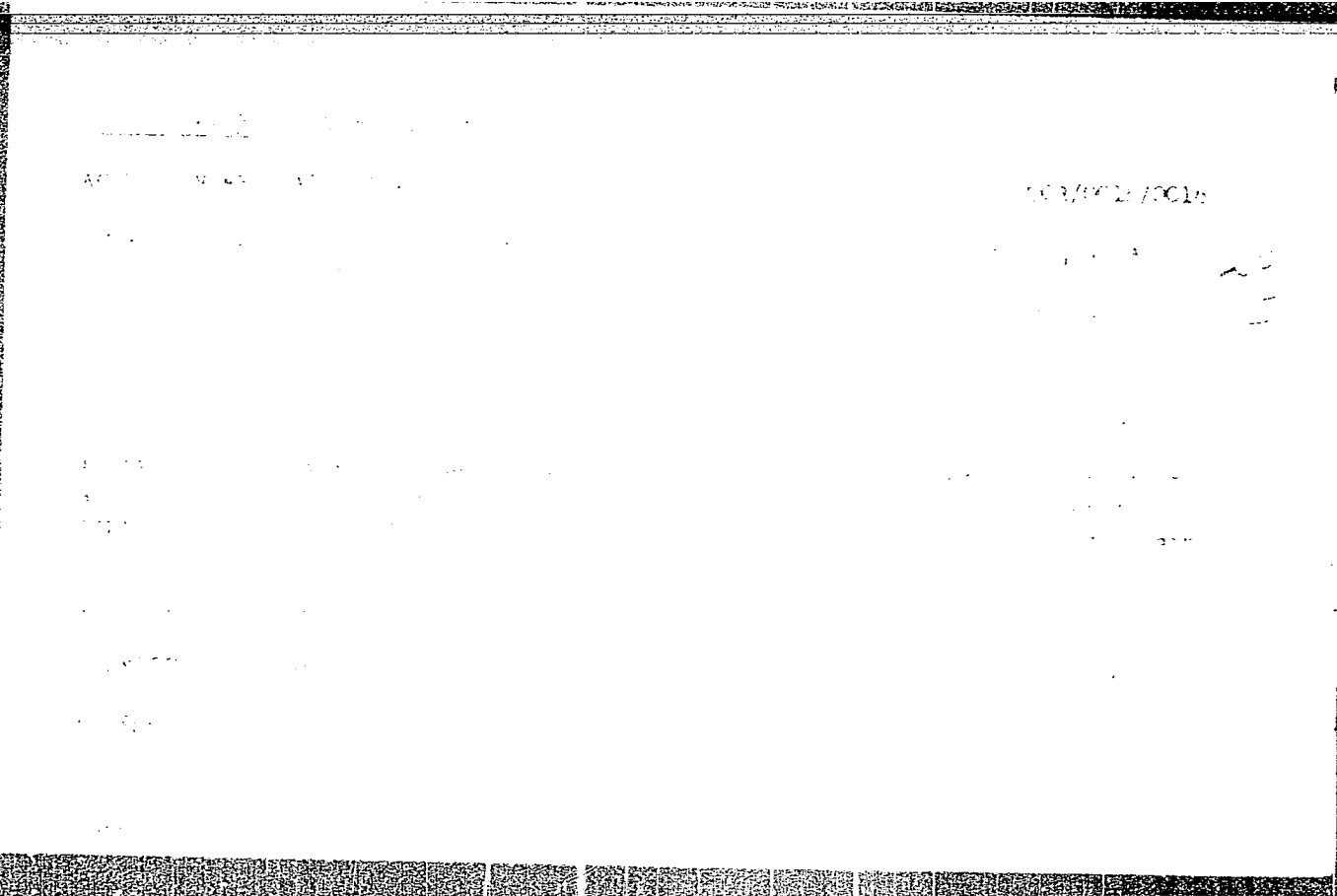
SUBMITTED: May 2, 1959

Card 2/2

STARCBINETS, G.L.; TIKAVYY, V.F.

Effective sorption of binary solutions by rubber in relation to
the degree of its vulcanization and filling. Uch.zap. BGU no.29:
178-188 '56. (MIRA 11:11)

(Rubber) (Sorption)



TOPIC: Ion exchange properties of zirconium phosphate

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 1, 1965, 108-112

TOPIC TAGS: zirconium phosphate, ion exchange property, exchange compound preparation, column chromatography

ABSTRACT: The formation and properties of zirconium phosphate were studied experimentally in order to correlate chemical composition with ion exchange capacity, rate and efficiency of exchange. The effect of aging on the ion exchange capacity of zirconium phosphate was also studied.

... exchange capacity by potentiometric titration. The aging of zirconium phosphate solutions affected the product composition only if the ... of the products differed markedly from the feed ratio

Card 1/4

L 34072-65

ACCESSION NR: AP5007616

only at Zr/2P₂O₅ or 1. Zirconium phosphate was shown to represent a polyfunction-
al ion-exchange compound whose exchange capacity is related to the number of
acidic protons. The material was prepared by the reaction of zirconium phosphate
with phosphoric acid and reproducible products were obtained. The structure of the exch-
angeable anion is not clear. The material has a table and a diagram.

ASSOCIATION: Belorusskiy gosudarstvennyy universitet (M. I. Leningrad (Belorus-
sian state university))

SUBMITTED: 18Dec63

ENCL: 02

SUB CODE: IC

NO REF SOV: 008

OTHER: 010

Card 2/4

TIKH, N. A.

"The Communal life of Apes and methods of Studying Them in the Light of the Problem of Anthropogenesis", Dissertation, 1947.

TIKH, N. A.

32719. Golosovyye uslounyye refleksy u obez'yan. Novosti meditsiny, vyp. 14,
1949, s. 48-53

SO: Letopis' Zhurnal'nykh Statey, Vol.44, Moskva, 1949

Tikh, N. A.

"The ontogeny of monkey behavior," (Report 1): N. Yu. Voytonis and N. A. Tikh,
"Results of the first two years of investigations." (Report 2): N. A. Tikh,
"The formation of reflex grasping and holding in monkeys," Trudy Sukhba. biol.
stantsii Akad. med. nauk SSSR, Vol. I, 1949, p. 164-233.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

TIKH, N.A.

Studying the association process in children and the lower apes. Uch.
zap.Len.un. no.203:64-76 '55. (MLRA 9:7)
(ASSOCIATION OF IDEAS) (CONDITIONED RESPONSE)

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65718

Author : Roginskiy G.Z., Tikh N.A.

Inst : AS GSSR

Title : Circuitous Routes Among Animals

Orig Pub : B sb.: Probl sovrem. fiziol. nervn. i myshechn. sistem.
Tbilisi, AN GruzSSR, 1956, 373-384

Abstract : Twenty-day leghorn chicks, three-month-old white rats and lower monkeys 2 to 3 months of age adopted a circuitous route around a plexiglass screen to the bait after many tries, as a result of food reinforcement of correct actions and no reinforcement of erroneous ones. After prolonged hunger the animals ceased to make use of the circuitous route. Conditioned motor reflexes were established most rapidly by the circuitous-route in monkeys. After the screen was removed, all of the animals followed the detour for a certain time. Substitution of the direct route to the bait

Card : 1/2

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65718

for the circuitous one occurred considerably more rapidly
among the monkeys than among the chicks and rats.--
M.L. Shik

Card : 2/2

TIKH, N.A.

The phylogeny of man. Uch.zap.Len.un. no.214:11-28 '56.

(Phylogeny)

(MLRA 10:3)

S/0138/64/000/009/0025/0027

ACCESSION NR: AP4045700

AUTHOR: Eytinton, I. I.; Borodushkina, Kh. N.; Kamenskaya, S. A.; Tikhacheva, Ye. P.

TITLE: Possible use of dimethylaminomethyl phthalimide as a secondary accelerator of vulcanization

SOURCE: Kauchuk i rezina, no. 9, 1964, 25-27

TOPIC TAGS: vulcanization, accelerator, dimethylaminomethyl phthalimide, diphenylguanidine, phthalic anhydride, N-nitrosodiphenyl amine, cushion rubber, tread rubber, tire manufacture, vulcanization accelerator / Altax, Captax, Santocure

ABSTRACT: Dimethylaminomethylphthalimide (AMP, b.p. 76-77C) was synthesized by the reaction of phthalimide with formalin and dimethylamine, after which it was combined with Captax, Altax and Santocure and tested in mixtures based on natural and butadiene-styrene rubbers. The tabulated data for unfilled mixtures of natural rubber containing AMP and Altax are compared with the data obtained for analogous mixtures with Altax and diphenylguanidine (DPG). It was found that AMP is a secondary accelerator of vulcanization of rubber mixtures, although with a lower activity than that of DPG. The necessary increase in AMP content results in a much smaller tendency to pre-vulcanization. Vulcanized rubbers containing di-

Card 1/2

ACCESSION NR: AP4045700

methylaminomethylphthalimide have characteristics (tensile strength, elongation, hardness, aging) equivalent to those of vulcanized rubbers containing diphenylguanidine except for the modulus of elasticity, which is somewhat higher. For some mixtures, AMP can completely replace diphenylguanidine and phthalic anhydride or N-nitrosodiphenyl amine. The experimental data for natural cushion rubbers (with 25 parts by weight of furnace gas black and 15 parts by wt. of channel black for 100 parts of rubber) and for tread rubbers (containing 50 parts by wt. of KhAF furnace black for 100 parts by wt. of rubber) based on butadiene-styrene with different amounts of components (Altax, Santocure and AMP) are tabulated and compared. The variation in properties depending on the amount of accelerators is discussed. "T. Gendler took part in the experimental work." Orig. art. has: 4 tables and 1 structural formula.

ASSOCIATION: Nauchno-issledovatel'skiy Institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry); Dnepropetrovskiy shinnyy zavod (Dnepropetrovsk Tire Plant)

SUBMITTED: 00

ENCL: 00

SUB CODE: OC, MT

NO REF SOV: 000

OTHER: 002

Card 2/2

TIKHACHEK, Ye. S. and DEDLOVSKAYA, V.I.

"Effect of Static Muscular Exertions on the Secretory Functions of the Stomach",
paper read at the First Ural Conference of Physiologists, Biochemists, and
Pharmacologists, Sverdlovsk, 5-8 June 1956.

Sum. I305

UZHANSKIY, Ya.G.; KACHANOVA, S.G.; TIKHACHEK, Ye.S.

Conference of the Ural Interregional Society of Pathophysiologists.
Pat. fiziol. i eksp. terap. 9 no.2:27-89 Mr-Apr '65. (MIRA 18:5)

EYTINGON, I.I.; BORODUSHKINA, Kh.N.; KAMENSKAYA, S.A.; TIKHACHEVA, Ye.P.

Possibility of using dimethylaminomethyl phthalimide as a
secondary accelerator of vulcanization. Kauch. i rez. 23 no.9:
25-27 S '64. (MIRA 17:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i
Dnepropetrovskiy shinnyy zavod.

TIKHANE, A. [Tihane, A.]

Let us devote all our strength to the carrying out of the budget.
Fin. SSSR 23 no.4:24-30 Ap '62. (MIRA 15:4)

1. Ministr finansov Estonskoy SSR.
(Estonia--Budget)

TIKHANE, A. [Tihane, A.]

Large-scale activity. Fin. SSSR 22 no.9:58-60 S '61.
(MIRA 14:9)

1. Ministr finansov Estonskoy SSR.
(Estonia--Finance)

TIKHANE, A. [Tihane, A.].

The budget in the service of the national economy and culture of
the Estonian S.S.R. Fin. SSSR 19 no.6:17-22 Je '58. (MIRA 11:6)

1. Ministr finansov Estonskoy SSR.
(Estonia--Budget)

VYSOTSKAYA, K.P., dotsent (Irkutsk, Baykal'skaya ul., d.58-g);
LIYV, E.Kh. [Liiv, E.] (Tartu, Estonskaya SSR, ul. Kalevi,
d.106-a, kv.3); TIKHANE, Kh.M. [Tihane, H.]; ROZENBLYUM,
M.B. (Minsk, ul. Kirova, d.2, kv.43); VELLER, D.G. (Khar'kov,
Kostomarovskaya ul., d.18, kv.19); CHERKASOVA, T.I. (Moskva,
ul.Markhlevskogo d.15, kv.14); DEDOVA, V.D.

Abstracts of articles received by the editors. Ortop.,
travm. i protez. 24 no.3:73-76 Mr '63. (MIRA 17:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. kafedroy -
prof. B.D. Dobychin) Irkutskogo meditsinskogo instituta
(rektor - prof. A.M. Nikitin) (for Vysotskaya). 2. Iz
Tartuskoy gorodskoy klinicheskoy bol'nitsy (for Liyv,
Tikhane). 3. Iz khirurgicheskogo otdeleniya (zav. kand.
med. nauk G.M. Yakovenko) mediko-sanitarnoy chasti Minskogo
traktornogo zavoda (for Rozenblyum). 4. Iz TSentral'nogo
instituta travmatologii i ortopedii (dir. - prof. M.V.
Volkov) (for Cherkasova, Dedova).

BOZOKI, G. [Bosoki, G.]; TIKHANI, Ye. [Tihanyi, E.]

Depth gauge for studying emulsions. Prib. i tekhn. eksp. 7 no.3:
47-49 My-Je '62. (MIRA 16:7)

1. Tsentral'nyy institut fizicheskikh issledovaniy i Gosudarstvennyy
universitet im. Etvesha Loranda, Budapesht.
(Optical instruments)

L 58353-65
ACCESSION NR: AP5016396

3

will not be uniform and will form clearly defined parallel stripes when the separation between flaws is greater than 0.1 mm. The pulse generator uses a silicon controlled rectifier (SCR) in conjunction with two auxiliary circuits to form the pulses. The SCR in series with the load is connected to the secondary winding of the transformer. A monostable multivibrator circuit activates the SCR and controls the pulse period. Activation of the SCR in turn triggers a delay circuit which switches off the SCR after a preset delay. This delay controls the pulse duration. The pulse generator is capable of delivering pulses with a pulse width of 100 ns, a repetition rate and a pulse duration. Tests on n-type germanium and p-type germanium showed good contrast of the stripes even when these were separated by less than 0.1 mm. Fig. 1 has 4 figures.

[BD]

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Vengrii, Budapest
(Physicotechnical Institute AN Hungary); Nauchno-issledovatel'skiy institut fiziko-tekhnicheskoy optiki AN Vengrii, Budapest
of the Central Institute for Scientific Research Institute

Card 2/3

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Card 1/3

STOLYAREVSKIY, N.A.; SERGEYEV, P.V.; TIKHANIN, V.A.

Measurement of leakage currents in zinc electrolysis systems. Prom.
energ. 16 no.11:15-19 N '61. (MIRA 14:10)

(Electric currents, Leakage—Measurement)
(Electrometallurgy—Electric equipment)

TIKHANIN, V.A., inzh.; SERGEYEV, P.V., kand. tekhn. nauk;
STOLYAREVSKIY, N.A., inzh.

Conversion coefficients of mercury-rectifier units in the manu-
facture of zinc. Prom. energ. 18 no.3:5-8 Mr '63.
(MIRA 16:6)

(Zinc—Electrometallurgy)
(Electric power distribution)

SAYUN, M.G.; TIKHANINA, S.P.

Complexometric method of determining indium in concentrates.
Zav.lab. 28 no.5:544-546 '62. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy
institut tsvetnykh metallov.
(Indium--Analysis) (Complex compounds)

TIKHANKOV, I., starshiy leytenant

Young people are following in the footsteps of heroes. Komm.
Vooruzh. Sil 3 no.18:69-73 S '63. (MIRA 16:10)

(Communist youth league)
(Russia—Armed Forces—Political activity)

TIKHANOV, A. N.

621 312 204 291
On Representing the Field in a Waveguide as a Sum
of the TE and TM Fields. A. N. Tikhonov & A. N.
Tikhonov. (Zh. Tekh. Fiz., July 1978, Vol. 48, No. 7,
pp. 971-976. In Russian.) It has been stated by various
authors without proof that any field in a waveguide can
be represented as a sum of the transverse electric field
TE and the transverse magnetic field TM. A rigorous
mathematical proof is given that any e.m. field in a
waveguide can be represented by two Hertzian vectors,
each having only one component differing from zero.
The problem of determining the e.m. field in a wave-
guide is then reduced to the problem of finding two
scalar functions Z_e and Z_m (transverse components of
the electric and magnetic Hertzian vectors).

GAVRILENKO, Boris Aleksandrovich, kand. tekhn. nauk; MININ, Viktor Aleksandrovich; OLOVNIKOV, Leonid Sergeyevich; SEMICHASTNOV, I.F., kand. tekhn. nauk, retsenzent; BYSTRITSKAYA, V.V., inzh., red.; TIKHANOV, A.Ya.

[Hydraulic brakes] Gidravlicheskie tormoza. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 243 p. (MIRA 14:9)
(Hydraulic brakes)

SHUL'MEYSTER, Boris Iosifovich; LIVSHITS, L.M., inzh., retsenzent;
MELEYEV, A.S., inzh., red.; SAVEL'YEV, Ye.Ya., red.izd-va;
TIKHANOV, A.Ya., tekhn.red.; EL'KIND, V.D., tekhn.red.

[Repair and assembling of stationary diesel engines] Remont
i montazh statsionarnykh dizelei. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1959. 267 p. (MIRA 13:1)
(Diesel engines--Maintenance and repair)

PLATONOV, Vladimir Fedorovich; KHARITONOV, V.K., inzh., retsenzent;
AVERKIN, V.A., inzh., red.; TIKHANOV, A.Ya., tekhn. red.

[Polyamide bearings] Podshipniki iz poliamidov. Moskva, Mashgiz,
1961. 108 p. (MIRA 14:12)
(Plastic bearings) (Amides)

BOLDIN, P.V.; POTSELUYEV, V.I.; RUBINCHIK, B.M.; SMIRNOVA, V.V.;
ARTYUKHIN, V.A., red.izd-va; TIKHANOV, A.Ya., tekhn. red.

[Foundry equipment; a catalog] Liteinoe oborudovanie; ka-
talog. Moskva, Mashgiz, 1963. 242 p. (MIRA 16:11)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy in-
stitut liteynogo mashinostroyeniya i liteynoy tekhnologii.
(Foundries--Equipment and supplies)

TIKHANOV, G. P.

PHASE I BOOK EXPLOITATION

453

Yegorov, K. P. and Tikhonov, G. P.

Konstruirovaniye apparatury dal'ney svyazi (Designing of Long-distance Communications Equipment) Moscow, Gosenergoizdat, 1955. 422 p. 5,000 copies printed.

Ed.: Stipakov, I. S.; Tech. Ed.: Voronetskaya, L. V.

Reviewer: G. G. Borozdiuk.

PURPOSE: The monograph is intended for electrical engineers, but may also be used by technicians and students in the higher grades at vtuzes offering courses in electrical engineering.

COVERAGE: Account is given of technical designs and methods on which is based the construction of modern long-distance communications systems. Data on equipment components and design of units are presented in close connection with the technology of their production. Soviet equipment design and problems of mounting and shielding are reviewed. Reference data are contained in appendices.

Card 1/10

Designing of Long-distance Communications Equipment

453

K. P. Yegorov wrote chapters 1, 4, 5, 6, 7, 8, 9, 10 and 14. G. P. Tikhonov wrote chapters 2, 3, 11, 15 and 16. Chapters 12 and 13 were written jointly by the two authors. The authors thank the following personalities for their help: N. N. Shol'ts, T. S. Klorscheva, V. M. Sorokin (deceased), B. S. Klebanov, Ya. I. Velikin, L. I. Rabkin, P. P. Averin, Ya. F. Luzyanin, D. A. Yermolayev and I. V. Tideman. There are 39 references, 23 of which are Soviet, 9 English, 7 German.

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JJP/ad
7-22-58

YEGOROV, K.P.; TIKHANOV, G.P.; STIPAKOV, I.S., redaktor; VORONETSKAYA,
L.V., tekhnicheskiy redaktor

[Construction of telecommunication equipment] Konstruirovaniye
apparaty dal'nei svyazi. Moskva, Gos.energ.isd-vo.955.422 p.
(Telecommunication) (MLRA 8:10)
(Electric apparatus and appliances)

TIKHANOV, F.M.; DIKOPF, Yu.I.

Determining the corrections on the depth of charge immersion
and registering the explosion moment in seismic logging
observations. Razved. geofiz. no.5:15-20 '65. (MIRA 18:9)

TIKHANOV, V.

Tikhonov, V I

Стахановцы-сборщики; методы монтажно-сборочных работ. Под ред. Д. М. Хомского. Москва, Гос. изд-во обор. промшл., 1939.

102 p. Plus. 20 cm. (Стахановцы авиационной промышленности, вып. 11)

At head of title: В. И. Тихонов и Е. И. Драгунов.

Stakhanovitsy Assemblers; Methods of Assembly

1. Machine-shop practice. 2. Stakhanov movement. I. Dragunov, E. I. Joint author. (Series: Stakhanovitsy aviatstannoi promyshlennosti, vyp. 11) Title transliterated: Stakhanovitsy-sborshchiki.

TJ1160.T55

51-15335

Library of Congress

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(5)

KREMNEVAYA, L.; TIKHANOV, Ye.

Here they cure with sun and air. Zdorov'ie 6 no.8:16-17 Ag '60.
(MIRA 13:8)

(LUNEVO—SANATORIUMS)

NIKHEL', Ye.; TIKHANOV, Ye.

Extended day school. Zdorov'e 6 no.9:16-17 S '60. (MIRA 13:8)
EDUCATION OF CHILDREN---CURRICULA)

TIKHANOV, Ye. (Moskva)

~~Walk with a camera. Zdorov'e 3 no.6:24 Je '57.~~
(PHOTOGRAPHY)

(MLRA 10:7)

LINETSKAYA, M.; TIKHANOV, Ye.

Students relax. Zdorov'ye 6 no.5:16-17 My '60.
(DZHUBGA--VACATIONS)

(MIRA 13:6)

LEONOV, L.; TIKHANOV, Ye.

~~Accidents which did not happen:~~ Za rul. 16 no.4:13-15 Ap '58.
(MIRA 13:3)

(Traffic accidents)

TIKHANOVA, M. A.

SOV/30-59-4-117/51

NO(S)

AUTHOR:

TITLE:

PHIONOGLAF:

ABSTRACT:

Fedorov, G. P., Candidate of Historical Sciences
 Kiev in Brief (Kratkiye soobsheniya). The Third Soviet-Rumanian Seminar on Archaeology and Ethnography (Tretiy sovetskoro-rumynskiy seminar po arheologii i etnografii). Vestnik Akademii nauk SSSR, 1959, Nr 4, p. 104 (USSR)

The Seminar took place in Bucharest between December 26th, 1958 and January 5th, 1959 and dealt with problems of the ancient and medieval history of Rumania and the South-west of the USSR. Since 1957 joint Soviet-Rumanian research work has been carried out and held in the Moldavia region and in the People's Republic of Rumania. The work was carried out in a number of party settings and three committees. The reports delivered by the Rumanian archaeologists S. Gheorghiu and M. Coman were regarded as interesting. The members of the Soviet delegation held the following reports: G. P. Fedorov spoke about the history of material civilization of the population of the South-west of the USSR in the first millennium of the calendar; N. Ya. Merpert reported on the research of the history of the oldest Bulgarian writing; the history of the medieval Moldavian towns; P. P. Yurii dealt with archaeological material characteristic of the region of the inhabited village; M. Ya. Salimovskiy reported on ethnographical research in the region of the South-west of the USSR; V. B. Slavitskiy delivered a report on the conditions of the property of the population of the Bosphorus from the sixth until the second century of the new calendar; M. Ya. Kozlov, and M. A. Tikhonova dealt with the problem of the woodland-steppe transition; G. P. Fedorov dealt with the calendar of the first millennium of the new calendar. The scientists attending the seminar outlined a definite plan of collaboration in 1959. There is 1 figure reference.

Card 2/2

Card 2/2

TIKHANOVA, O. *i.*

Karpov, N. I. and Tikhanova, O. V. "High-voltage condensers," Trudy Leningr. politekhn. in-ta im. Kalinina, 1948, No. 3, p. 260-70.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, no. 15, 1949).

SOV/110-59-9-11/22

AUTHORS: Kuchinskiy, G.S. (Cand. Tech. Sci.),
Tikhanova, O.V. and Messerman, G.T. (Engineers)

TITLE: The Ionisation Characteristics of Oil-impregnated Paper
Capacitor-type Insulation for High-voltage Apparatus

PERIODICAL: Vestnik elektropromyshlennosti, 1959, Nr 9, pp 37-42 (USSR)

ABSTRACT: In the context of this article capacitor-type insulation means insulation which includes stress distribution foils as in capacitor bushings. The article describes the results of investigations on the ionisation characteristics of samples of oil-impregnated paper insulation of this type in various constructions applied to the insulation of high-voltage current transformers. Permissible working and test stresses are established, and the influence of insulation design and quality of materials is elucidated. Engineers N.I. Bachurin, M.A. Greysukh and A.I. Dobrusin participated in the development and construction of the samples. The samples consisted of one, two or three layers of insulation of the primary winding of a current transformer, all dimensions except the length being of normal value. The electrodes on the samples were either covered, partly

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SOV/110-59-9-11/22

The Ionisation Characteristics of Oil-impregnated Paper Capacitor-type Insulation for High-voltage Apparatus

covered or exposed, as shown in Fig 1, or a stress distributor was provided as shown in Fig 2. The drying and impregnating procedure is described. The instrumentation used could measure power-factors and voltages up to 130 kV and was noise-free up to 120 kV. The ionisation recorder used measured the high-frequency oscillations of current in the specimens. A distinction is drawn between the voltage that causes unstable ionisation (see Fig 3) and that which causes stable ionisation (see Fig 4). The minimum voltage at which ionisation did not cease in 30 minutes is called the minimum stable ionisation voltage. The ionisation characteristics of various types of specimen are given in Table 1, and Fig 5 plots power-factors as functions of the voltage for particular specimens. The results show that for specimens in which the foil edges are open there is no clear distinction between the processes during the unstable and stable ionisation. The reasons for this are explained. Samples with covered foil edges have better ionisation characteristics. Ionisation characteristics of samples with covered foils and different thicknesses of main insulation are

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SOV/110-59-9-11/22

The Ionisation Characteristics of Oil-impregnated Paper Capacitor-type Insulation for High-voltage Apparatus

included in Table 1. Curves of the voltages causing stable ionisation as functions of insulation thickness are given in Fig 6 and it will be seen that the stress at which stable ionisation occurs decreases appreciably as the thickness is increased. For samples of the particular type described the relationship plotted in Fig 6 can be expressed by Eq (1). The stress that causes unstable ionisation also decreases as the insulation thickness is increased. This leads to a discussion of the best thickness of main insulation between foils and recommendations are made for particular cases. To facilitate the processes of drying and impregnation of current transformers it is desirable to use perforated foils. Accordingly a comparison was made between the ionisation characteristics of insulation containing solid foils and various types of perforated foils. The results of these tests are also given in Table 1. Figs 7 and 8 give curves of ionisation voltage and power-factor as functions of applied voltage for samples with stress distributors. It will be seen that a lower ionisation voltage is obtained with

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SOV/110-59-9-11/22

The Ionisation Characteristics of Oil-impregnated Paper Capacitor-type Insulation for High-voltage Apparatus

perforated metallised paper than with perforated foils. The reasons for this are discussed and the use of metallised paper for such foils is deprecated. The use of perforated foils is recommended for current transformers. Tests were also made on samples with two and three layers of insulation and the results agree with those on single-layer specimens within the limits of experimental error. The recovery of insulating properties after the occurrence of ionisation was studied and Fig 9 gives a graph of the stable ionisation voltage as a function of the resting time of the insulation after the application of a voltage causing stable ionisation, and it will be seen that the insulation fully recovers after about five hours. As a result of the work it is recommended that for insulation without stress-distributors the test surge stress should not exceed 12 kV/mm and the working stress should not exceed 3.6 kV/mm. When the edge effect is eliminated by stress distributors, the ionisation characteristics are governed by processes within the thickness of the main insulation; with an insulation thickness of 3 mm the test and surge stresses

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The Ionisation Characteristics of Oil-impregnated Paper Capacitor-type Insulation for High-voltage Apparatus

should not exceed 18 kV/mm and the working stress should not exceed 5 kV/mm. Table 2 gives data on permissible stresses during operation and testing of various classes of current transformers with the above recommendations in mind. An experimental current transformer was made up to check the recommendations; its construction is described. When tested and operated in accordance with the recommendations the transformer showed a constant power factor and there were no appreciable high frequency current oscillations, so that the test results obtained on models were confirmed. Current-transformer type TFKN220-II for 220 kV, 1200 A, was made and tested and the validity of the recommendations about test and operating stress were confirmed. The results obtained in the article can also be applied to the design of high voltage bushings and cable junctions or terminations with

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SOV/110-59-9-11/22

The Ionisation Characteristics of Oil-impregnated Paper Capacitor-type Insulation for High-voltage Apparatus

oil impregnated paper capacitor-type insulation
employing cable paper.

There are 9 figures, 2 tables and 6 Soviet references.

Card 6/6

KUCHINSKIY, G.S., dots.; KAPLAN, D.A., inzh.; TIKHANOVA, O.V., inzh.

Ionization characteristics of the oil-impregnated paper
insulation. Izv.vys.ucheb.zav.; energ. 2 no.8:39-45
Ag '59. (MIRA 13:2)

1. Leningradskiy politekhnicheskoy institut imeni M.I.Kalinina.
Predstavlena kafedroy tekhniki vysokikh napryazheniy.
(Electric insulators and insulation)

TIKHANOVA, O.V.

KARPOV, N.I., inzhener; KUCHINSKIY, G.S., kandidat tekhnicheskikh nauk;
TIKHANOVA, O.V., inzhener.

New types of high-voltage capacitors. Vest. elektroprom. 27 no.10:
19-25 0 '56. (MIRA 10:9)

1. Leningradskiy politekhnicheskii institut imeni M.I. Kalinina.
(Condensers (Electricity))

ILINAROVA, O. V., KARFUV, N. I., AND KOCHINSKIY, G. S.

"High-Voltage Condensers in Insulating Jackets"
Tr. Leningr. Politekhn. in-ta, No 1, 1954, 257-261

Operating gradients (E) of condensers are analyzed so as to keep their service life at around 10 years. Experiments confirmed the relation $(E_1/E_2)^n = t_2/t_1$ (where t_1 and t_2 are service lives of E_1 and E_2 respectively) in a wide time interval, where n is assumed to be 16 for dc voltage and 10 for ac voltage. The following gradients should be accepted: long operation on ac voltage, 14-18 kw/mm; on dc 30/35 kw/mm; operation in oscillatory circuit 35-40 kw/mm; operation in pulse generator 50-55 kw/mm. Basic condenser types of the Laboratory TVN of the Leningrad Polytechnical Institute are described. (RZhFiz, No 9, 1955)

SO: Sum-No 787, 12 Jan 56

TIKHANOVA, V.I.

Study of the immunological effectiveness of stimulating immunization in treating scarlet fever patients with penicillin. Trudy Len.inst.epid.i mikrobiol. 18:81-89'58. (MIRA 16:7)

1. Iz sektora epidemiologii Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera (sav.sektorom I.M. Ansheles), iz Leningradskoy detskoy bol'nitsy imeni Filatova (glavnyy vrach Z.A.Savel'yeva) i iz Leningradskoy infektsionnoy bol'nitsy Sverdlovskogo rayona (glavnyy vrach N.A.Nikitina).
(SCARLET FEVER) (PENICILLIN) (IMMUNITY)

USSR/Medicine - Nicotinic Acid Jun 49
Medicine - Hepatitis

"Use of Nicotinic Acid on Patients With Hepatitis,"
G. S. Tikhonovich, Therapeutic Dept, Ord of Lenin
Koop imeni S. P. Botkin, Moscow, 12 pp

"Klin Med" Vol XXVII, No 6

Discusses possibility of determining the extent
of hepatic dysfunction by establishing the extent
of hepatic function in methylation, retention, and
oxidation. Hepatic function test is carried out
by administering large quantities of nicotinic acid
then determining the nicotinic acid content in the
urine. Variations from the norm are indicative of
FDD 59/49T60

USSR/Medicine - Nicotinic (Contd) Jun 49
Acid

the extent of hepatic dysfunction. However, it
was proved that this test does not give a clear
clinical picture.

TIKHANOVICH, G. S.

FDD

59/49T60

TIKHANOV V. V., B.S.

773. Employment of Nicotinic Acid in Cases of Hepatitis. (Применение никотиновой кислоты у больных гепатитом)

G. S. Tikhonovskii. Клиническая Медицина (Klin. Med., Mosk.) 27, No. 6, 67-78, June, 1949. 19 refs.

Nicotinic acid acts on the basic functions of the liver, and the liver, in its turn, plays an important part in the metabolism of nicotinic acid. The author summarizes the conclusions of many workers within and outside the Soviet Union on these mutual relations; it is evident that nicotinic acid increases the storage of glycogen, lowers the blood sugar level, takes part in the action of respiratory enzymes, prevents porphyrinuria, and diminishes bili-

nicotinic acid, methylates it so that it is excreted in the urine as trigonellin, a methyl derivative, and can also oxidize this to 6-pyridone, which is excreted in the urine. It is therefore assumed that the quantity of nicotinic acid and its derivatives in the urine can be regarded as an index of the saturation of the vitamin in the organism, and of the methylating function of the liver.

The author studied the influence of certain diffuse diseases of the hepatic parenchyma, especially infective hepatitis, on the excretion of nicotinic acid in the urine, and on nicotinic acid metabolism in the organism as a whole. He also studied the effectiveness of treatment of infective hepatitis by nicotinic acid. He mentions that a lowered excretion of nicotinic acid after a standard dose was observed by Lipschutz in diffuse liver disease, but that this was not confirmed by Goldsmith. Kerido noted a lowering of the blood content of this vitamin in severe jaundice, and considered this to be due to either increased destruction or greater excretion.

The material in the present investigation is derived from 82 patients suffering from infective hepatitis, hepatitis secondary to cholecystitis, cirrhosis of the liver, or chronic colitis with hypovitaminosis. There were 13 healthy controls. Before these patients received the standard dose of 300 mg. nicotinic acid, they were kept on a diet containing 14 mg. a day. On this the excretion in the controls was 4 mg. a day, while that in patients with liver disease was lower, averaging 1.8 mg. in cases of cirrhosis and 2.5 mg. in those of infective hepatitis at the height of the disease. After the standard dose, the excretion of nicotinic acid was less in patients with liver disease than in controls. Thus controls excreted on an average 15.8% of the dose in 24 hours, while the patients with infective hepatitis excreted an average of 11.2%, and those with cirrhosis 6.5%. There was no relation between these findings and liver function as measured by the galactose test and the glucose-tolerance curve.

His conclusions are as follows: (1) Estimation of nicotinic-acid excretion by this method can, under controlled conditions, serve as an index of the degree of saturation of the organism. (2) It may be assumed that the excretion of nicotinic acid in the urine of patients with diffuse liver disease expresses the state of the methylating, storage, and oxidizing functions of the liver. (3) A low concentration of nicotinic acid in the urine of patients with infective hepatitis (after a standard dose) is certainly a sign of marked lowering of methylating function. (4) An adequate excretion under similar circumstances may possibly mean damage to the storage and oxidizing functions, but simultaneous but unequal damage to both these functions at various stages of the disease may occur. (5) A lack of uniformity in the urinary content of patients with hepatitis is an expression of a preponderating disturbance of one or other of the liver functions controlling the metabolism of nicotinic acid. (6) In infective hepatitis, this metabolism suffers severe and permanent disturbance. (7) With nicotinic-acid deficiency in the presence of liver disease, the test cannot serve as a reliable index of the degree of saturation. (8) The administration of nicotinic acid in infective hepatitis has no clearly defined clinical effect.

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S/118/60/000/011/004/014
A161/A133

AUTHORS: Tikhanovskaya, G.Ya., and Shvartsgorn, M.A., Engineers

TITLE: Automatic removal of defective metal in cutting machines

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 11, 1960,
11-15

TEXT: Detailed information is given on the design and operation of a new reject-eliminating sorting system installed at drum shears in the sheet rolling shop of the Magnitogorskiy metallurgicheskiy kombinat, or MMK (Magnitogorsk Metallurgical Combine). The system has been developed by the Tsentral'naya zavodskaya laboratoriya avtomatizatsii proizvodstva (Central Plant Laboratory for Automation of Production) of the MMK. At the time being, 25.6% of the labor in the MMK rolling shops are occupied with sorting marking, straightening, cutting and packaging of metal. The system (Fig.1) includes a photoelectric НПП -455 (NPP-455) defectoscope revealing cuts, pierced holes, rolled-in crumbs, etc., and a radioactive ИТУ -495 (ITU-495) micrometer detecting thickness variations. Signals caused by a hole or off-standard thickness are amplified and fed to the communicator unit pro-

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ducing a command signal to the automatic control system of the first conveyer section after the shears. The conveyer section goes down, and the rejected sheet goes into the reject pocket. The radioactive micrometer uses a strontium isotope with 20 years half-life and performs continuous non-contact measurement in 0.03-0.7 mm sheets. As it does not signal deviations from gage beyond the tolerance limits, it has been fitted with an electronic attachment for setting thickness tolerances. The photoelectric NPP-455 defectoscope is separately illustrated in a block diagram (Fig.2). The electronic "thickness setter" (Fig.3) has two analogous channels. Its measuring system is a double bridge including the free rheochord of the indicating micrometer instrument ($R_{прид}$), two wire-wound alternating resistors (R_{max} and R_{min}) and additional resistors R_1 , R_2 , R_3 and R_4 ; the maximum and minimum tolerance are set with sliders. The automatic reject eliminating system exists in two modifications: the simple first one, including electromagnetic relays with constant time delay for lowering and lifting the first conveyer section, and used on two shears in the shop, and a more complex one on a third shears. The simpler system dependably detects and catches defective

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sheets but does not reliably single them out, and several good sheets (4-5) go together with the spoiled ones into the reject pocket. Besides, the lowering or sinking of the conveyer section can start at any moment regardless of the position of the sheets on the conveyer, and good sheets may be jammed and spoiled. The more complex system is free of these faults. It includes a block of electronic relays (БЭР), an automatic panel, a program switch for the sheet length, and a photo-head $\Phi \Gamma 1$ (placed directly behind the flying shears). The article includes a detailed description of the functions of every element in the system. The automatic sorting has replaced 70 men, raised the average work productivity in the shop by 4.5%. There are 7 figures.

Card 3/6

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