On the Problem of the Construction of the Hydrographic Network on Topographic Maps SOV/6-58-6-12/21

that these deficiencies are mostly caused by the lack of clear and exact determinations of the elements of hydrography. Some supplements to the existing signs are mentioned. The authors demand a method for the generalization of the representation of rivers as well as the elaboration of examples for the generalization of the river outlines.

1. Inland waterways--Properties 2. Mapping errors
3. Maps--Preparation

Card 2/2

VENIKOV, V.A.; VEYTS, V.I.; GLAZUNOV, A.A.; GRUDINSKIY, P.G.; PROBST, A.Ye.; PETROV, G.N.; RUSSAKOVSKIY, Ye.A.; SHERSHOV, S.F.; TELESHEV, B.A.

In memory of Doctor of Economics and Technology Professor S.A. Kukel'-Kraevskii; on the occasion of the 75th anniversary of his birth. Elektrichestvo no.7:91-92 Jl '58. (MIRA 11:8)
(Kukel'-Kraevskii, Sergei Andreevich, 1883-1941)

AUTH: Petrov, L. ., Doct. [illegible] Sc. [illegible], [illegible]
Cyn', S.S., Candidate of Technical Sciences
Krayz, M.L., Engineer.

TITLE: Smooth Controllable Voltage Regulation of Transformers Under Load (Plavnoye regulirovaniye [illegible] transformatorov pod nagruzkoy)

PERIODICAL: Vestnik Elektr[illegible]romyshlennosti, 1956, Vol. [illegible], [illegible], pp. 1-8 (USSR)

ABSTRACT: Until now, smooth voltage regulation by means of transformers has not been satisfactorily achieved and published, theoretical work is incomplete. The authors, therefore, developed a more accurate theory for one such type of transformer, a schematic circuit diagram of which is given in Fig.1. The transformer has two cores, magnetically independent; both receive auxiliary d.c. magnetisation from windings with different numbers of turns. The two parts of the d.c. [illegible] winding are so connected that the total d.c. e.m.f. round the windings is zero. The primary and secondary [illegible] the two cores are in series and have different transformation ratios. Hence, if the primary voltage is maintained constant and the auxiliary magnetisation is varied, the output voltage is altered. The article examines the analytical [illegible]

Card 1/4

Contactless Voltage Regulation of Transformers (Cont.)

that govern this process of voltage regulation. The main equations of the regulated transformer are first derived. A vector diagram is then constructed in Fig. ... discussed. When the secondary power-factor is other than unity, the vector diagram is constructed by first finding the relative orientation of the vectors of primary voltage and current. This may be done graphically and gives the vector diagram seen in Fig.3. The degree of regulation at no-load and the transformation ratios of the two transformers are related in Fig.4, and the relationship between the secondary voltage and auxiliary magnetisation is given for ... in Fig.5. These equations and vector diagrams permit of an analysis of the working process of the transformer which is sufficiently accurate for practical purposes and explain the influence of the main parameters of the transformer ... limits of regulation.

Tests were made on a model regulated transformer ... main theoretical relationships established in the ... two cores were represented by two identical ... formers having transformation ratios 1.0 and 3.1. ... former voltage was ... by d.c. magnetisation ...

Card 2/4

Smooth Contactless Voltage Regulation (Cont.)

given in Fig.2. Some numerical deviation of the experimental vector diagram from the theoretical are due to magnetic losses in the cores and the presence of resistance and inductance in the primary and secondary windings, etc. A special feature of this method of voltage control is the possibility of generating higher harmonics in the voltage curves of both cores with sinusoidal primary voltage. However, if the degree of saturation of the cores is correctly chosen, this effect is small. By way of example, Fig. 9 gives secondary voltage oscillograms with auxiliary magnetisation. It is concluded that conditions will be most favourable to the use of these transformers when the degree of voltage regulation is not greater than 1.5:1. Although the article considers only the simplest regulated transformer, other arrangements, such as autotransformer connections, are possible. An advantage of this method of voltage regulation is its relatively high speed and also the possibility of easily making voltage control automatic. An appendix gives design procedure. There are 9 figures and 1 American, 1 German and 1 Russian reference.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)
SUBMITTED: October 14, 1957
AVAILABLE: Library of Congress
Card 4/4
1. Transformers 2. Voltage-Stablization 3. Mathematical analysis

PETROV, G.N., kand.tekhn.nauk, dotsent

Simultaneous determination of the unbalance in two planes. [Trudy] MVTU no.77:98-109 '58. (MIRA 11:9)
(Balancing of machinery)

STUPISHIN, A.V.; PETROV, G.N.

Hydrological conference in Kazan. Izv. Vses. geog. ob-va 95
no.6:565 N-D '63. (MIRA 17:1)

PETROV, G.N., kand. tekhn. nauk

Some urgent objectives of Kazakhstan water res[illegible] development. Vest. AN Kazakh. SSR 12 no. [illegible] Apr [illegible].

(MIRA [illegible])

SOV/110-59-2-11/21

AUTHOR: Petrov, G. N., Doctor of Technical Sciences, Professor

TITLE: Multi-Winding Transformers with Auto-Transformer Interconnections (Mnogoobmotochnyye transformatory s avtotransformatornymi svyazyami)

PERIODICAL: Vestnik Elektropromyshlennosti,1959,Nr 2,pp 43-50 (USSR)

ABSTRACT: It is most economic to use auto-transformers for interconnection between high voltage transmission systems. A high voltage auto-transformer usually has two main windings connected in series per phase, the phases being connected in star with earthed neutral. A third winding connected in delta is then required to improve the conditions of magnetisation of the core and to compensate the zero phase sequence currents. Since large three-phase auto-transformers are made either as a group of three single phase units or of the shell-type construction, if there is no winding connected in delta appreciable harmonics appear in the phase e.m.f.'s. The delta connected winding, which is in any case required, is usually used as a further source of voltage and so auto-transformers used to interconnect electrical systems usually have three windings and sometimes four or even five. It is of considerable practical interest to

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Multi-Winding Transformers with Auto-Transformer Interconnections

establish the relationships between the load currents in the individual windings and the voltages on their terminals in this case. The problem is considered in this article for both symmetrical and unsymmetrical loading conditions. In order to establish relationships between the voltages and currents in the windings of multi-winding transformers it is necessary to be given either the currents or the impedances of the load and then to find the voltages on the terminals of the windings. In the investigation of loading conditions it is more convenient to be given the load currents and in calculations on short circuits to assume that the short circuit load impedance is zero. In the case of multi-winding transformers additional difficulties arise in the calculations because of the need to determine phase-displacement between the load currents in the different windings. A vector diagram of currents and voltages in one phase of a four winding transformer is given in Fig 1; it is assumed that the magnetising current is zero and that the currents and voltages in all windings are referred to a single number of turns. Because of the number of different voltage drops in the windings the

Multi-Winding Transformers with Auto-Transformer Interconnections

voltage vectors are not all of the same phase, but to a first approximation in calculating the current phases this difference between the voltage phases may be neglected. A complex plane current vector diagram is then constructed in Fig 2 in which the voltage vectors are constructed along the real axis. A system of equations is then written relating the currents and voltages in a multi-winding auto-transformer. The formulae can be used to determine the voltage on the secondary winding of a multi-winding transformer given the primary voltage and the load currents in all the secondary windings. Examples of the use of the equations are then given. The first case is that of a step-down auto-transformer with four windings on each leg, (see Fig 3). Equations (9) and (13) are derived and are then used to construct a simple equivalent circuit for the four winding transformer which is given in Fig 4. It is then quite a simple matter to determine the necessary currents and voltages. The second example considered is a step-up auto-transformer with four windings, see Fig 5. As before, a simple equivalent circuit is derived and is given in

Multi-Winding Transformers with Auto-Transformer Interconnections

Fig 6. The third example is a step-up four winding transformer, in which two of the secondary windings are of the auto-transformer type, see Fig 7. Again, an equivalent circuit is derived and is given in Fig 8. Finally, the transformer connected as shown in Fig 9 is considered and the equivalent circuit of Fig 10 is derived. The examples considered cover the main cases of application of a four winding transformer incorporating auto-transformer connection of two windings with symmetrical loading. In calculating the external characteristics of individual windings it is always possible to use quite simple complex equations or equivalent circuits derived from them. The investigation of asymmetrical conditions on a three-phase multi-winding transformer with auto-transformer connections is best done by the method of symmetrical components. The positive and negative phase sequence currents are both transformed in the same way and so for each phase their sum may be considered simultaneously. If the zero phase current is zero the calculations are just the same as

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Multi-Winding Transformers with Auto-Transformer Interconnections

under symmetrical conditions. The changes that must be made when the zero phase sequence current is not zero are quite simple and are briefly described. A numerical example is worked out in an appendix.

Card 5/5 There are 12 figures and 2 Soviet references.

SUBMITTED: October 15, 1958

[redacted]

23324
S/095/60/000/001/001/002
A053/A129

12300 also 1573

AUTHORS: Kislyuk, F. I., Doctor of Technical Sciences; Petrov, I. N., Sommerfel'd, V. N., Voinstveyn, V. I., Engineers

TITLE: Two-channel device for verifying basic parameters of the condition of electric resistance butt-welding

PERIODICAL: Stroitel'stvo truboprovodov, no. 1, 1960, 23 - 24

TEXT: On the existing KTCA (KTSA) welding installations the parameters of the welding condition are regulated by hand and there is no guarantee that in mass production pipes are welded in accordance with a prearranged condition of most favorable parameters. The article describes a special two-channel device for automatic remote control of parameters of resistance welding, which permits all welded joints to be verified. On the basis of the recorded diagrams of the welding condition it is easy to determine at any time the nature of the changes in the parameters of the welding condition and their deviation from the prearranged program. From these diagrams and from the collected experimental data it is possible to evaluate the consequences of the deviations in regard to the quality of each welded joint. The two-channel device consists of an a- ammeter and an

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23324

Two-channel device for verifying basic parameters

electric instrument measuring the mechanical shift. In the course of the welding it is easy to observe the recordings of the device by the deflection of the needles and the simultaneous inscriptions on a moving paper roll. The principal parts of the device are a Sel'syn pickup, a Sel'syn receiver, a measuring mechanism, a paper rolling and printing mechanisms. The movement of the pipe during welding is operated by remote control with the aid of the cophasal Sel'syn instruments providing for transformation of mechanical values into electric ones and vice versa. The Sel'syn pickup is mounted on the welding machine and senses all the mechanical movements of the moving part of the machine together with those of the pipe, transforming them into electric values. The Sel'syn receiver mounted in the body of the device reproduces each shift of the Sel'syn pickup, transmitting it to the needle and the pen mounted on the shaft of the receiver. The general view of the two-channel device is shown in Figure 2. The welding current is registered by the ammeter. The movement of the paper takes place in accordance with a preselected speed and is operated by a synchronous single phase motor of the Warren type. A mechanism provides also for the imprint on the diagram of the serial number of the joint. The article describes the design of this mechanism and those of the feed of automatic paper and of the colored ribbon; it also gives a description of the electric system governing the two-channel device and the pric-

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23324

Two-channel device for verifying basic parameters ... S/081/60/000/001/021/022
A055/A129

ciples of its operation. Thus, the device and the commutation system are automatically started at the commencement of welding; the device registers the power of the current, the shifts (at fusing and shrinking) during the entire welding process, it prints on the diagram the serial number of the joint and cuts out the device on completion of each joint. An alternative design provides for the substitution of metallized band in place of paper, in which case recording is made with the aid of a tungsten electrode. The two-channel device has successfully passed a number of laboratory and practical tests. The article shows and describes a number of characteristic diagrams indicating various defects in welding, which become clearly visible by the form of the diagram. The authors of the article conclude that the two-channel device guarantees automatic and distant control of the parameters of resistance welding by recording the basic parameters of the welding condition for each welded joint in the form of a diagram. By these recordings it is easy to ascertain low quality joints caused by gross violation of the parameters of the welding condition. There is 1 photograph, 2 diagrams, 2 graphs and 1 table.

X

Card 3/ 4

PETROV, G N.

S/105/60/000/09/25/028
B007/B006

AUTHORS: Andrianov, V. N., Astakhov, N. V., Gubenko, V. P., Egoteko, N. P., Larionov, A. N., Lopukhina, Ye. M., Petrov, G. N., Sokolikov, S. V., Teferov, F. M., Chilikin, M. G.

TITLE: Yu. S. Chechet Deceased.

PERIODICAL: Elektrichestvo, 1960, No. 9, p. 89

TEXT: Yuriy Sergeyevich Chechet, Professor at the Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering), scientist and pedagogue, and an expert in the field of electrical micromachines, died on February 26, 1960. He was born on February 2, 1894. He studied at the mekhanicheskiy fakul'tet Kiyevskogo politekhnicheskogo instituta (Department of Mechanics at the Kiyev Polytechnic Institute) from 1911 to 1919. From 1919 teaching activity in Odessa and in Moscow. In 1925 he graduated from the elektrotekhnicheskiy fakul'tet Moskovskogo vysshego tekhnicheskogo uchilishcha (Department of Electrical Engineering at the Moscow Higher Technical School). He published about 40 scientific studies. From 1931-1942 Director of the kafedry elektricheskikh mashin (Chair for Electrical Machines at the Moskovskiy institut

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mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (Moscow Institute of the Mechanization and Electrification of Agriculture). From 1942 until his death he was Professor at the kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (Chair for Electrical Machines at the Moscow Institute of Power Engineering). At the same time he directed a chair at the Voyenno-inzhenernaya Krasnoznamennaya akademiya im. Kuybysheva (Military "Red Banner" Engineering Academy imeni Kuybyshev) for a number of years. He took his doctor's degree in 1940. He wrote his dissertation on "Theoretical Principles for the Designing of Universal Micromotors" ("Teoreticheskiye osnovy proyektirovaniya universal'nykh mikrodvigateley."). He was a Deputy of the Mossovet (Moscow Soviet of Workers' Deputies) and holder of the Order of Lenin and a number of medals, as well as Chairman of the Section Electrical Machines of the MONITOE. There is 1 figure.

Card 2/2

PETROV, G.N.; ROZENFEL'D, V.Ye.; KAGANOV, I.L.; PETROV, I.I.; STAROSKOL'SKIY, N.A.; TARE, B.M.

Vasilii Aleksandrovich Iz"iurov. Elektrichestvo no.7:93 Jl '60. (MIRA 13:8)

(Iz"iurov, Vasilii Aleksandrovich, 1885-)

CHILIKIN, M.G.; LARIONOV, A.N.; ANDRIANOV, K.A.; MESHKOV, V.V.; IONKIN, P.A.; ARKHIPOV, V.N.; PETROV, G.N.; SHAGIN, S.M.; PRIVEZENTSEV, V.A.; TAREYEV, B.M.

Professor N.G. Drozdov. Elektrichestvo no.10:90 O '60. (MIRA 14:9)

(Drozdov, Nikolai Gavrilovich, 1900-)

PETROV, Georgiy Nikolayevich, doktor tekhn.nauk, prof.

Multiwinding autotransformers. Izv. vys.ucheb. zav.; elektromekh. 3 no.3:50-54 '60. (MIRA 13:10)

1. Zaveduyushchiy kafedroy elektricheskikh mashin Moskovskogo energeticheskogo instituta.
(Electric transformers)

PETROV, G.N., prof., doktor tekhn.nauk

Parameters and short-circuit losses in triple-wound autotransformers. Vest. elektroprom. 31 no.5:32-36 My '60. (MIRA 13:8)
(Electric transformers)

PETROV, G.N., doktor tekhn.nauk; BORODULIN, Yu.B., inzh.; RABINOVICH, S.I.,

Autotransformer for high-voltage electric networks. Elek.sta. 31 no.7:47-53 Jl '60. (MIRA 13:8)
(Electric transformers)

GURIN, Yakov Semenovich; KUROCHKIN, Mikhail Nikolayevich; PETROV, G.N., prof., red.; TIMOKHINA, V.I., red.; LARIONOV, G.Ye., tekhn.red.

[Designing d.c. machinery] Proektirovanie mashin postoiannogo toka. Pod obshchei red. G.N.Petrova. Moskva, Gos.energ.izd-vo, 1961. 350 p. (MIRA 14:4)
(Electric machinery--Direct current)

KISLYUK, F.I.; SHMELEVA, I.A., PETROV, G.N.

Effect of compounding on the characteristics of a synchronous generator in a movable electric station for resistance welding. Avtom. svar. 14 no.5:67-73 My '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprofodov.
(Electric welding—Equipment and supplies)

[illegible]
E144/E455

AUTHOR: Petrov, G.N.

TITLE: Calculation of inductive leakage parameters of micro-transformers

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.25, 1962, 3-7, abstract 25 I 29. (Tr. Mosk. elektr. in-ta, no.36, 1962, 103-117)

TEXT: Calculation of the leakage parameters of micro-transformers may be reduced to calculation of a plane-parallel field as in an ordinary transformer. If the primary winding is considered as consisting of parts 1, 3, 5... (see Fig.1) and the secondary of parts 2, 4, 6..., then the reactance of the k-th winding x_k referred to the number of turns of the entire primary winding $w = w_1 + w_3 + w_5 + \ldots$ will be

$$x_k = k_3 x_{k3} + k_5 x_{k5} + \ldots + k_1 (k_2 x_{k2} + k_4 x_{k4} + \ldots), \quad (1)$$

where $k_n = w_n/w$ and

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Calculation of inductive leakage ... [illegible]

$$k_U = \frac{w_1 + w_3 + w_5 + \dots}{w_2 + w_4 + w_6 + \dots} \qquad x_{k_r} = k_1 k_2 x_{1n-} + k_3 x_{1n} -$$

$$- k_0 k_4 x_{1n^4} + k_5 x_{1n} + \dots$$

Here, x_{1nm}, where [illegible] is determined from the formula

$$x_{1nm} = \frac{1}{2}(x_{k1n} + x_{k1m} - x_{knm}),$$

which depends on the reactances of pairs of windings 1 - n, 1 - m and n - m. The inductances of the pairs of windings are calculated by the formula

$$x_{k12} = 2 \cdot 10^{-9} \omega w^2 a_w l_n k_c \frac{g_{12}^2}{g_1 g_2} \text{ ohms}$$

where: $\omega = 2 \cdot f$, w_w [illegible] d_w is the mean turn length, g_1 and g_2 are mean geometrical distances of winding sections 1 and 2 from

Card 2/ 0

themselves; and g_{12} is the mean geometrical distance between the two windings. k_c allows for the influence of the iron core and is determined by the method of mean geometrical distances for mirror reflection of windings (see Fig.2). For case "a"

$$k_c = g_{14}^2 / (g_{13}\, g_{24})$$

and for case "b"

$$k_c = \frac{g_{14}^2\, g_{16}^2}{g_{13} g_{15} g_{24} g_{26}}$$

The mean geometrical distance of sections of a rectangle from itself are very simple to determine approximately:

$$g_1 = 0.233\ (h + b)\ \text{cm} \qquad (4)$$

where h and b are the lengths of the sides of the rectangle, in centimetres. The mean geometrical distance between two sections is determined by more complicated formulae which can be reduced to a series of calculations of mean geometrical distances of sections

Card 3/ 0

Calculation of inductive leakage ...

from themselves for the case when the sides of the rectangle are parallel. Then

$$g_{12} = \frac{g_{AB}^{a} \; g_{CD}^{\gamma}}{g_{EF}^{\gamma} \; g_{GH}^{\delta}} \qquad (5)$$

where the rectangle sections A, B, C, D, E, F, G and H are equal to sections of total rectangles in Fig.3, as shown in the table, and the exponents are

$$\alpha = \frac{n_0^2}{2n_1n_2}, \quad \beta = \frac{n_1^2}{2n_1n_2}, \quad \gamma = \frac{n_1^2}{2n_1n_2}, \quad \delta = \frac{n_2^2}{2n_1n_2}$$

The value of the mean geometrical distance of two rectangles with sides parallel but of different length, and with arbitrary arrangement of the two figures relative to one another, reduces to determination of four values of mean geometrical distance for figures with parallel sides but of the same height and located on the same levels. Formula (5), being the most general, may be

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Calculation of inductive [illegible] s/190/62/[illegible]
E1a/E13

applied to this particular case when the windings [illegible] the
of the same width, their sections [illegible] and [illegible] are equal to each
correspondingly sections [illegible] and [illegible], and formula (3) for the mean
geometrical distance of sections (11 and (22 (see Fig. 4 takes the
form

$$g_{1..} \quad \frac{g_A^2 \; g_C^2}{g_1^2 \; g_{12}^2}$$

where: g_A, g_C, g_E, g_{12} are the mean geometrical distances of
sections from themselves (see formula (4)). For Figs. 3 and 4 we
always have $h_a = h_c$, $h_b = h_e$ and [illegible].

Comparing the well-known formulae for leakage voltage with
formula (4), we can derive relationships between [illegible]
coefficient, the coefficient K_C of mirror reflection of
windings, and g_{12} the mean geometrical distance between two
sections of the same height and with parallel section sides. For
the case when the primary and secondary windings are located on

Card 5/[illegible]

Calculation of inductive leakage ... [illegible] E191/E11]

different cores, calculation of the leakage parameters is carried out in such a way that the reactance is calculated separately for those parts of the windings located in the window and for those parts located on the outer sides of the cores. In the latter case by sectioning the yokes and developing them (laying them out) together with the cores on a single straight line, the arrangement of the windings is reduced to the case of interleaved disc windings, which is easily calculated by the usual formulae. 13 figures. 6 references.

[Abstractor's note: Complete translation.]

Card 6/ 6

PETROV, G.N., doktor tekhn.nauk, prof.; TEIN, Ya.S., kand.tekhn.nauk; ZHERVE, G.K., kand.tekhn.nauk; LINDORF, L.S., kand.tekhn.nauk

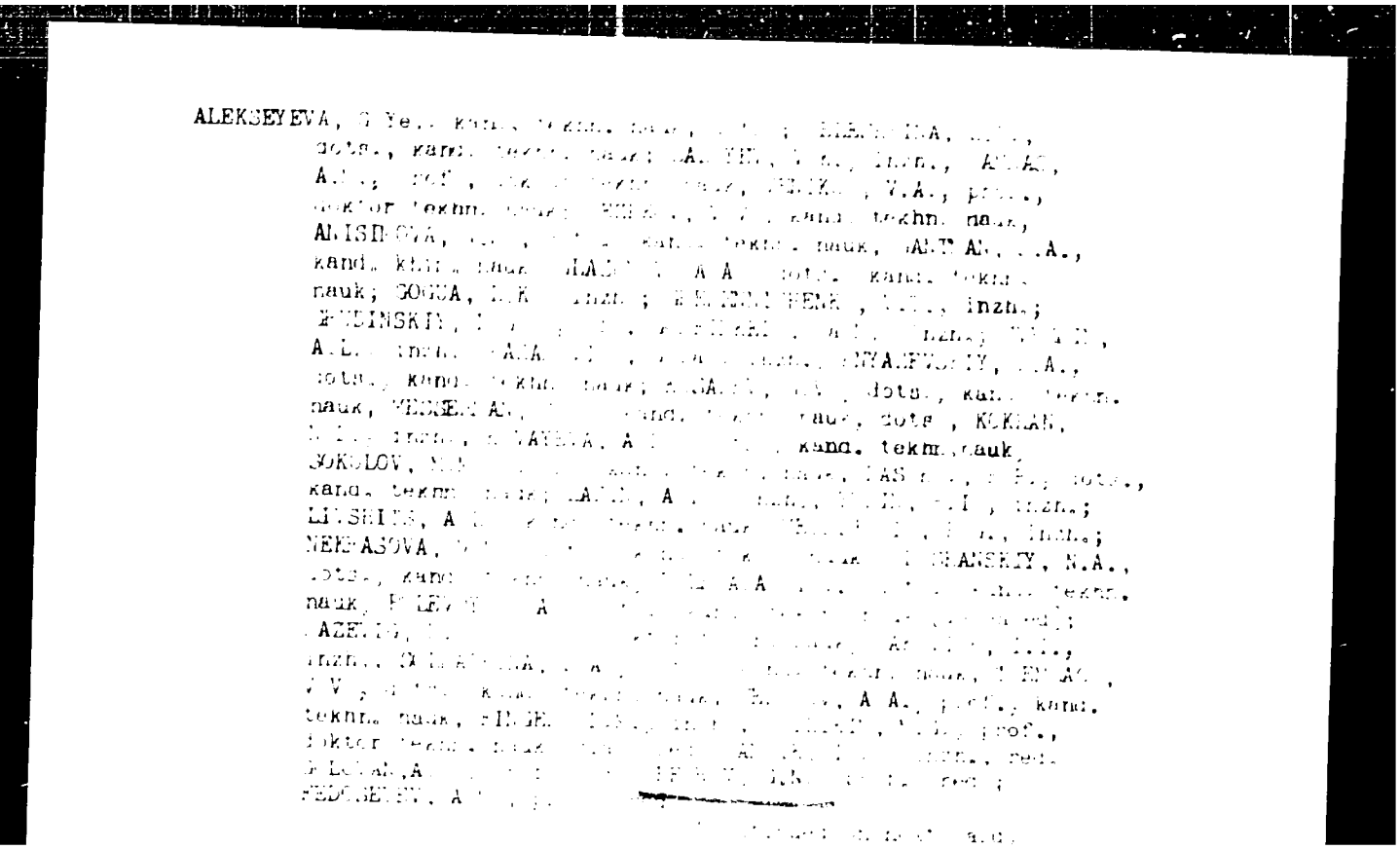
New standards for electric machinery testing methods. Vest. elektroprom. 34 no.4:39-44 Ap '63. (MIRA 16:10)

PETROV, G.N., doktor tekh. nauk, prof.

Current objectives of the Russian electric transformer industry.
Vest. elektroprom. 34 no.4:1-3 Ap '63. (MIRA 16:10)

ARKHIPOV, V.N.; BIRYUKOV, V.G.; BRONSHTEYN, A.M.; DROZDOV, N.G.; [illegible]CV, M.I.; NAYASHKOV, I.S.; PETROV, G.N.; SIROTINSKIY, L.I.; CHILIKIN, M.G.

Professor G.V. Butkevich; on his 60th birthday. Elektrichestvo no.10:92-93 O '63. (MIRA 16:11)



ALEKSEYEVA, G Ye., kand. tekhn. nauk, [illegible]; ANISIMOVA, [illegible], kand. tekhn. nauk, ANTAL, [illegible], kand. tekhn. nauk; GORDA, [illegible], inzh.; [illegible], inzh.; [illegible], kand. tekhn. nauk, [illegible], dots., kand. tekhn. nauk, [illegible], dots., KOKKAN, [illegible], kand. tekhn. nauk, [illegible], dots., kand. tekhn. [illegible]; LIVSHITS, [illegible], inzh.; NEMASOVA, [illegible], dots., kand. tekhn. [illegible]; [illegible], kand. tekhn. nauk, [illegible]; [illegible], inzh., [illegible], kand. tekhn. nauk, [illegible], prof., kand. tekhn. nauk, [illegible], prof., doktor tekhn. [illegible]; [illegible], kand. tekhn. nauk; FEDOSEYEV, [illegible]

ALEKSEYEVA, [illegible]

[E[illegible]
spravochnik, [illegible]
Energiia. V[illegible]

1. Moscow, Energeticheskiy [illegible]
Fedoseyev, [illegible]
SSR (for [illegible]

PETROV, G.N.

[illegible] field pipelines. [illegible]

[illegible]

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

BIRYUKOV, V.G.; BRITCHUK, V.V.; KOZHUKHOV, V.K.; KRAYZ, A.G.; NAYASHKOV, I.S.; NAZAREVSKIY, N.I.; PANOV, A.V.; PETROV, G.N.; RABINOVICH, S.I.; SAPOZHNIKOV, A.V.

Emmanuil Abramovich Man'kin, 1905- ; on his 60th birthday. Elektrichestvo no.11:86-87 N '65. (MIRA 18:11)

L 22739-66 EWP(k)/EWP(h)/EWT(d)/EWP(l)/EWP(v)

ACC NR: AP6013621 SOURCE CODE: UR/0105/65/000/009/0088/0088

AUTHOR: Aleksenko, G. V.; Biryukov, V. G.; Borisenko, N. I.; Borushko, V. S.; Kovalev, N. N.; Kostenko, M. P.; Obolenskiy, N. A.; Petrov, G. N.; Rozanov, A. A.; Skidanenko, I. T.; Timofeyev, P. V.; Chilikin, M. G.; Sheremet'yevskiy, N. N. 21 79 B

ORG: none

TITLE: Honoring the 60th birthday of Professor Andronik Gevondovich Iosif'yan

SOURCE: Elektrichestvo, no. 9, 1965, 88

TOPIC TAGS: academic personnel, scientific personnel, automation, electric engineering, servosystem, automatic control

ABSTRACT: 21 July 1965 was the 60th birthday of the eminent Soviet scientist in the field of electrical mechanics and automation, Dr. Techn. Sci., Professor, Member of the AS Armenian SSR, Hero of Socialist Labor, Laureate of the State Prize, A. G. Iosif'yan. His scientific contributions are numerous. During 1931-1934 he developed the theory of the combined synchronous control circuit with AC commutator generator. Subsequently, he invented the contactless selsyn. He was the first Soviet scientist to publish studies of thyratron-based servosystems for the control of electrical machinery. During 1940-1945 he made a major contribution to the theory of electrical machinery and automatic control by publishing studies on the general theory of the elec-

Card 1/2 UDC: 621.3:65.011.56

L 22739-66

ACC NR: AP6013621

2

tromechanical amplifier (amplidyne) and power-driven synchronous servosystems. In his 35 years of scientific activity A. G. Iosif'yan has published more than 60 studies on many problems of electrical mechanics and automatic control and has been the author of 24 inventions. A. G. Iosif'yan is the founder and director of the All-Union Order of Labor Red Banner Scientific Research Institute of Electromechanics, and it was on his initiative that branches of this institute have been established in Leningrad, Tomsk, Yerevan, Frunze, Iskra, and Kudinovo. Between 1950 and 1955 he held the elective office of Vice President of the Armenian Academy of Sciences, and since 1955 he has been Editor-in-Chief of the journal Elektrotekhnika (Electrical Engineering). He is also the bearer of many other honors. Among other things, he was elected delegate to the 22nd Congress of the CPSU. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2

[illegible]; Nazarevskiy, N. I.; [illegible]; Petrov, G. N.; [illegible]; Shapozhnikov, A. V.

AU: none

TITLE: E. A. Man'kin, on his 60th birthday

SOURCE: Elektrichestvo, no. 11, 1965, [illegible]

SUB CODE: electric engineering personnel, synchrotron

ABSTRACT: Emmanuil Abramovich MAN'KIN, who after 35 years of scientific-engineering work ranks as one of the senior workers in the transformer-building field, was 60 years old on 28 May 1965. After graduating in 1927 from the electrical machine building institute in Moscow he became an engineer of the Moscow transformer factory (presently Moskovskiy elektrozavod; Moscow Electric Factory). He constructed and headed until 1934 the transformer testing station. During the 1935-1942 period he was head of the bureau for the design of special transformers, and during these years carried out numerous theoretical investigations concerning electromagnetic transformer calculations. His methods for the calculation of transformer leakage enabled

Card 1/2

UDC: 621.314.21

L 22432-66
ACC NR: AF6013618

[illegible] 1947 he [illegible] factory, [illegible] Design of [illegible] Construction Bureau) he [illegible] one of the main designers of the world's first 200 MeV synchrotron. From 1955 to 1959 B. A. NAN'KIN headed the group of designers working on the 400 kV transformer equipment of the Volgograd-Donbass power line. Since 1960 he has been head of the transformer laboratory of the Vsesoyuznyy elektrotekhnicheskiy institut (All-Union Electrotechnical Institute) im. Lenin. In the same year he obtained the degree of Doctor of Engineering Sciences for his works "Electromagnetic design of transformers, reactors, and charged particle accelerators." In the course of his engineering and research activity he published more than 30 papers. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09, 20 / SUBM DATE: none

Card 2/2 BKG

L 27345-66
ACC NR: AP6007699 SOURCE CODE: UR/0413/66/000/003/0079/0079

AUTHORS: Petrov, G. N.; Nikolayevskiy, Ye. V.; Suyetin, V. A.; Ustinov, A. P.; Kozlyaninov, T. P.; Kazakov, B. R.

39
B

ORG: none

TITLE: A device for balancing three-dimensional mechanisms with nonparallel rotation axes of the components. Class 42, No. 178542 [announced by Moscow Higher Engineering College im. N. E. Bauman (Moskovskoye vysshaye tekhnicheskoye uchilishche)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 79

TOPIC TAGS: measuring instrument, static load test, dynamic stress

ABSTRACT: This Author Certificate presents a device for balancing three-dimensional mechanisms with nonparallel rotation axes of the components. The device contains a platform with six degrees of freedom and a measuring unit (see Fig. 1.). The design provides simultaneous measuring of the static, dynamic, and axial components of unbalance in the mechanisms. The measurement unit of the device includes three unbalance sensing elements. The axis of sensitivity of one of the sensing elements

Card 1/2 UDC: 620.1.05:531.24

L 27345-66

ACC NR: AP6007699

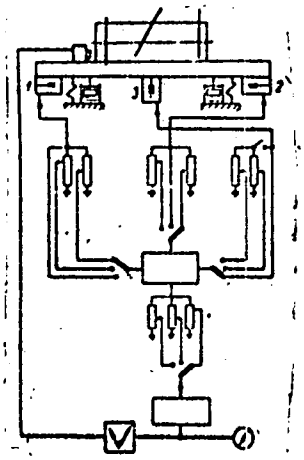


Fig. 1. 1-3 - sensing elements.

is parallel to the axes of sensitivity of the other two. Orig. art. has: 1 figure.

SUB CODE: 14, 09/ SUBM DATE: 16May64

Card 2/2

[illegible], G.V.; [illegible], G. .

Turning gear reductor for E-6516 excavator. Mekh. trudy
Mosk. inst. radioelektr. i gor. elektronikh. no. 49:15-25 '64.
(MIRA 18:1)

PETROV, G.I., aspirant

Determining dynamic loading on the turning gear of a excavator by methods of mathematical statistics. Nauch. trudy Mosk. inst. radioelek. i gor. elektromekh. no. 4[illegible] pt. 2:27-30 [illegible]. (MIRA 14:1)

L 15186-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6 IJP(c) WW/RM/GS
ACC NR: AT6001702 (A) SOURCE CODE: UR/0000/65/000/000/0017/0045

AUTHOR: Petrov, G. N.

ORG: none

TITLE: Synthesis of vibrating systems for balancing equipment

SOURCE: Uravnoveshivaniye mashin i priborov (Balancing of machinery and instruments). Moscow, Izd-vo Mashinostroyeniye, 1965, 17-45

TOPIC TAGS: rotor balancing, balancing theory, balancing machinery, vibration damping, mechanical vibration

ABSTRACT: The methodology of synthesis of vibrating systems for balancing equipment is theoretically investigated. Since the problems of proper instrumentation and isolation of the balancing equipment from foundation disturbances are discussed elsewhere in this collection of papers by T. P. Kozlyaninov and V. A. Suyetina respectively, this paper is concerned primarily with the synthesis of the mechanical vibrating systems of balancing machinery and their effective use. In general, the unbalance of a rotor (referred to the overall center of mass S_0 of the system, see Fig. 1) can be expressed as

$$\left.\begin{aligned} \Delta M_{x'} &= \Delta M_i \cos(\omega t + \lambda); \\ \Delta M_{y'} &= \Delta M_i \sin(\omega t + \lambda); \\ \Delta M_{z'} &= 0 \end{aligned}\right\}$$

Card 1/6

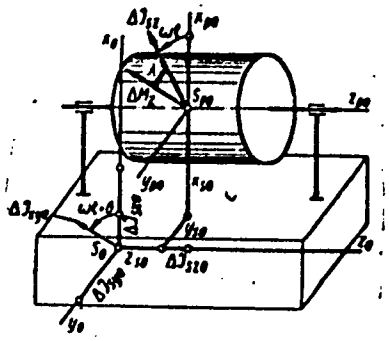


Fig. 1. Mounted rotor.

and

$$\left.\begin{aligned}\Delta J_{xz_0} &= \Delta J_{zzx} - \Delta M_{zy} z_{s0};\\ \Delta J_{yz_0} &= \Delta J_{zzy} + \Delta M_{zx} z_{s0};\\ \Delta J_{xz_0} &= \Delta M_{zy} x_{s0} - \Delta M_{zx} y_{s0}\end{aligned}\right\}$$

where $\Delta \mathbb{I}_z$ = vector of the static moment of the rotor mass w.r.t. the axis of rotation and

$$\Delta \bar{J}_{z_0} = \sum_i (\bar{h}_i \times \Delta \bar{M}_{zi}).$$

Using these parameters, the coordinates shown in Fig. 2, and the unbalance forces given by

1) $\bar{Q}_x = \omega^2 \Delta M_{zx}$;

2) $Q_y = \omega^2 \Delta M_{zy}$;

3) $Q_z = 0$;

4) $Q_{Mx} = \omega^2 (\Delta J_{zxz} - \Delta M_{zy} z_{c0}) - J_{zp0}\, \omega \Delta\dot{\psi}$;

5) $Q_{My} = \omega^2 (\Delta J_{zzy} + \Delta M_{zx} z_{c0}) + J_{zp0}\, \omega \Delta\dot{\theta}$;

6) $Q_{Mz} = \omega^2 (\Delta M_{zy} x_{c0} - \Delta M_{zx} y_{c0})$,

the equations of motion of the rotor are derived.

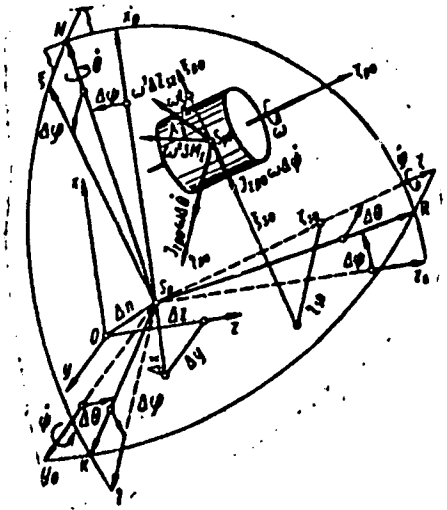


Fig. 2. Coordinate system.

These are solved for the special cases of a horizontally and vertically supported rotor, giving the relationships between the displacements and rotor unbalances respectively as

1) $\Delta x = A\Delta M_z \cos(\omega t + \lambda + \varepsilon_x)$;
2) $\Delta y = B\Delta M_z \sin(\omega t + \lambda + \varepsilon_y)$;
3) $\Delta z = E\Delta J_{xz} \sin(\omega t + \varepsilon_z)$;
4) $\Delta\theta = F\Delta J_{xz} \cos(\omega t + \varepsilon_\theta)$;
5) $\Delta\psi = H\Delta J_{xz} \sin(\omega t + \varepsilon_\psi)$;
6) $\Delta\varphi = P\Delta M_z \sin(\omega t + \lambda + \varepsilon_\varphi)$,

and

1) $\Delta x_c = L\Delta M_z \cos(\omega t + \lambda + \varepsilon_{xc})$;
2) $\Delta x_\partial = -M\Delta J_{xz} \sin(\omega t + \varepsilon_{x\partial})$;
3) $\Delta y_c = L\Delta M_z \sin(\omega t + \lambda + \varepsilon_{xc})$;
4) $\Delta y_\partial = M\Delta J_{xz} \cos(\omega t + \varepsilon_{x\partial})$;
5) $\Delta z = 0$;
6) $\Delta\theta_c = N\Delta M_z \sin(\omega t + \lambda + \varepsilon_{\theta c})$;
7) $\Delta\theta_\partial = R\Delta J_{xz} \cos(\omega t + \varepsilon_{\theta\partial})$;
8) $\Delta\psi_c = -V\Delta M_z \cos(\omega t + \lambda + \varepsilon_{\psi c})$;
9) $\Delta\psi_\partial = R\Delta J_{xz} \sin(\omega t + \varepsilon_{\psi\partial})$;
10) $\Delta\varphi = 0$

where A-P are constants. These reduce to

$$1)\ \Delta x = -\frac{\Delta M_{zx}}{m};\qquad 4)\ \Delta\theta = -\frac{\Delta J_{zzx}}{J_{x\theta}};$$

$$2)\ \Delta y = -\frac{\Delta M_{zy}}{m};\qquad 5)\ \Delta\psi = -\frac{\Delta J_{zzy}}{J_{y\varphi}};$$

$$3)\ \Delta z = 0;\qquad 6)\ \Delta\varphi = -\frac{\Delta M_{zy}z_{so}}{J_z},$$

and

$$1)\ \Delta x = \Delta x_\theta = -\frac{\Delta M_{zx}}{m};$$

$$2)\ \Delta y = \Delta y_c = -\frac{\Delta M_{zy}}{m};$$

$$3)\ \Delta z = 0;$$

$$4)\ \Delta\theta = \Delta\theta_\vartheta + \Delta\theta_c = -\frac{\Delta J_{zzx} - \Delta M_{zy}z_{so}}{J_z - J_{zpo}};$$

$$5)\ \Delta\psi = \Delta\psi_\vartheta + \Delta\psi_c = -\frac{\Delta J_{zzy} + \Delta M_{zx}z_{so}}{J_z - J_{zpo}};$$

$$6)\ \Delta\varphi = 0.$$

where

$$J_{x\theta} = J_x - J_{zpo}\frac{J_x + J_{zpo}}{J_y + J_{zpo}};$$

$$J_{y\varphi} = J_y - J_{zpo}\frac{J_y + J_{zpo}}{J_x + J_{zpo}}$$

for the case of no elastic or viscous coupling. From these results, general equations

L 15186-66

ACC NR: AT6001702

for the position of any i-th point projected onto fixed coordinate axes are derived as

$$1)\ \Delta s_{ix} = -\left[\Delta M_{zx}\left(\frac{1}{m}+\frac{z_{s0}}{J_{y\varphi}}z_i\right)+\frac{\Delta J_{xzy}}{J_{y\varphi}}z_i\right];$$

$$2)\ \Delta s_{iy} = -\left[\Delta M_{zy}\left(\frac{1}{m}+\frac{z_{s0}}{J_{x\vartheta}}z_i\right)-\frac{\Delta J_{xzx}}{J_{x\vartheta}}z_i\right],$$

$$3)\ \Delta s_{iz} = -\left[\left(\frac{\Delta J_{xzx}}{J_{x\vartheta}}y_i-\frac{\Delta J_{xzy}}{J_{y\varphi}}x_i\right)-z_{s0}\left(\frac{\Delta M_{zy}}{J_{x\vartheta}}y_i+\frac{\Delta M_{zx}}{J_{y\varphi}}x_i\right)\right],$$

where

$$\left.\begin{aligned}\Delta s_{ix} &= \Delta x+\Delta\psi z_i-\Delta\varphi y_i;\\ \Delta s_{iy} &= \Delta y+\Delta\varphi x_i-\Delta\vartheta z_i;\\ \Delta s_{iz} &= \Delta z+\Delta\vartheta y_i-\Delta\psi x_i.\end{aligned}\right\}$$

On the basis of these equations, meaningful choices of transducer locations in a balancing machine can be made as explained in detail and shown graphically. Orig. art. has: 1 table, 11 figures, and 63 formulas.

SUB CODE: 13/ SUBM DATE: 04Sep65/ ORIG REF: 005

Card 6/6

ALEKSENKO, G.V.; [illegible], N.N.;
KOLTENKO, M.I.; [illegible], G.M., [illegible], N.N.
SKIBANENKO, I.[illegible]; [illegible], N.N.

Professor [illegible] loaf'lan [illegible]
birthday. [illegible]

PERRY, [illegible], prof., [illegible]

Sixtieth anniversary of the Moscow Power Engineering Institute.
Elektrichestvo [illegible].

1. Chief-correspondent [illegible].

L 60203-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c) Pc-4/Pr-4/Ps-4 RPL WW/GS/JA-J/RM
ACCESSION NR: AT5019607 UR/0000/64/000/000/0101/0111

AUTHOR: Petrov, G. N.; Korotkov, A. A.

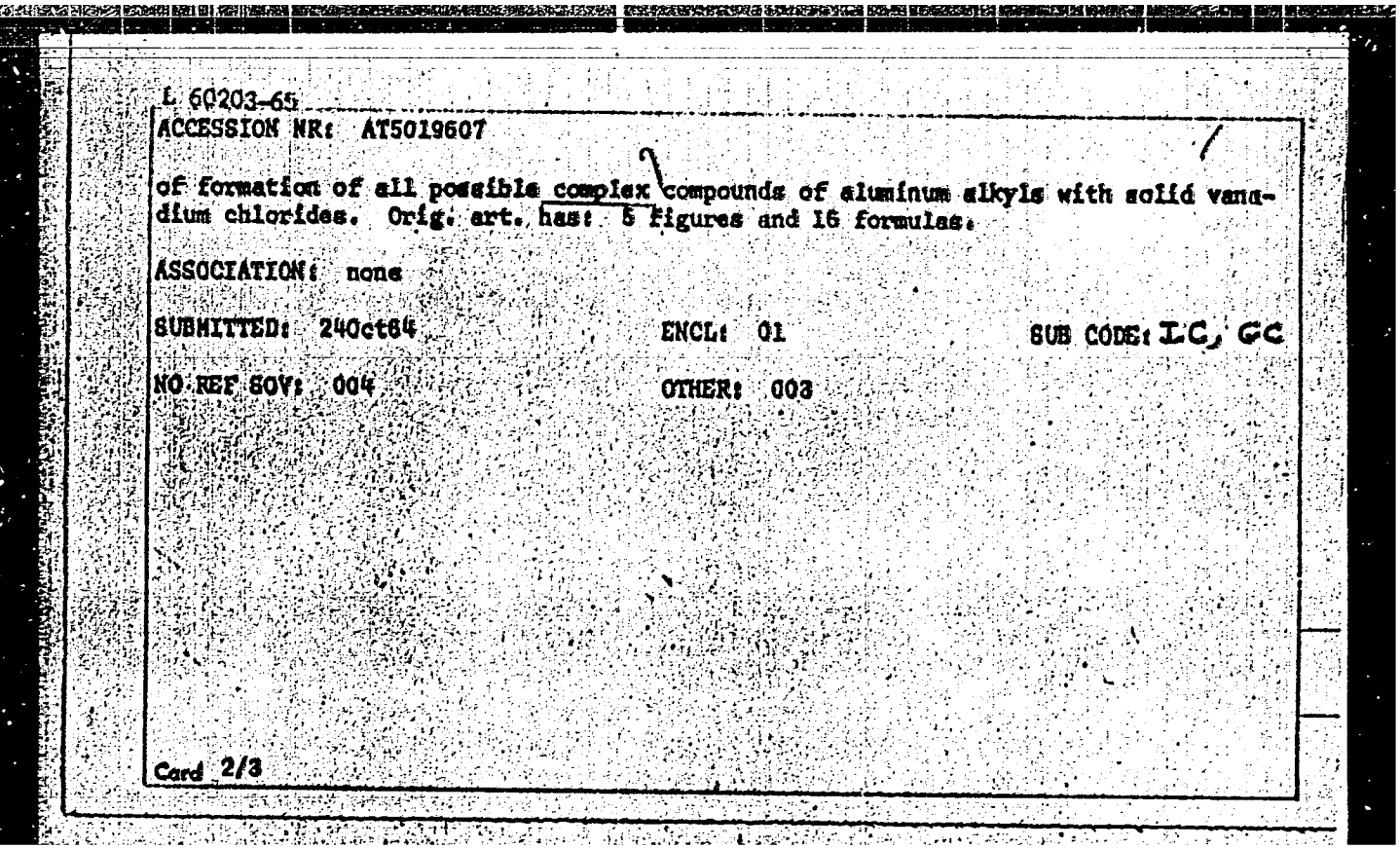
TITLE: Reduction of vanadium trichlorooxide by organoaluminum compounds

SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka. Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of isoprene by complex catalysts). Moscow, Izd-vo Khimiya, 1964, 101-111

TOPIC TAGS: reduction, complex catalyst, polymerization, organoaluminum, vanadium trichlorooxide

ABSTRACT: Reduction of $VOCl_3$ with R_3Al, R_2AlCl, $RAlCl_2$, $RAl(OR)_2$, $R_2Al(OR)$ and $RAlCl(OR)$ at various component ratios, in argon atmosphere, was studied kinetically at 20°C, and in a benzene solvent; (R was C_2H_5). The experimental set-up is shown in fig. 1 of the Enclosure. Reaction mixtures were prepared from 0.1 molar benzene solutions of high purity reagents. R_3Al, R_2AlCl, and $RAlCl_2$ attack preferentially the V-O bond, $RAlCl(OR)$ attacks preferentially the V-Cl bond, $R_2Al(OR)$ attacks both bonds equally, and $RAl(OR)_2$ does not react with $VOCl_3$ at all. Composition of the insoluble reaction product was calculated assuming a principle of equality of energy

Card 1/3



L 60203-65
ACCESSION NR: AT5019607

of formation of all possible complex compounds of aluminum alkyls with solid vanadium chlorides. Orig. art. has: 5 figures and 16 formulas.

ASSOCIATION: none

SUBMITTED: 240ct64 ENCL: 01 SUB CODE: LC, GC

NO REF SOV: 004 OTHER: 003

Card 2/3

L 60243-65
ACCESSION NR: AT5019607

ENCLOSURE: 01

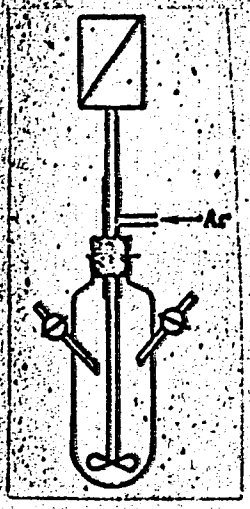


Fig. 1. Device for reacting $VOCl_3$ with organoaluminum compounds.

Card 3/3

L 60204-65 EWT(m)/EPF(c)/EWG(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4/Pr-4 IJP(c)
DS/JD/WW/JG/GS/RM
ACCESSION NR: AT5019608 UR/0000/64/000/000/0112/0118

35
B+1

AUTHOR: Petrov, G. N.; Korotkov, A. A.

TITLE: Polymerization of isoprene with catalysts based on vanadium trichlorooxide

SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka. Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of isoprene by complex catalysts). Moscow, Izd-vo Khimiya, 1964, 112-118

TOPIC TAGS: isoprene polymerization, kinetics, rubber, vanadium trichlorooxide, aluminum trialkyl

ABSTRACT: Kinetics of isoprene polymerization was studied in a benzene solvent at 20°C and at an initial monomer concentration of 4.0 mol/l. Two catalyst systems were used: 1. $R_3Al/VOCl_3$, and 2. $R_2AlCl/VOCl_3$. The ratio of the individual catalyst components was varied but the concentration of $VOCl_3$ was equal to 30.017 mol/l in all experiments conducted with catalyst based on R_3Al and was equal to 0.0085 mol/l in all experiments conducted with catalysts based on R_2AlCl. According to the IR spectroscopic examination, polymers obtained with $R_3Al/VOCl \geq 1$ are structurally identical to the natural gutta-percha. Ratios of $R_3Al/VOCl_3$ smaller than 1 and sub-

Card 1/2

L 60204-65
ACCESSION NR: AT5019608 O

stitution of R_2AlCl for R_3Al resulted in formation of benzene-insoluble polymers with an undefined structure. The most active polymerization catalyst results from an equimolar ratio of R_3Al to $VOCl_3$. Polymerization activity declines with an increase of the R_3Al to $VOCl_3$ ratio. This is due to a reduction in concentration of the insoluble complexes $VCl_3 \cdot Al(OR)R$ and $VCl_2 \cdot Al(OR)R_2$, both being isoprene polymerization inhibitors. Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 240ct64 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 002 OTHER: 003

Card 2/2

L 60205-65 EWT(m)/EPF(c)/ENG(m)/EPR/EWP(j)/T/EWA(c) Pc-4/Pr-4/Ps-4 RPL DS/WW/GS/JAJ/RM

ACCESSION NR: AT5019609 UR/0000/64/000/000/0119/0129

38
B+1

AUTHOR: Petrov, G. N.; Korotkov, A. A.

TITLE: Kinetics of isoprene polymerization with complex catalysts prepared from triethyl aluminum and vanadium trichlorooxide

SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka. Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of isoprene by complex catalysts). Moscow, Izd-vo Khimiya, 1964, 119-129

TOPIC TAGS: isoprene, polymerization, complex catalyst, triethyl aluminum, vanadium trichlorooxide, catalysis

ABSTRACT: Kinetics of isoprene polymerization was studied in benzene solution in the 5°-40°C range. The monomer concentration varied from 2.5 to 7.5 mol/l and the catalyst concentration varied from 0.017 to 0.041 mol/l. Two catalyst systems were used: 1. an equimolar mixture of $(C_2H_5)_3Al$ and $VOCl_3$, and 2. a complex catalyst β-$TiCl_3$/$(iso\text{-}C_4H_9)_2AlCl$. The latter was less active for isoprene polymerization than the former. Substantial differences in kinetics obtained with these two catalyst systems indicate that a different polymerization mechanism is responsible in

Card 1/2

L 60205-65
ACCESSION NR: AT5019609

each case. To explain these differences in kinetics two mechanistic schemes were postulated. It was shown that up to a 20% conversion level the rate of polymerization W conforms to the equation: $W = k_2 K a n_0 m^2$, where k_2 is the rate of addition of a monomer unit M to an active polymer growth center MN (N is catalyst surface) according to formula

$$N \cdot M + M \xrightarrow{k_2} MN \cdot M,$$

K is the equilibrium constant of polymerization reaction, a is a proportionality constant, n_0 is initial catalyst concentration in mol/l, and m is the actual monomer concentration in the system in mol/l. The apparent energy of activation of the overall polymerization reaction is 13.8 kcal/mol. Orig. art. has: 9 figures and 6 formulas.

ASSOCIATION: none

SUBMITTED: 24Oct64 ENCL: 00 SUB CODE: MT, GC

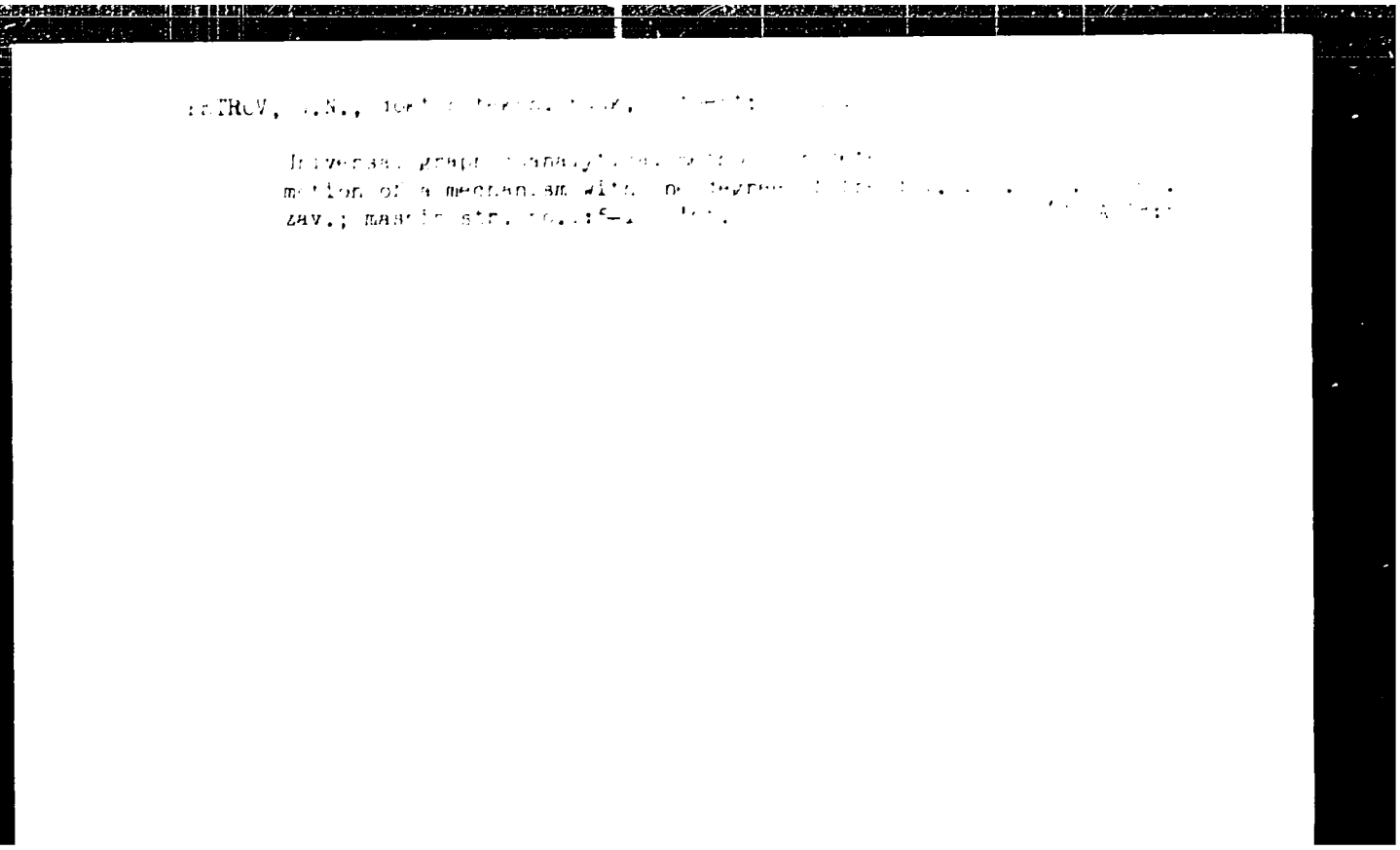
NO REF SOV: 005 OTHER: 006

Card 2/2

KOROTKOV, A.A.; PETROV, G.N.; GAZINA, A.G.; ANUFRIYEVA, L.A.

Role of soluble organoaluminum compounds in the process of polymerization of isoprene by a complex catalyst. Dokl. AN SSSR 162 no.4:821-823 Je '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva. 2. Chlen-korrespondent AN SSSR (for Korotkov).



L 59335-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5015422 UR/0020/65/162/004/0821/0823

AUTHOR: Korotkov, A. A. (Corresponding member AN SSSR); Anufriyeva, L. A.; Petrov, G. M.; Razina, A. G.

TITLE: Role of soluble organoaluminum compounds in the polymerization of isoprene with a complex catalyst

SOURCE: AN SSSR. Doklady, v. 162, no. 4, 1965, 821-823

TOPIC TAGS: isoprene polymerization, aluminum compound, titanium compound, polymerization catalyst, stereospecific polymerization, catalyst poisoning, organoaluminum compound

ABSTRACT: The article discusses the role of the soluble part of the cocatalyst in the reaction of stereospecific polymerization of isoprene. The catalyst is usually prepared by combining equimolar amounts of solutions of $TiCl_4$ and triisobutylaluminum (R_3Al). The precipitate of β-$TiCl_3$ which is then formed contains 10 to 40% organoaluminum compounds strongly bound to $TiCl_4$. Experiments carried out by the authors showed that the β-$TiCl_3$ precipitate does not polymerize isoprene if its separation from the solution and the washing out of the organoaluminum compounds are performed in argon. The catalytic activity of β-$TiCl_3$ is restored by shaking the precipitate in a solution of R_2AlCl. It is postulated that an irreversible oxidation of the active polymerization centers by trace amounts of oxygen present in the argon takes place, for example

Card 1/2

L 59315-65

ACCESSION NR: AP5015422

$$TiCl_3 \cdot ClAlR_2 + {}^1/_2O_2 \rightarrow TiCl_3 \cdot ClAl(OR)R.$$

The restoration of catalytic activity upon addition of R_2AlCl will thus result from the exchange reaction

$$TiCl_3 \cdot ClAl(OR)R + R_2AlCl \rightleftarrows TiCl_3 \cdot ClAlR_2 + RAl(OR)Cl.$$

which is analogous to the case of vanadium catalysts for the polymerization of isoprene. Experiments on the polymerization of isoprene with a catalyst precipitate washed with hexane in the absence of argon showed that the catalyst consists of complex compounds of β-$TiCl_3$ with dialkylaluminum chloride. The organoaluminum compounds, dissolved or weakly adsorbed on the precipitate, have no effect on the activity of the catalyst, but constitute a "protective" medium against "poisoning" by traces of certain impurities. Orig. art. has: 3 figures, 4 formulas and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva (Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 21Dec64 ENCL: 00 SUB CODE: OC

NO REF SOV: 003 OTHER: 010

Card 2/2 BDP

PIETROW, G.N., prof. dr n.t. [Petrov, G.N.]

Calculation of magnetic straying in transformers. Przegl elektrotech.n 40 no. 10:427-430 O '64.

1. Head, Department of Electric Machinery, Institute [illegible] Power Engineering, Moscow.

PETROV, G.N., doktor [illegible], [illegible].

Calculation [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].
Trudy MEI [illegible] [illegible] MIRA [illegible]

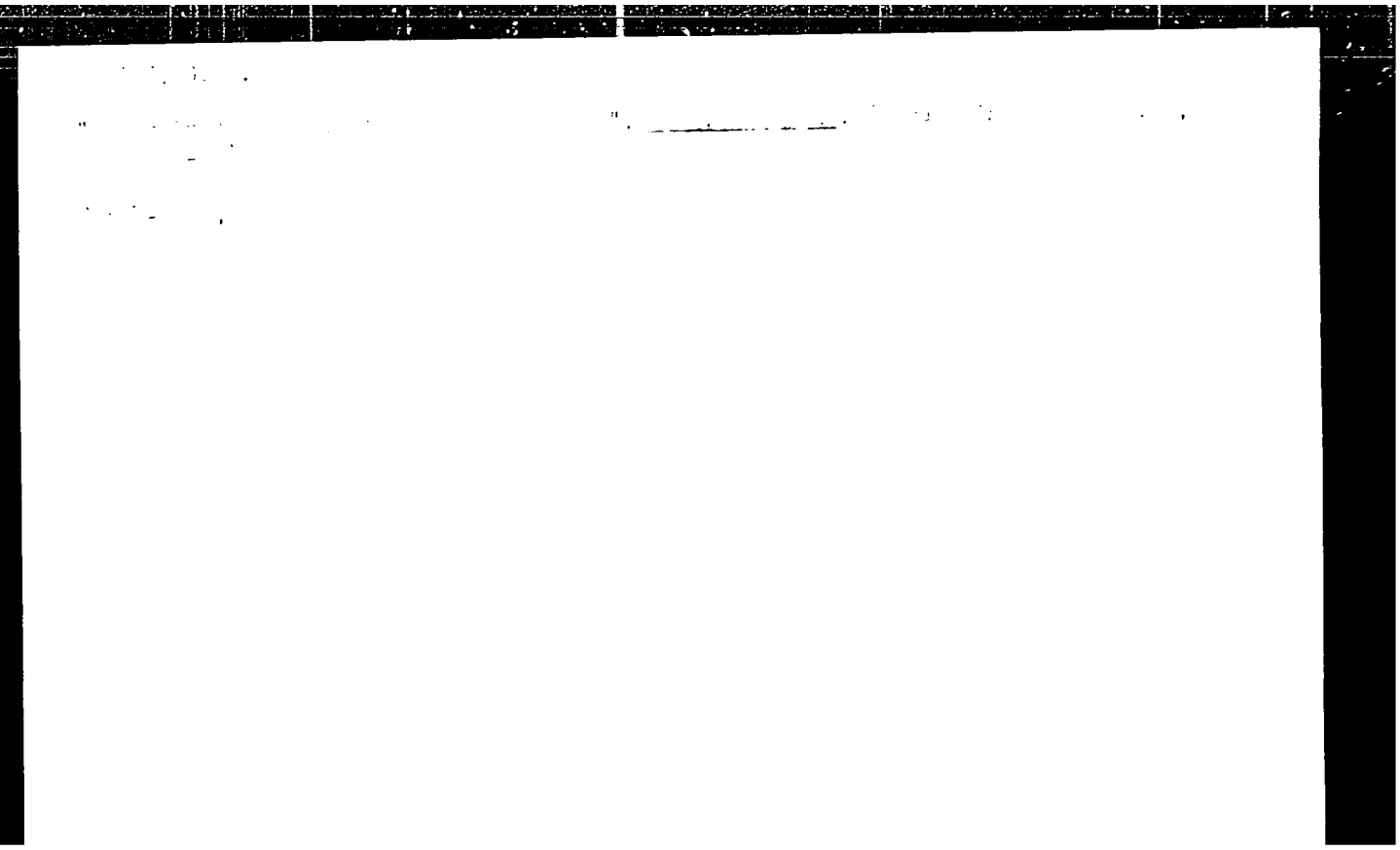
PETROV, G. N.

Prosteishie izyskaniia dlia transportnogo osvoeniia malykh rek. [Routine exploration of navigability of smaller rivers]. (Rechnoi transport, 1947, no. 9, p. 14-15).
DLC: TC601.R4

SO: Soviet Transportation and Communications, A Biography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

FEDCHENKO, Ivan Kirillovich, doktor tekhn. nauk; PETROV, G.N., doktor tekhn. nauk, retsenzent; NEMCHUNOVA, O.A., red. izd-va; PISARENKO, M.G., inzh., red.izd-va; ROZUM, T.I., tekhn. red.

[High-voltage engineering; specific problems] Tekhnika vysokikh napriazhenii; spetsvoprosy. Kiev, Gostekhizdat USSR, 1963. 319 p. (MIRA 17:3)



APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001240420018-9"

PETROV, G. N.

The Water Regime of Small Rivers During the Period of *** and Its Study, Meteorology and Hydrology, Vol. 2, 1941.

USSR/Geology Jan 49
Potamology

"The Coefficient of Roughness for Small Leveled Rivers," G. N. Petrov, Kazan Affiliate, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 1

Investigation of sections of small river beds in Tartarskiy, Azerbaydzhan SSR, showed that the coefficient of roughness, n, varied within wide limits and was substantially different from norms and classifications accepted for hydraulic design of natural beds. Graphs show

[redacted] 26/49T55

USSR/Geology (Contd) Jan 49

variability and limiting conditions. Submitted 23 Sep 48.

[redacted] 26/49T55

USSR/Hydrology - Rivers 21 Mar 50

"Determination of the Average 'Mid-Discharge' of Water in Any line of Direction of Small Rivers," G. N. Petrov, Kazan Affiliate, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXI, No 3, pp 469-472

Presents hydrological data on the Ulema, Sikines, Kamenka, Sula, Kis'mes', Serda, Ik, Izh, and Sviyaga rivers. Gives data on area of basin (260-900 sq m), right and left bank erosion (18-50 m), modulus of "mid-discharge" (0-2 l/sec . sq km), with variation in discharge according to characteristic flow. Submitted 23 Jan 50 by Acad A. I. Nekrasov.

165T28

USSR/Hydrology - Hydroelectric Power Plants Aug 51

"Selection of Estimated Discharge During Design of Small Hydroelectric Power Plants," G. N. Petrov, Engr

"Gidrotekh i Meliorat" No 8, pp 63-71

Petrov studies variation in river level in relation to meteorological factors, as pptns, temps, etc. He concluded av water discharge cannot be taken as basis for design of hydroelec plants, but rather the circumstances

189T53

USSR/Hydrology - Hydroelectric Power Plants (Contd) Aug 51

prevailing at the season when the hydroelec equipment is supposed to operate. Long observations are required for the choice of the right season of operation.

189T53

USSR/Geophysics - River Flow Variations 11 Jun 52

"Causes of the Variation in the Water Supply of Small Rivers During the Period of 'Mezhen' [Average Flow]," G. N. Petrov

"Dok Ak Nauk SSSR" Vol LXXXIV, No 5, pp 931-934

Purpose of the current article is to show the insufficiency of statistical methods for hydrological calcns, by using examples of rivers in Tatar SSR. Gives a graph showing the variations in flow of a dozen rivers over the period 1933-1949. Concludes that it is impossible to det the av discharge for engineering purposes by using entire series of

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observations without clarifying their character for conditions of future operation. Extremum values of discharge must be detd from an analysis of possible variation in physicogeographical conditions. Submitted by Acad A. A. Grigor'yev 14 Apr 52.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001240420018-9"

PETROV, G.N.

Dissertation: "Midsummer Runof of Small Rivers (Procedures for the Investigation and Determination of Average Discharges in Any Direction, e.g., the Rivers of Tatar ASSR)." Cand Tech Sci, Kazan Affiliate of Acad Sci USSR, Kazan', 1953. (Referativnyy Zhurnal Geologiya Geografiya, Moscow, Aug 54)

SO: SUM 393, 26 Feb 1955

PETROV, G.N.; TRUFANOV, A.A., doktor tekhnicheskikh nauk, professor, otvetstvennyy redaktor; VOZNVIZHENSKAYA, V.Kh., redaktor; SHARAFUTDINOVA, M.Z., tekhnicheskiy redaktor.

[Low-level summer period flow in rivers and its investigation] Mezhennyi stok i ego izuchenie. Kazan', Tatknigoizdat. Red.nauchno-tekhn.lit-ry 1956. 143 p. (Akademiia nauk SSSR. Kazanskii filial. Trudy. Seriia energetiki i vodnogo khoziaistva, no.1) (MLRA 10:3)
(Hydrology) (Rivers)

PETROV, G.N.

Remarks on a book on an important subject ("Reservoirs and their use in irrigation." I.P. Gribanov, IA.M. Pashenkov. Reviewed by G.N. Petrov). Gidr. i mel. 8 no.6:59-61 Je '56. (MLRA 9:9)

(Reservoirs)
(Gribanov, I.P.) (Pashenkov, IA.M.)
(Water-supply engineering)

PETROV, O.N.; PETROVA, R.S.

Studying the silting, filtration, and evaporation of the Domashka Reservoir. Izv. Kazan. fil. AN SSSR. Ser. energ. i vo. khoz. no.1:147-170 '57. (MIRA 11:10)
(Domashka Reservoir)

PETROV, G.N.; SAFIULLIN, R.A.

Methods for determining forest influences on maximum flood discharge. Izv. Kazan. fil. AN SSSR. Ser. energ. i stroi., no.1:187-192 '57. (MIRA 11:10)
(Floods)

PETROV, G. N

20-5-20/60

AUTHOR: PETROV, G.N., PETROVA, R.S.

TITLE: Determination of Water Losses by Percolation and Evaporation from the Water Balance in the Domashka Reservoir. (Opredeleniye poter' na fil'tratsiyu i isparyeniye po vodnomu balansu na primere domashkinskogo vodokhranilishcha, Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 5, pp 991-994 (U.S.S.R.)

ABSTRACT: Reference is made to several previous papers. The formulae found by them are not suited for the determination of losses by evaporation and require a precise definition. For precise calculation it is further necessary to determine the distribution of wind velocities above the water reservoir as function of the relief of the surroundings, of the direction of the wind, of the position of the encircling forests, the water horizon etc. Losses by evaporation from water reservoirs are greater than in the case of evaporators, because evaporation takes place not only from the water level but also a) from the parts surrounding the reservoir, which are covered with dark-colored slime. These parts get considerably warmed up and always attract moisture through their capillaries, b) by the transpiration of the grass growing on the dry parts of the reservoir, c) by the transpiration of water plants, because their evaporation capacity is 5 to 6 times as great as that of the water surface. Further causes for increased evaporation

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AUTHOR: Petrov, G. N.

TITLE: Use of the Cartographic Method in Climatology
(O primenenii kartograficheskogo metoda v klimatologii.)

PERIODICAL: Meteorologiya i Gidrologiya 1958, Nr 1, pp. 47-49 (USSR)

ABSTRACT: The employment of the cartographic method in climatology guarantees the obtention of the main meteorological characteristics for those points which were not determined by data from direct observations. An especially great want of climate charts exists in the field of hydrology for the successful development of the theory of the formation of the flowoff of rivers, for the foundation of the engineering-hydrological calculations of bridges, hydrotechnical, melioration- and other constructions. The peculiarities of climate which are caused by the local geographical scenery were hitherto not reflected on these charts. At present the task exists of investigating the conditions of the flowoff of small and smallest rivers. For this purpose real, climatological charts on a large scale are needed which are capable of reflecting the influence exerted by the local conditions of the geographical scenery upon the climate. By the author's opinion the scales 1 : 3.000.000 and 1 : 1.000.000 are to be used as topographic

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foundation in climatological cartography, as they are capable of reflecting a detailed characteristic of the geographical conditions of the region. At present various mechanical methods for subdividing the meteorological phenomena are employed in the compilation of climate charts: a) rectilinear interpolation; b) the method of isohyetal lines; c) the method of squares or the method of Shreyber; d) the method of Khorton and e) the method of N. I. Guk. Each of these methods guarantees the same method of working. Properly speaking, all these methods refuse to recognize a dependence, according to rules, of the climate on the conditions of scenery, as they start from the postulate on the smoothness of fields of meteorological values and consequently find out an incongruity of the chart toward nature. One of the most positive solutions with regard to the minimum expenditure of time and means may be found by the meteorological survey. Such a survey is as well to be carried out in the regions surrounding every meteorological station as by means of the laying of meteorological profiles. This survey will consist of the main meteorological phenomena in various elements of the geographic scenery, e.g. in different altitudes, on slopes of various positions in valleys and forests, on the fallow, in the

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ravines, etc.
There are 24 references, 21 of which are Slavic.

AVAILABLE: Library of Congress

1. Meteorology 2. Hydrology 3. Climatic factors
4. Meteorological charts

Card 3/3

PETROV, G.N., inzh.; ZINOV'YEVA, Ye.I., inzh.

Using local runoffs for supplying water to Tatar and Bashkir oil fields. Stroi. prod. neft. prom. 3 no.6:10-12 Je '58. (MIRA 11:7)

(Bashkiria--Water supply) (Tatar A.S.S.R.--Water supply)(Oil fields)

ZINOV'YEVA, Ye.M.; PETROV, G.N., kand.tekhn.nauk

Representing waters on topographic maps. Geod. i kart. no.6:54-55 Je '58. (MIRA 11:7)
(Maps, Topographic)

PETROV, G.N.

Some results of the studies on silting of the Domashke River Reservoir in Chkalov Province. Trudy Lab. ozeroved. 7:31-36 '58. (MIRA 11:10)

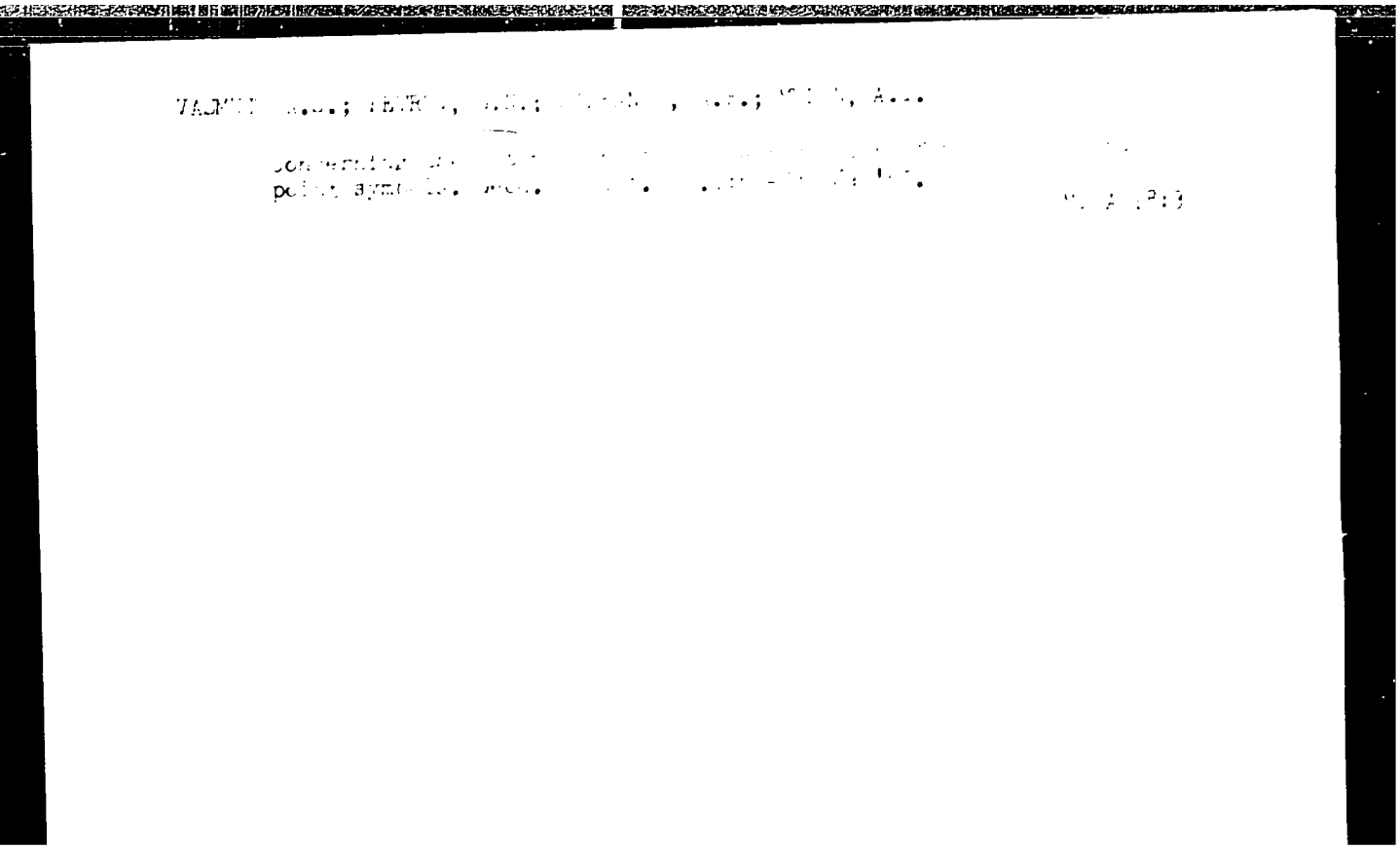
1. Kazanskiy filial AN SSSR.
(Domashke Reservoir--Silt)

PETROV, G.N., doktor tekhn. nauk, prof.; OKUN', S.S., kand. tekhn. nauk, dotsent; SERGEYENKOV B.N., inzh.

Theoretical principles of the design of electric transformers with even noncontact voltage regulation. Trudy MEI no.39:39-54 '62. (MIRA 17:6)

KOVALEV, Mikhail Prokhorovich; MOSHNIAKOV, Sergey Petrovich; [illegible]NOVA, Klavdiya Sergeyevna; PETR[illegible], G.N., doktor tekhn. nauk, retsenzent; KOLOSOV, M.A., inzh., red.

[Dynamic and static balancing of gyroscopic devices] Dinamicheskoe i staticheskoe uravnoveshivanie giroskopicheskikh ustroistv. Moskva, Mashinostroenie, 1967. 303 p. [illegible]



LIFSHITS, V.S., inzh.; PETROV, G.N.

Possibility of using electric power stations with a capacity of 125 kilovolt-amperes for electric contact welding of gas pipelines with a cross section of 10,000 mm^2. Stroi.truboprov. 6 no.7:9-11 Jl '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov, Moskva.
(Pipelines--Welding)

PETROV, G.N., kand.tekhn.nauk

Precise design of planetary reducing gears according to specifications for the assembly of satellites. Vest.mash. 41 no.5:10-11 My '61. (MIRA 14:5)

(Gearing)

PETROV, G. F.

Salmon

Growth of salmon larvae released by fish hatcheries. Ryb. khoz. 28, No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1958. Unclassified.

BORODATOV, V.A., kand.biolog.nauk; DEMIDOV, V.F.; DUKHANIN, A.N.; ZHUKOVA, A.I.; KADIL'NIKOV, Yu.V.; KARPECHENKO, Yu.L.; KORZHOVA, Yu.A.; MAKHOVER, Z.I.; PETROV, G.P.; PROSVIROV, Ye.S.; KULEV, N.S.; SOKOLOV, O.A.; SPICHAK, M.K.; KHROMOV, N.S.; SHUIN, V.I., red.; FOMINA, Ye.A., tekhn.red.

[Study of tuna fish and sardines in the eastern part of the Atlantic Ocean; report on the cruise of the scientific fishery survey expedition of 1957] Issledovaniia tuntsa i sardiny v vostochnoi chasti Atlanticheskogo okeana; reisovyi otchet nauchno-poiskovoi ekspeditsii, 1957 g. Moskva, 1959. 158 p. (MIRA 13:6)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii.
(Atlantic Ocean--Tuna fish) (Atlantic Ocean--Sardines)
(Fish, Canned)

PETROV, G. P., KALISTRATOV, V. A.

Windbreaks, Shelterbelts, Etc.

Outstanding tractor brigade of the Kurlinsk shelterbelt station. Les. khoz. 5 no. 3(42) 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

1. PETROV, G. P.

2. USSR 600

4. Poplar

7. Influence of the sex of the parent tree on the growth and rooting ability of cuttings from balsam poplar, Les. khoz, 5, No. 12, 1952.

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

30(1) SOV/26-59-4-36/43

AUTHOR: Petrov, G.P. (Sverdlovsk)

TITLE: Abundant Snowfall in the Il'men Mountains (Obil'nyy snegopad v Il'menskikh gorakh)

PERIODICAL: Priroda, 1959, Nr 4, p 117 (USSR)

ABSTRACT: The author describes heavy snowfalls from 24-25 April 1958 in the Il'men mountains (South Ural) and the damage done to the vegetation of this region as a consequence.

ASSOCIATION: Institut biologii Ural'skogo filiala Akademii nauk SSSR (Sverdlovsk) (Institute of Biology of the Ural Branch of the USSR Academy of Sciences, Sverdlovsk)

Card 1/1

PIKUS, G.P., kandidat sel8skokhozyaystvennykh nauk.

How the protein problem is being solved on the "Novyi Put'" Collective Farm. Nauka i pered. op. v sel'khoz.7 no.2:20-22 F '57.
(MLRA 10:3)

(Feeding and feeding stuffs)
(Proteins)

PETROV, G.P.; PONOMAREV, K.A.

Use of dark-field illumination in electron microscopic studies of the structure of micro-organisms. Mikrobiologiia 28 no.5:777-782 S-O '59. (MIRA 13:2)

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(MICROSCOPY ELECTRON)
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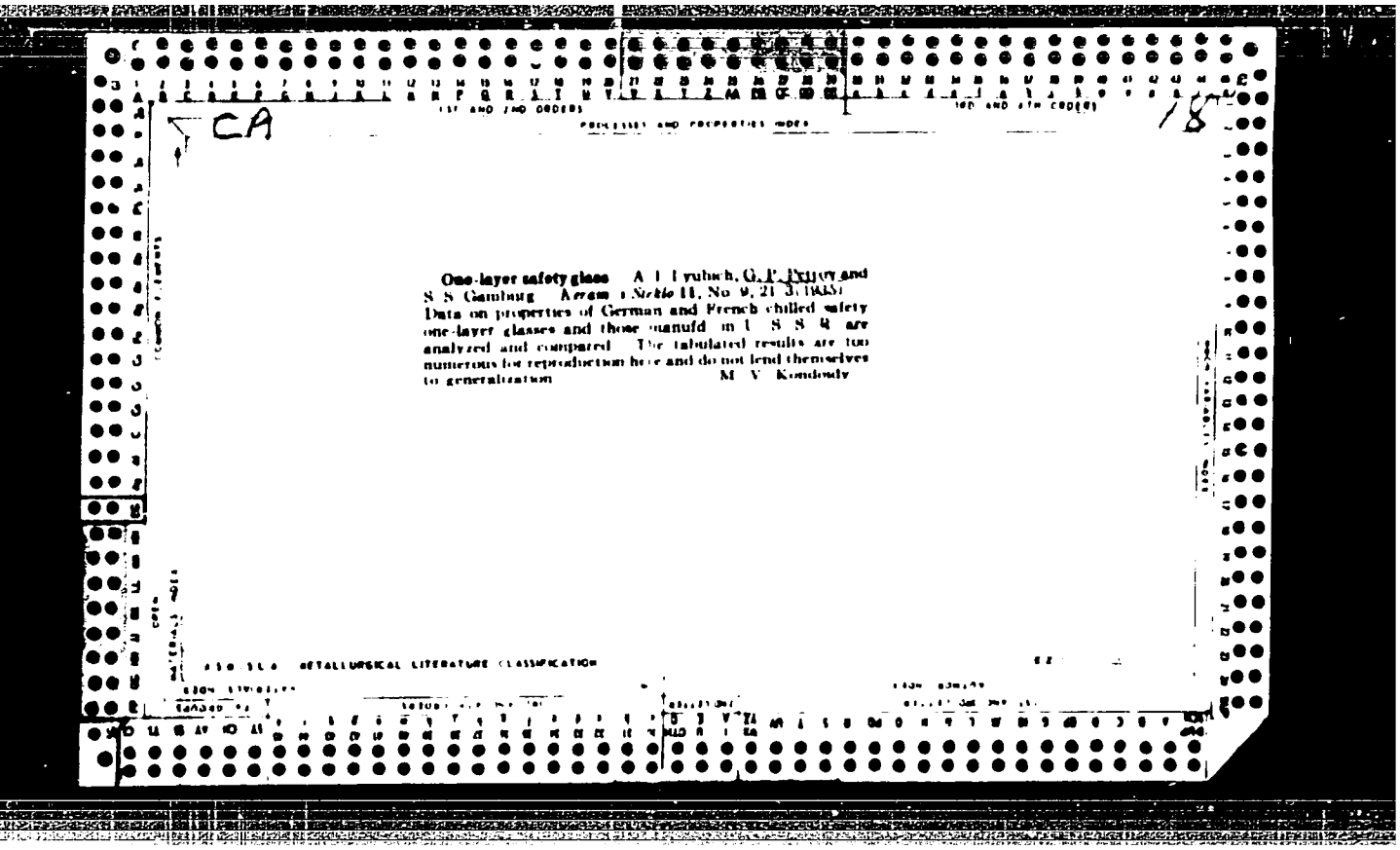

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One-layer safety glass A I Tyubich, G P Petrov and S S Gaulung *Avtom i Svarka* 11, No 9, 21 3 (1958) Data on properties of German and French chilled safety one-layer glasses and those manufd in U S S R are analyzed and compared The tabulated results are too numerous for reproduction here and do not lend themselves to generalization M V Kondovdv

A50 SL6 METALLURGICAL LITERATURE CLASSIFICATION