USSR/Electricity - Capacitors Dec 52

"Specific Characteristics of Electrical Capacitors," Dr Tech Sci, V. T. Renne, Leningrad Polytech Instimeni Kalinin

"Elektrichestvo" No 12, pp 47-53

In connection with choice of dielectric material, various gases, solids, and liquids for capacitors, examines question of usefulness of "simple formulas" for comparing specific characteristics of capacitors and also discusses prospects for improving these characteristics. Graphs plot specific capacitance and specific energy versus

242T28

working volts for a number of Soviet capacitor types (e.g., type KE-M electrolytic, type KMB-G metallized paper, and many others). Submitted 11 Mar 52.

242T28

RENNE, V. T.

USSR/Physics - Dielectric Strength of Paper Jan 52

"Dielectric Strength of Condenser Paper in a Compressed-Gas Medium," V. T. Renne, N. M. Reynov, M. M. Yudashkina. Leningrad Phys-Tech Inst, Acad Sci USSR

"Zhur Tekh Fiz" Vol XXII, No 1, pp 16-20

Investigates the dependence of rupture strength E (in kv/mm) of condenser paper upon the pressure of gas (elegas, nitrogen, etc. in kg/sq cm) for various thicknesses of paper and make. Concludes that the use of paper can be expeditiously recommended in dielec technology. Submitted 5 Apr 51.

206T99

USSR/Electricity - Scientists

Feb 53

"Professor A. M. Zalesskiy (In Connection with His 60th Birthday)," M. A. Shatelen, L. P. Neyman, M. P. Kostenko, I. A.Zaytsev, Ye. G. Shramkov, M. D. Kamenskiy, B. I. Domanskiy, V. A. Belyakov, V. T. Renne, V. P. Andreyev, L. M. Piotrovskiy, B. N. Mikhalev, G. A. Kukekov, Yu. A. Sabinin

Elek-vo, No 2, p 94

Recounts chief events in professional life of Prof Aleksandr Mikhaylovich Zalesskiy, born 27 Nov 1892. Long active in field of high-voltage techniques, he has been Chairman of Administrative Board of VNITOE since 1945.

PA 248T29

[redacted], F. P.

USSR/Electricity - Scientists

Feb 53

"Professor M. M. Mikhaylov: In Connection with His 60th Birthday and 30th Year of Scientific and Pedagogical Activity," M. A. Shatelen, I. A. Zaytsev, L. P. Neyman, A. M. Zalesskiy, V. T. Renne, P. P. Kobeko, G. P. Mikhaylov

Elek-vo, No 2, p 95

Gives brief account of professional life of Mikhail Mikhaylovich Mikhaylov, born 21 Aug 1892 in Tbilisi. Specialist in insulating materials, he participated in publication of textbooks and handbooks on elec insulation techniques, was instrumental in training scientists and engineers, and was awarded 2 WWII medals, plus Order of Lenin (1951).

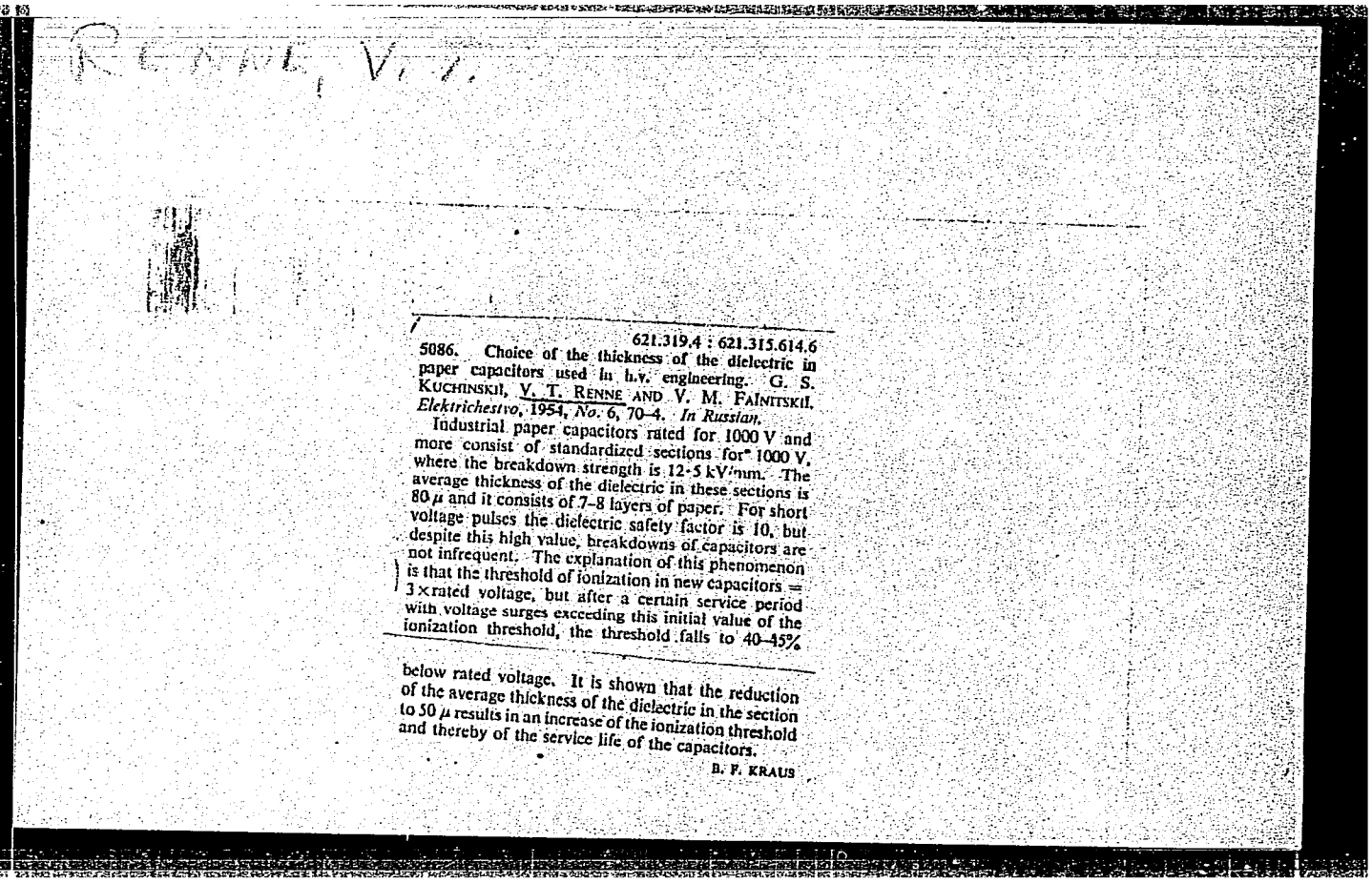
PA 248T30

KENNE, V. I.

3

798. Wax formation in the insulation of paper-oil condensers. V. T. Renne, V. M. Fainitskii, and D. S. Varshavskii. *Elektrichestvo*, 1953 (12), 55–8.—Examination of condensers withdrawn after 1–2 years service. Working stress was 12·5–15 kV/mm, oil breakdown strength was 20 kV/mm for new oil and 8 for some used oils. Check on ruptured condensers indicates that wax formation was max where oil layer thickest, rupture point is not necessarily linked with site of max wax. Rise in condenser p.f. is largely due to wax formation.

V. B.



621.319.4 : 621.315.614.6

5086. Choice of the thickness of the dielectric in paper capacitors used in h.v. engineering. G. S. KUCHINSKII, V. T. RENNE AND V. M. FAINITSKII. *Elektrichestvo*, 1954, *No.* 6, 70–4. *In Russian.*

Industrial paper capacitors rated for 1000 V and more consist of standardized sections for 1000 V, where the breakdown strength is 12·5 kV/mm. The average thickness of the dielectric in these sections is 80 μ and it consists of 7–8 layers of paper. For short voltage pulses the dielectric safety factor is 10, but despite this high value, breakdowns of capacitors are not infrequent. The explanation of this phenomenon is that the threshold of ionization in new capacitors = 3 × rated voltage, but after a certain service period with voltage surges exceeding this initial value of the ionization threshold, the threshold falls to 40–45% below rated voltage. It is shown that the reduction of the average thickness of the dielectric in the section to 50 μ results in an increase of the ionization threshold and thereby of the service life of the capacitors.

B. F. KRAUS

KENNE, V. T.

USSR

621.319.4 1278

The Behaviour of Polystyrene Capacitors under Alternating Voltage.—A. P. Butra & V. T. Renne. (*Zh. tekh. Fiz.*, Nov. 1954, Vol. 24, No. 11, pp. 1974–1982.) Experiments at 50 c/s are reported. The main conclusions reached are: (*a*) heat treatment has no adverse effect on life; (*b*) for a given value of applied voltage the life is shortened if the voltage gradient is increased; (*c*) for a given ratio between applied voltage and initial ionization voltage the life is considerably shortened if ambient temperature is raised. Certain considerations regarding the impregnation of capacitors with mineral oil are discussed.

Kenne, V. T.

2123* Influence of Fe and Cu Contents in Condenser Paper on the Quality of Condensers. Vliianie soderzhaniia zheleza i medi v kondensatornoi bumage na kachestvo kondensatorov. (Russian.) V. T. Kenne, O. N. Kotliar, and M. A. Andreeva. *Bumazhnaia Promyshlennost'*, v. 29, no. 8, Aug. 1954, p. 18-19.

A total Fe and Cu content exceeding 0.02% causes areas of weakness in the condenser dielectric. Tables, graphs.

RENNE, V.T.

Condensers for high-frequency thermal apparatus. [Izd.] LONITOMASH no.33:92-105 '54. (MLRA 8:2)
(Condensers (Electricity)) (Induction heating)

BOGORODITSKIY, N.P., PASYNKOV, V.V.; TAREYEV, B.M.; RENNE, V.T., redaktor
VORONETSKAYA, L.V., tekhnicheskiy redaktor.

[Materials used in electric engineering] Elektrotekhnicheskie materialy. Izd-vo 302, pere. Moskva, Gos. energ. izd-vo, 1955. 372 p. (MLRA 8:8)
(Electric engineering--Materials)

AID P - 3033

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 20/33

Author : Renne, V. T., Dr. of Tech. Sci.

Title : Development of domestic capacitor production

Periodical : Elektrichestvo, 7, 114-123, Jl 1955

Abstract : A brief historical sketch of the historical development of capacitor production in the USSR is given. The author reports on the latest developments in this field, new types of hard dielectrics, polystyrene capacitors, and also air capacitors, gas-filled capacitors for powerful circuits of radio stations and vacuum capacitors for ultrashortwave installations. Three tables, 10 photographs, drawing and diagrams, 10 references (1948-1954) (9 Soviet).

Institution : Leningrad Polytechnical Institute im. Kalinin

Submitted : Mr 28, 1955

Translation M-935, 9 Jan 56

AID P - 3268

Subject : USSR/Electricity

Card 1/1 Pub. 2[illegible] - 23/25

Authors : Maryshkin, I. I., M. A. Shatelen, L. R. Neyman, A. M. Zalesskiy, B. I. Domanskiy, S. V. Usov, V. T. Renne, I. A. Zaytsev, and others

Title : Professor M. D. Kamenskiy. His 70th birthday and 45 years of scientific and educational activity

Periodical : Elektrichestvo, 9, 84-85, S 1955

Abstract : The authors pay tribute to Prof. M. D. Kamenskiy's scientific and educational activity and present a short biographical sketch and description of his activities.

Institution : None

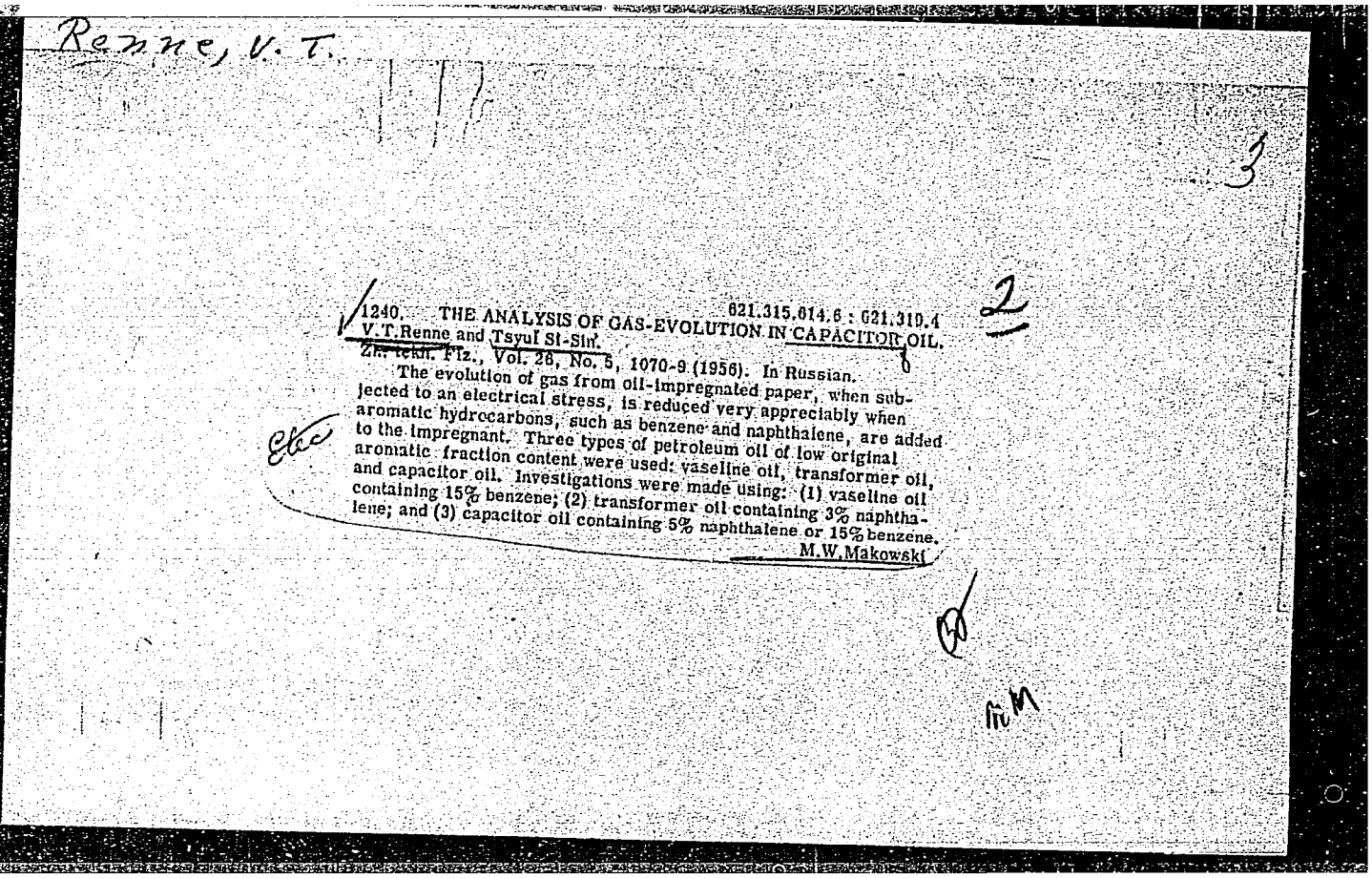
Submitted : No date

KAZARNOVSKIY, David Mikhaylovich; REINE, V.T., redaktor; ZABRODINA, A.A., tekhnicheskiy redaktor

[Seignettoceramic capacitors] Segnetokeramicheskie kondensatory. Moskva, Gos. energ. izd-vo, 1956. 222 p. (MLRA 10:3)
(Ferroelectric substances) (Condensers (Electricity))

RENNE, V.T., doktor tekhnicheskikh nauk, professor.

Power capacitor construction in other countries. Elektrichestvo no.3:75-81 Mr '56. (MLRA 9:6)
(Condensers (Electricity))



Renne, V. T.

1240. THE ANALYSIS OF GAS-EVOLUTION IN CAPACITOR OIL. 621.315.614.6 : 621.319.4
V. T. Renne and Tsyui Si-Sin.
Zh. tekh. Fiz., Vol. 26, No. 5, 1070-9 (1956). In Russian.

The evolution of gas from oil-impregnated paper, when subjected to an electrical stress, is reduced very appreciably when aromatic hydrocarbons, such as benzene and naphthalene, are added to the impregnant. Three types of petroleum oil of low original aromatic fraction content were used: vaseline oil, transformer oil, and capacitor oil. Investigations were made using: (1) vaseline oil containing 15% benzene; (2) transformer oil containing 3% naphthalene; and (3) capacitor oil containing 5% naphthalene or 15% benzene.

M.W. Makowski

Renne, V.T.

2

374. Gas evolution in condenser oil. V. T. Renne and Tsyui Si-Sin. *Zhur. Tekh. Fiz.*, 1956, 26, 1070–9.—Tests made with paper–Al condenser (capacity 10^4 pF) impregnated (at few mm Hg) with 180 ml oil; tests at atm pressure, room temp, 50 cycles; sketch of condenser and circuit diagram. Oils used were a white oil and standard transformer and condenser oils, properties measured were gas evolution and p.f., both of which were improved by addition of aromatics (5–15% of benzene or naphthalene). Increase of test temp to 50° C did not affect the overall picture, increase of vac used for condenser impregnation decreased p.f.

V. B.

8 (0) SOV/112-59-1-187

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 24 (USSR)

AUTHOR: Renne, V. T., and Kalyazina, N. N.

TITLE: Cutting the Loss Angle of Capacitor Paper Used in Power Capacitors Employed on Long Transmission Lines

PERIODICAL: Tr. Mezhvuzovsk. nauchno-tekhn. konferentsii po dal'nim elektroperedacham, 1956, Sekts. 3, L., 1957, pp 118-122

ABSTRACT: The problem of raising the capacity (power) of a unit capacitor intended for large reactive-power banks is considered. A formula is derived that shows the relations between the capacitor temperature rise, its $tg\delta$, and its rated reactive power; cutting $tg\delta$ by 20% permits doubling the capacitor power. The capacitor $tg\delta$ can be slashed (at 50 cps) by cutting down the $tg\delta$ of its paper. A short summary is presented of an investigation of the capacitor-paper $tg\delta$ for organic and inorganic paper compositions; the investigation was carried out by the Chair of Electrical-Insulation and Cable Engineering, LPI. Bibliography: 6 items.

Card 1/1 V.T.R.

RENNE, V.T.

Investigation of gas development in condenser oils. V. T. Renne and Si-Sin' Tsyui. *Soviet Phys., Tech. Phys.* 1, 1018-34(1957)(English translation).—See *C.A.* 50, 16088i.
B. M. R.

105-9-24/32

AUTHOR: Renne, V.T., Doctor of Technical Sciences, Professor

TITLE: Foil Condensers (Plenochnyye kondensatory)

PERIODICAL: Elektrichestvo, 1957, Nr 9, pp. 75-79 (USSR)

ABSTRACT: A survey is given on the world production and a detailed description of the state of development of foil condensers in Europe, USA and Soviet Russia. The United States, where polar and nonpolar foils are used, are the leading country in this development. Dielectrics of the second group are polystyrene, polyethylene, and polytetrafluorethylene which show a small loss angle of (2 to 5)10^{-4} as well as higher resistance of 10^{19} to 10^{20} Ohm.cm in comparison with infiltrated paper. Polysterene is used for condenser building also in Europe however it is not so heat resistent. Polytetrafluorethylene (Teflon) is much more expensive, however, as an organic material it shows exceptionally high working temperatures from 200 to 250°. The advantage of these polar synthetic foils compared to the nonpolar ones is the higher dielectricity constant and a higher electric strength. The following polar foils are used at present: cellulose acetate, polytrifluorchlorethylene, and polyethyleneterephtalat. On the basis of the first mentioned, condensers are produced by the "Condenser Product" works in the USA. The second is known in the

Card 1/2

57-27-7-8/40

AUTHORS: Renne, V. T., Tsyuy Si-sin'

TITLE: The Influence Exerted by Side Chains in Aromatic Compounds Upon the Behavior of Petroleum in an Electric Field (Vliyaniye bokovykh tsepey v aromaticheskikh soyedineniyakh na povedeniye neftyanogo masla v elektricheskom pole)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7, pp. 1462 - 1465 (USSR)

ABSTRACT: Reference is made to the earlier paper by the authors in Zhurnal Tekhnicheskoy Fiziki, 1956, Vol. 26, p. 1070, and by employing the method described there an investigation is made in the present paper of the stability of some petroleum-samples with different content of natural aromatic compounds. The investigated oils were transformer-oils. The results showed that the intensity of gas--separation in an electric field decreases with an increase in the content of natural aromatic compounds. It was not even possible in the oil with a 17,42 % content of aromatic compounds to obtain such a stability as it is attained by an addition of 15 % benzene. The assumption is expressed that in the case of a natural aromatic compound the presence of the side chains which are characteristic for

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57-27-7-8/40

The Influence Exerted by Side Chains in Aromatic Compounds Upon the Behavior of Petroleum in an Electric Field

the aromatic compounds exerts an unfavorable influence. The test showed that even an addition of only one methyl-group to benzene markedly deteriorates the stability of a mixture with a condenser--oil in an electric field. It is therefore assumed that this very circumstance brought about the fact that most of the firms abroad changed over from the use of oil as impregnation-mass in the production of condensers to one using synthetic aromatic chlorinated liquids, chiefly pentachlorodiphenyl. In the USSR it is under the name "Sovol" successfully used in the condensers. The strongly increased stability of Sovol in an electric field in comparison with the condenser-oil is shown by the curves. Castor oil also possesses a high stability. There are 4 figures, 1 table and 6 references, 4 of which are Soviet.

SUBMITTED: November 6, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Petroleum-Stability-Test results 2. Petroleum-Electrical properties-Effects of cyclic compounds 3. Cyclic compounds

REINE, V.T.

Electrical Engineering Institute of France. Izv. vys. ucheb. zav.; elektromekh. 1 no.5:121-123 '58. (MIRA 11:8)
(France--Electric engineering--Study and teaching)

RENNE, V.T., doktor tekhn. nauk, prof.

Electric capacitors for temperatures up to 500° C. Elektrichestvo no.4:80-81 Ap '58. (MIRA 11:5)

(Condensers (Electricity))

SOV/139-58-6-26/29

AUTHOR: Renne, V. T.

TITLE: Studies of the Dielectric Losses in Capacitor Paper (Issledovaniye dielektricheskikh poter' v kondensatornoy bumage)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 6, pp 161-166 (USSR)

ABSTRACT: This paper reviews the work done by the Chair of Electrical Insulation and Cable Technology of the Leningrad Polytechnical Institute imeni M. I. Kalinin in recent years. The author and his team developed a simple method of measurement of the dielectric losses (Ref 1) in cooperation with the capacitor paper industry. This method was passed over to the Ukrainian Institute for Paper where apparatus suitable for measurements of tan δ of paper was developed for use in paper factories. As a result of measurements of tan δ of a number of Soviet capacitor papers carried out at the Leningrad Polytechnical Institute and the Ukrainian Institute for Paper, a new State Standard (GOST) on capacitor paper was established. Fig 1 shows that satisfactory agreement could be obtained when the losses of capacitor paper were

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Studies of the Dielectric Losses in Capacitor Paper

measured at different temperatures, using the same apparatus, at Leningrad (curve 1) and Kiyev (curve 2). It was found (Ref 4) that the usual Soviet sulphate cellulose pulp has the amount of pentosan (11-12%) which American workers believe to be the optimum amount (Ref 2). It follows that any treatment which would change the natural pentosan content in Soviet cellulose pulp would increase the dielectric losses. Capacitor paper contains also a small amount of lignin. The dielectric losses of lignin are higher than those of cellulose but since only 3-4% of lignin is present in cellulose, it does not affect the total losses of the paper very much. It was also found that the inorganic components of paper (its ash content) may affect the loss-angle tangent of paper very considerably. This is shown in Fig 2 where tan δ is given as a function of ash content from 0.4 to 1.0% (Siciński's data, Ref 3). The new State Standard on capacitor paper requires that the ash content should not exceed 0.45% and should be of the order of 0.3-0.35%. It was found that not only is the total ash content important but also its

Studies of the Dielectric Losses in Capacitor Paper

composition. Small amounts of univalent cations (Li^+, Na^+, K^+) or of Al^{+++} raise the tan δ of paper, while divalent cations leave the paper losses practically unaffected. This is shown in Fig 3, which summarizes the author's earlier work on this particular point (Ref 5). Dependence of the loss-angle of paper, containing various cations, at temperatures below 0°C is shown in Fig 4. The lowest losses at sub-zero temperatures occur in a sample from which inorganic matter was removed (ash content 0.03-0.04%). All cations increased the value of tan δ of paper at its maximum near -50°C. The effect of cations on tan δ of paper at temperatures above 0°C is due to an increase in the electrical conductivity of paper produced by mobile univalent cations. At temperatures below 0°C tan δ_{max} rises on introduction of cations because the latter push apart the cellulose chains and this makes the hydroxyl groups more mobile; vibrations of hydroxyl groups in an alternating field are mainly responsible for the losses below 0°C. Since in practical applications the region of positive temperatures is of greater interest, it follows that the univalent metal

Studies of the Dielectric Losses in Capacitor Paper

and aluminium content of capacitor paper should be reduced to the minimum. In the USSR capacitor paper is produced by four factories: Malinskaya, Uspenskaya, "Kommunar" and "Krasnyy Oktyabr". It was found that the losses of the capacitor paper produced by the Uspenskaya and "Krasnyy Oktyabr" factories were smaller than those of the papers produced by the "Kommunar" and Malinskaya Works. This was found to be due to purification of water in the latter two factories. The "Kommunar" factory used a sodium cation filter which introduced sodium cations and the Malinskaya factory used caustic soda and alums to coagulate iron salts, introducing in this way cations of sodium and aluminium into the capacitor paper produced. When the water purification methods at these two factories were modified in such a way as to avoid the introduction of the sodium and aluminium cations, the dielectric losses of the capacitor papers produced at the "Kommunar" and Malinskaya Works decreased markedly (Figs 5 and 6). The dielectric losses of paper depend also on its density, increasing

Studies of the Dielectric Losses in Capacitor Paper

with increase of the latter (Fig 7). This is reflected in the State Standard, which requires tan δ of KON-1 paper with usual density to be less than 0.0017, while for the paper KON-11 with higher density tan δ should be below 0.0020. If the density of capacitor paper is lowered, then its dielectric losses are decreased but the process lowers the electric strength of the paper as well (Ref 7). The latter effect can be avoided by a suitable pulping process (Ref 8) and lowering of the amount of conducting particles in the capacitor paper (Ref 9).

There are 7 figures and 9 references, 7 of which are Soviet, 1 English, 1 Polish.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnical Institute imeni M. I. Kalinin)

SUBMITTED: March 31, 1958

S/112/59/000/012/005/097/
A052/A001

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 12, p. 8, # 23973

AUTHORS: Mikhaylov, M. M., Renne, V. T.

TITLE: Principal Directions and Results of Activity of the Department of Electric-Insulation and Cable Technique by the 40th Anniversary of the Great October Revolution

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, No. 7, pp. 3-15

TEXT: A review of the development since 1925 of scientific-research problems of the Department is presented; a scheme of the gradual expansion of the subjects of researches and their interconnection is given. The scientific work of the Department develops in three directions: the study of the moisture-resistance, heat-resistance and aging (under action of electric field) of electric insulation with the practical application of the results of research conducted to the fields of cable technique, capacitor engineering and insulation of electrical machines. There are 24 references. V. T. R.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

AUTHORS: Renne, V. T., Professor, Doctor of Technical Sciences, Kalyazina, N. N., Candidate of Technical Sciences, Morozova, M. N., Engineer SOV/105-58-9-10/34

TITLE: Dielectric Losses in Condenser Paper (Dielektricheskiye poteri v kondensatornoy bumage)

PERIODICAL: Elektrichestvo, 1958, Nr 9, pp 47 - 52 (USSR)

ABSTRACT: In recent years investigations of the dielectric losses in condenser paper were carried out at the Laboratoriya ispytaniya dielektrikov LPI (Laboratory for Testing Dielectrics at the Leningrad Polytechnical Institute) in collaboration with the scientific research institutions of paper industry (TsNIIB, UKRNIIB) and with the Kafedra khimii tsellyulozy Leningradskogo tekhnologicheskogo instituta (Chair of Cellulose Chemistry at the Leningrad Technological Institute). A special method of measuring loss angles operating with a simplified electrode system was developed (Ref 2). Paper samples are dried in vacuum and thus the development of an ionization in the paper is eliminated. This method was introduced into the Ukrainskiy nauchno-issledovatel'skiy institut bumagi

Card 1/3

(Ukrainian Scientific Research Institute of Paper), being also adopted with few alterations by the new GOST, which was recently officially authorized. This method not only permits to establish a preliminary standard for the tg δ of condenser paper but also to pool information on the functions of the loss angle versus a number of factors and to show ways and means to improve these principal functions. Summary: 1) The loss angle of dried condenser paper is an important criterion of paper quality. 2) A perfection of domestic sulfate cellulose tending to reduce the pentosane content does not enhance the loss-angle quality of condenser paper, but, on the contrary, leads to an increase of the loss angle. 3) Ash composition is one of the decisive factors governing the magnitude of the loss angle. Monovalent metals, sodium in particular, exert a distinctive detrimental influence. 4) A reduction of sodium content in the cellulose by electro-dialysis methods may lead to a reduction of the loss angle. 5) No sodium cationite filters are to be used in water purification plants employed in the production of insulation paper types. There are 11 figures and 10

Dielectric Losses in Condenser Paper SOV/105-58-9-10/34

references, 6 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnical Institute imeni Kalinin)

SUBMITTED: December 13, 1957

Card 3/3

AUTHORS: [redacted], Morozova, N. [illegible]-28-1-30/39

TITLE: Effect of the Type of Cation Added to Cellulose in the Process of Ionic Exchange Reaction Upon the Dielectric Losses in Condenser Paper (Vliyaniye tipa kationa, prisoyedinennogo k tselyulloze v protsesse ionno-obmennoy reaktsii, na dielektricheskiye poteri kondensatornoy bumagi)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol 28, pp. 1999-2003 (USSR)

ABSTRACT: This is an examination of the evidence provided by H. Church (Cherch) (Ref 1). This investigation is not limited to a determination of the specific resistance. It also incorporates an examination of the influence of the type of the attached cation upon the loss angle in condenser paper. Samples of standardized condenser sulfate pulp paper of the type KOH -II, with a thickness of 8 μ were investigated for information bearing on this problem. The residual ash content after the treatment amounted to about 0,03 - 0,05 %. The spectral analysis of the residual ash which was carried out in the NII MMTP under the supervision of I. V. Rodnikova showed that it consists mainly of silicon-, aluminum-, and iron compounds. From the evidence examined, the following conclusions may be drawn:1) Metallic cations which have become lodged in the cellulose during the ion exchange

Card 1/3

Effect of the Type of Cation Added to Cellulose in the Process of Ionic Exchange Reaction Upon the Dielectric Losses in Condenser Paper

reaction may have a considerable effect upon the electrical properties of the paper, even if relatively small amounts of ions are introduced, in the order of 0.05 - 0.10% of the paper weight. 2) In the positive temperature range, bivalent cations have no effect on the loss angle in paper. [illegible] Monovalent cations, however, lead to a considerable increase. The smaller the cation radius is the higher will be this effect. Cations of trivalent aluminum, on the contrary, increase the loss angle less than the cations of monovalent metals. 3) In the range of negative temperatures metallic cations considerably increase the maximum of the loss angle of the dipole radical. The greater the radius of the cation and the higher its valence the more pronounced the influence of the cations will be. The evidence presented makes it possible to explain the deterioration of the electric properties of condenser paper when instead of specially purified water river water is used in the paper production. The information obtained indicated that, as a sodium cation filter was used in the water purification the water was contaminated by sodium cations.

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SOV/57-28-9-20/33

Effect of the Type of Cation Added to Cellulose in the Process of Ionic Reaction Upon the Dielectric Losses in Condenser Paper

Hence also the paper produced with this water was contaminated. The removal of these filters lead to a considerable increase of the specific resistance and to a reduction of the loss angle of the paper. There are 3 figures, 2 tables, and 5 references, 5 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnical Institute imeni M. I. Kalinin)

SUBMITTED: December 23, 1957

Card 3/3

RENNE, Vladimir Tikhonovich; ZAKGEYM, L.N., retsenzent; KAZARNOVSKIY, D.M., red.; ZABRODINA, A.A., tekhn.red.

[Electric capacitors] Elektricheskie kondensatory. Izd.2., perer. Moskva, Gos.energ.izd-vo, 1959. 602 p. (MIRA 13:1)
(Electric capacitors)

RENNE, V.T.

Investigation of dielectric losses in capacitor paper. Izv.vys.ucheb. zav.; fiz. no.6:161-166 '59. (MIRA 12:4)

1. Leningradskiy politekhnicheskiy institut im. M.I. Kalinina.
(Electric capacitors--Testing) (Paper)

66168

9,2110 SOV/143-59-8-9/22

AUTHOR: Renne, V.T., Doctor of Technical Sciences, Professor, and Karabanov, V.I., Engineer, Kozyreva, M.S., Engineer

TITLE: The Problem of Investigating the Aging Process of Paper Capacitors Impregnated With Castor Oil

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 8, pp 46-51 (USSR)

ABSTRACT: The authors present the results of an investigation of the aging process of castor-oil-filled capacitors. The application of castor oil for impregnating paper capacitors is delayed by the wide-spread opinion that its chemical stability is inadequate. Therefore, the authors investigated paper capacitors made of four layers of KON-II-10 which were impregnated by medicinal castor oil. These capacitors were tested at temperatures of 85°C and at a potential drop of 37.5 kv/mm during 8000 hours. The capacitors of this test series were hermetically sealed. Another capacitor series

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The Problem of Investigating the Aging Process of Paper Capacitors Impregnated With Castor Oil

was not sealed and was tested at 85°C, 50 kv/mm for 1500 hours. Based on these investigations, the authors arrived at the conclusion that the electrical properties of sealed paper capacitors impregnated by castor oil remain sufficiently stable during their operation. Partial dehydration and polymerization processes occur during the aging of the castor oil in capacitors under the influence of increased temperatures and electric fields. Apparently, the polymerization is preceded by the isomerization in the acid component of the oil, where the C=C bonds change partially to an interconnected state. The cis-groups change into trans-groups. In case castor oil is used in unsealed capacitors, a considerable effect caused oxidation by atmospheric oxygen will be observed. The paper was presented at the Kafedra elektroizolyatsionnoy i kabel'noy techniki (Department of Electrical Insulation and Cable Engineering). There are 4 graphs,

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SOV/143-59-8-9/22

The Problem of Investigating the Aging Process of Paper Capacitors Impregnated With Castor Oil

2 tables and 6 references, 4 of which are Soviet and 2 English.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinin)

SUBMITTED: May 7, 1959

Card 3/3

SOV/105-59-8-17/26

8(3)

AUTHOR: Renne, V. T., Professor, Doctor of Technical Sciences

TITLE: Metalized Paper Capacitors for Power Systems

PERIODICAL: Elektrichestvo, 1959, Nr 8, pp 73-77 (USSR)

ABSTRACT: This is a survey on the development of metalized paper capacitors for power systems abroad, which is based upon the following publications: Hennig H., Neue Bauformen von MP Kondensatoren, ETZ, 1950, Bd 71, Nr 8-9, p. 196. Elsner, Metallpapier-Kondensatoren, Bull. ASE, 1952, Bd 43, Nr 18, p. 721. Sträb H., Maylandt H., Present stage of the technique of metalized paper capacitors for power systems, CIGRE, Report 109, 1958. Hennig H., Schutzeinrichtung für Leistungs-Kondensatoren, ETZ-B, 1958, Bd 10, Nr 12, p. 467. Maylandt, Schweitzer, Traub, Selbstheilender Kondensator, Patent of the German Federal Republic Nr 965974, 4.07.1957. Condensateur Electrique, Firm Bosch, - French patent, gr. 12, class 6, Nr 1 151835, 6.02.1958. Katalog Radiosoučástky, MPSt ČSR, Tesla Lanškroun, 1957.- In conclusion, it is pointed out that the problem of the obstructed heat transfer from the central sections of metalized paper capacitors was discussed in the Soviet article (Ref 8).

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Metalized Paper Capacitors for Power Systems SOV/105-59-8-17/28

Some experience has already been gathered in the USSR in the field of alternating-current metalized paper radio capacitors of the series MBGCh and in the manufacture of this type of automobile capacitors. There are 12 figures, 1 table, and 9 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute)

SUBMITTED: April 13, 1959

Card 2/2

57127

SOV/143-59-11-8/19

5.4600

AUTHORS: Dolgov, B.N., Professor, Doctor of Technical Sciences; Kharitonov, N.P., Candidate of Technical Sciences; Khudobin, Yu.I., Engineer; Renne, V.T., Prof., Doctor of Technical Sciences; and Soya, G.P., Engineer

TITLE: Research on the Electric Properties of Some Silico-Organic Liquids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 11, pp 59-66 (USSR)

ABSTRACT: This is a report on the experiments carried out by the authors to ascertain the electric properties of some silicone fluids which are potential impregnating or sealing dielectrics. Silicone fluids are rarely used in the USSR, although liquid dielectrics are required for many types of electric equipment. The fluids, examined by the authors, are considerably different in their chemical composition from polymethyl- or polyethyl-siloxanes, especially by the presence of a

Card 1/4

Research on the Electric Properties of Some Silico-Organic Liquids

central benzole ring in the molecule. The tested liquids are designated as "Nr 2", "Nr 243" and "Nr 529". They were synthetically produced by the Institute of the Chemistry of Silicates at the AS USSR and tested at the Leningrad Polytechnic Institute imeni M.I. Kalinin. Their physical properties are listed in Table 1. Table 2 shows electric properties of the subject liquids plus "Kaloriya-2" liquid, at room temperature. The evaporability of the examined liquids, plus "Kaloriya-2" and vaseline oil, at 150°C is shown in Table 3. Table 4 shows electric characteristics of different liquids used for the impregnation of experimental capacitors. (Tested were: "Nr 529", "Kaloriya-2", "MN-3" oil, and vaseline oil.) The characteristics of the experimental capacitors impregnated with the same liquids are shown in Table 5. Table 6 shows the changes of the characteristics of experimental capacitors during the process of aging (up to 200 hours). The devices used in the tests

Research on the Electric Properties of Some Silico-Organic Liquids

were: "MDP" bridge with an "M501" vibrational galvanometer and an "F50-1" amplifier - for measuring the specific inductive capacitance and loss angle at 50-cycle frequency and 1 kv voltage; at 400 to 5,000-cycle frequency, an "MLYe-1" bridge with a "ZG-4" sound generator and an "ELUR-3" indicator were employed; at frequencies up to 0.7 megacycles, the "KV-1" Q-meter was applied. The authors conclude that all three new silico-organic liquid dielectrics deserve to be thoroughly examined. In particular, "Nr 529" liquid must be paid attention to. Its main characteristics are: specific inductive capacitance at 20°C: 3.05; the tangent of the loss angle at 20°C: 0.0002; specific resistance at 150°C: 1.10^{12} ohm.cm; evaporation loss after 64 hours at 150°C: 1.21 %. There are 6 tables, 9 graphs, and 3 references, 2 of which are

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SOV/143-59-11-8/19

Research on the Electric Properties of Some Silico-Organic Liquids

English, 1 Soviet.

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates at the AS USSR) (Dolgov, Kharitonov, Khudobin); Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinin) (Renne, Soya)

SUBMITTED: July 21, 1959

Card 4/4

4

PONOMARENKO, Ye.D., assistent; MOROZOVA, M.N., inzhener; RENNE, V.T., prof., red.

[Concise laboratory manual on electric engineering materials] Kratkoe rukovodstvo po laboratorii elektromaterialovedeniia. Pod red. V.T.Renne. Leningrad, 1960. 34 p. (MIRA 13:11)

1. Leningrad. Politekhnicheskiy institut.
(Dielectrics) (Electric resistors)

MIKHAYLOV, Mikhail Mikhaylovich, prof., doktor tekhn.nauk. Prinimali uchastiye: ALEKSANDROVA, L.I., kand.tekhn.nauk; TOLVINSKAYA, A.V., kand.tekhn.nauk; IVASHCHENKO, S.A., kand.tekhn.nauk; MELENT'YEVA, N.N., inzh.; RODIONOVA, N.A., inzh.; FOGEL'GEZANG, Ye.V., inzh. RENNE, V.T., prof., doktor tekhn.nauk; ZHITNIKOVA, O.S., tekhn.red.

[Moisture absorption by organic dielectrics] Vlagopronitsaemost' organicheskikh dielektrikov. Pod red. V.T.Renne. Moskva, Gos. energ.izd-vo, 1960. 162 p. (MIRA 13:10)
(Dielectrics)

8(2)

S/143/60/000/02/007/018
D043/D002

AUTHORS: Renne, V.T., Doctor of Technical Sciences, Professor, Morozov, L.A., Proskurnin, V.P., Bayev, I.F.

TITLE: A New Insulating Liquid Made of Waste of the Phenol and Acetone Production for Capacitor Impregnation

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1960, Nr 2, pp 51-60 (USSR)

ABSTRACT: The new insulating liquid for impregnating power current capacitors is a mixture of 1, 1.3-trimethyl--3-phenylindan chlorides and ethyl benzene. It has all the advantages of pentachlordiphenyl, but is considerable cheaper. Isopropyl-benzene-α-methyl-styrene with a catalyst ($H_3PO_4 \cdot BF_3$) is used as raw-material for producing trimethylphenylindan poly-chlorides. The suitability of the new dielectric for impregnating capacitors was established in

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A New Insulating Liquid Made of Waste of the Phenol and Acetone Production for Capacitor Impregnation

preliminary experiments, but additional studies are required. With a certain ratio of the mixture components, the solidification point will be at -35 to -40°C. Good ionization characteristics of capacitor models impregnated with the new dielectric were obtained, thus the capacitors may be subjected to considerable overvoltages during their operation. The production process of the new dielectric is uncomplicated, thus the cost for mass-produced power current capacitors will be reduced compared to those filled with pentachlordiphenyl. Experimental work for obtaining the new dielectric is described. The properties of polychlorides of trimethylphenyl indan, ethyl benzene and their mixture are given. Some differences in the tgδ values were caused by the measuring methods used

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D043/D002

A New Insulating Liquid Made of Waste of the Phenol and Acetone Production for Capacitor Impregnation

at the "Kondensator" plant and lacking perfection of purification methods. The characteristics of capacitor paper specimen impregnated with the new dielectric are also given. Capacitance changes of the KON-I and of the KON-II paper specimens did not exceed 8-9% in the temperature range from -20 to +90°C. There are 3 graphs, 1 block diagram, 5 tables and 5 references, 2 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinin)

SUBMITTED: October 9, 1959, by the Kafedra elektroizolyatsionnoy i kabel'ney tekhniki (Department of Electrical Insulation and Cable Engineering)

Card 3/3

AUTHOR: Renne, V. T., Professor, Doctor of Technical Sciences

S/105/60/000/04/015/024
B007/B008

TITLE: Metal-varnish Capacitor, a New Type of Small-sized Capacitor

PERIODICAL: Elektrichestvo, 1960, Nr 4, pp 77 - 80 (USSR)

TEXT: The use of a varnished foil for the manufacture of capacitors was practically suggested already in 1934 (Ref 3). This suggestion produced, however, no useful results under the conditions prevailing at that time. The difficulty of eliminating the weak spots in the varnish layer was the main cause for this failure. Modern capacitor production has at present a means of eliminating this influence. This means is a thin metal film (Ref 4). An insulating varnish is used for metal-varnish capacitors. One electrode of the capacitor consists of an aluminum foil which is provided with a multiple varnish coat on both sides. A metal film so thin that the capacitor repairs itself by burning out the defective spot in the case of breakdown (Ref 7) is steamed onto this varnish dielectric as a counterelectrode. A review of available information on metal-varnish capacitors in German, English, and Italian publications is given (Refs 5-11). There are 5 figures, 1 table, and 11 references, 4 of which are Soviet.

SUBMITTED: November 26, 1959

Card 1/1

RENNE, V.T., prof.doktor tekhn.nauk; MOROZOVA, M.N., inzh.; KARPOVA, K.I., inzh.

Condenser paper with a small dielectric loss angle. Elektrichestvo no.7:72-77 Jl '60. (MIRA 13:8)
(Electric capacitors)

S/105/60/000/07/25/027
B007/B005

AUTHORS: Aleksandrov, N. V., Larionov, A. N., Bragin, S. M., Grodnev, I. I., Drozdov, N. G., Tareyev, B. M., Renne, V. T., Mayofis, I. M., Troitskiy, I. D., Kabystina, G. F., Sidorov, K. V., and Others

TITLE: Professor V. A. Privezentsev. On His 60th Birthday and the 35th Anniversary of His Scientific-pedagogical and Engineering Activity

PERIODICAL: Elektrichestvo, 1960, No. 7, p. 94

TEXT: This is a brief biography of Vladimir Alekseyevich Privezentsev, born at the village of Kolodkino, Moscow oblast', on June 12, 1900. In 1924 he finished his studies at the Elektrotekhnicheskiy fakul'tet MVTU (Department of Electrical Engineering of the MVTU), later on at the Moskovskiy promyshlenno-ekonomicheskiy institut (Moscow Institute of Industry and Economy), and the Vysshiye pedagogicheskiye kursy pri MVTU (Higher Pedagogical Course at the MVTU). In 1938, he dissertated for the degree of Candidate, became a Docent in 1939, and a Professor in 1946.

Professor V. A. Privezentsev. On His 60th Birthday and the 35th Anniversary of His Scientific-pedagogical and Engineering Activity

S/105/60/000/07/25/027
B007/B005

He dissertated in 1951, and obtained the degree of Doctor of Technical Sciences in 1952. From June 1923, he worked for 20 years at the zavod "Moskabel'" ("Moskabel'" Works) where he was a chief engineer between 1941 and 1945. From 1945 he worked as a chief engineer at the Tsentral'naya kabel'naya laboratoriya MEP (Central Cable Laboratory MEP) and as a deputy director for the scientific section of the Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti (Scientific Research Institute of the Cable Industry). From 1949 on, he has been working as a department chief at the NIIKP. He cooperated in the rationalization of power cable constructions for 1-10 kv, conducted the production of automobile cables, and cables with glass wool-, caprone-, and enamel insulation. For 25 years he has been working at the MEI. At the NIIKP, he is supervising the work of post-graduate students. He wrote many books, handbooks on cable engineering, and more than 100 articles. For 15 years, he was the responsible editor of the scientific-technical periodical of cable engineering (edition of the "Moskabel'" Works and the TsKL), conducted for 15 years the kabel'naya sektsiya Nauchno-

Professor V. A. Privezentsev. On His 60th Birthday and the 35th Anniversary of His Scientific-pedagogical and Engineering Activity

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B007/B005

tekhnicheskogo soveta Ministerstva elektrotekhnicheskoy promyshlennosti (Cable Section of the Scientific and Technical Council at the Ministry of the Electrotechnical Industry), and was a member of the Presidium Vsesoyuznogo byuro po elektricheskoy izolyatsii (Presidium of the All-Union Bureau of Electric Insulation) for more than 15 years; later on, he cooperated in the work of the komissiya po dielektrikam i po terminologii pri AN SSSR (Commission on Dielectrics and Terminology at the AS USSR). There is 1 figure.

Card 3/3

RENNE, V.T., prof., doktor tekhn.nauk; MOROZOVA, M.N., inzh.

Cation exchange in condenser paper located in a nonaqueous environment. Izv.vys.ucheb.zav.; energ. 3 no.5:65-69 My '60. (MIRA 13:6)

1. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina. Predstavlena kafedroy elektroizolyatsionnoy i kabel'noy tekhniki.
(Ion exchange) (Dielectrics)

RENNE, Vladimir Tikhonovich, doktor tekhn.nauk, prof.;
MOROZOV, Mikhail Mikhaylovich, kand.tekhn.nauk

Italian electric condenser industry. Izv. vys. ucheb. zav.; elektromekh. 3 no.9:149-160 '60. (MIRA 15:5)

1. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy tekhniki Leningradskogo politekhnicheskogo instituta (for Renne).

(Italy--Condensers (Electricity))

BOGORODITSKIY, Nikolay Petrovich; PASYNKOV, Vladimir Vasil'yevich; TAREYEV, Boris Mikhaylovich; RENNE, V.T., doktor tekhn.nauk, prof., red.; ZHITNIKOVA, O.S., tekhn.red.

[Electric engineering materials] Elektrotekhnicheskie materialy. Izd.4., perer. Moskva, Gos.energ.izd-vo, 1961. 528 p. (MIRA 14:6)

1. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy tekhniki Leningradskogo politekhnicheskogo instituta im. M.I.Kalinina (for Renne).
(Electric engineering—Materials)

MALKIN, Kh.R.; POSHERSTNIK, M.Yu.; SALYUTINA, M.A.; RENNE, V.T., doktor tekhn. nauk, retsenzent; LAVINSKIY, V.P., inzh., retsenzent; TU-RYBRIN, M.B., nauchnyy red.; NIKITINA, M.I., red.; KOROVENKO, Yu.N., tekhn. red.

[Handbook on electric lines and power calbles] Spravochnik po silovym kabeliam i provodam. Leningrad, Gos.soiuznoe izd-vo sudostroit.pro-myshl., 1961. 387 p. (MIRA 14:12)
(Electric cables) (Electric lines)

RENNE, V.T., doktor tekhn.nauk

Tenth anniversary of the Research Institute of Cables and Insulators in Bratislava. Elektrichestvo no.2:93-94 F '61. (MIRA 14:3)
(Bratislava—Electric insulators and insulation)
(Bratislava—Electric cables)

RENNE, V.T., prof., doktor tekhn.nauk; VARSHAVSKIY, D.S., inzh.

Effect of vacuum treatment conditions on the magnitude of the loss angle in the drying and saturating of large power condensers with oil-saturated paper dielectric. Izv.vys.ucheb.zav.; energ. 4 no.4: 25-29 Ap '61. (MIRA 14:5)

1. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina. Predstavlena kafedroy elektroizolyatsionnoy i kabel'noy tekhniki.
(Electric capacitors) (Electric insulators and insulation)

S/196/62/000/004/008/023
E194/E155

AUTHORS: Avrutin, A.D., Davydova, L.I., Lavrova, D.S., and Renne, V.T.

TITLE: An investigation of certain factors that influence the development of ionising processes in the dielectric of paper-oil capacitors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.4, 1962, 7, abstract 4 B27. (Izv. N.-i. in-ta postoyan. toka, no.7, 1961, 231-241)

TEXT: The intensity of ionisation was assessed by measuring the rate of impulses (discharges). A schematic diagram of the equipment is given. To investigate the relationship between the intensity of ionisation and the field strength the latter was raised in steps of 2.5 kV/mm with a delay of 60 sec at each step. The experimental capacitors were of the following characteristics. Paper - type KOH-II (KON-II), thickness 10 microns and width 60 mm; number of layers 4, 5, 6 and 8; capacitance about 0.1 microfarads; impregnated with capacitor oil. The mean electrical

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characteristics were: tan δ ≈ 0.0033; RC ≈ 8000 megohmmicrofarads. The a.c. ionisation inception stress was studied as a function of internal pressure in the container, dielectric thickness, temperature and amount of overlap. The intensity of ionisation was also studied as a function of temperature and time of application of voltage with direct voltage, and in this case the stress was raised in steps of 10 kV/mm with a delay of 90 sec at each step. It was shown that the method of assessing the intensity of ionisation from the discharge rate is particularly useful in studying ionisation effects with direct voltage. A comparison was made between the intensity of ionisation with rising and with falling voltage for capacitors impregnated with oil and pentachlordiphenyl. In the latter case there was much less difference between the curves for rising and falling voltage than has been described in the literature.
10 literature references.

[Abstractor's note: Complete translation.]

RENNE, Vladimir Tikhonovich, doktor tekhn.nauk, prof. MOROZOVA, Mariya Nikolayevna, kand.tekhn.nauk, assistent RYSHAVYY, Aton, inzh.

Dielectric losses in Czechoslovakian condenser dielectric paper. Izv. vys. ucheb. zav.; elektromekh. 4 no.4:132-135 '61. (MIRA 14:7)

1. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy tekhniki Leningradskogo politekhnicheskogo instituta (for Renne). 2. Leningradskiy politekhnicheskiy institut (for Morzova). 3. Zavod "Elektropetse", Prage, Chekhozlovatskaya SSR (for Ryshavyy).
(Dielectrics)
(Electric capacitors)

RENNE, V.T., doktor tekhn.nauk, prof.

Electric condensers using quartz. Elektrichestvo no.9:93-94 S '61. (MIRA 14:9)

(Electric capacitors)

RENNE, V.T., doktor tekhn.nauk, prof.; MOROZOVA, M.N., kand.tekhn.nauk

Effect of the density of condenser paper on its properties in a saturated state. Izv.vys.ucheb.zav.; energ. 4 no.9:15-21 S '61. (MIRA 14:10)

1. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina. Predstavlena kafedroy elektroizolyatsionnoy i kabel'noy tekhniki.
(Electric condensers) (Dielectrics)

RENNE, V.T., doktor tekhn. nauk, prof.; TAREYEV, B.M., doktor tekhn.nauk, prof., red.

[Study of the relationship between the properties of condenser paper and the quality of paper condensers; manual for the course in "Technology and electric insulation"] Issledovanie sviazi mezhdu svoistvami kondensatornoi bumagi i kachestvom bumazhnykh kondensatorov; uchebnoe posobie po kursu "Tekhnologiia elektricheskoi izoliatsii." Moskva, 1962. 29 p. (MIRA 17:5)

1. Moscow. Vsesoyuznyy zaochnyy energeticheskiy institut. Kafedra elektroizolyatsionnoy i kabel'noy tekhniki.

GAYLISH, Ye.A.; DROZDOV, N.G.; YEVSTROP'YEV, K.S.; KAZARNOVSKIY, D.M.; NEYMAN, L.R.; PASYNKOV, V.V.; PRIVEZENTSEV, V.A.; RENNE, V.T.; TAREYEV, B.M.

N.P. Bogoroditskii; on his sixtieth birthday and the thirty-fifth anniversary of his theoretical and educational work. Elektrichestvo no.7:87-88 Jl '62. (MIRA 15:7)
(Bogoroditskii, Nikolai Petrovich, 1902-)

DOLGOV, B.N., doktor khim.nauk, prof. [deceased]; KHUDOBIN, Yu.I., inzh.; KHARITONOV, N.P., kand.khim.nauk; RENNE, V.T., doktor tekhn.nauk, prof.; BONDARENKO, P.N., inzh.; SOYA, G.P., inzh.

Effect of the composition and structure of the molecules of certain organosilicon liquids on their electrical properties. Izv. vys. ucheb. zav.; energ. 5 no.6:31-36 Je '62. (MIRA 15:6)

1. Institut khimii silikatov AN SSSR (for Dolgov, Khudobin, Kharitonov).
2. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina (for Renne, Bondarenko. Soya).

(Silicon organic compounds--Electric properties)

S/143/62/000/012/001/005
D238/D308

AUTHORS: Renne, V.T., Doctor of Technical Sciences, Bondarenko, P.N., Li Kuo-ho, Engineers and Kalantar, N.G., Candidate of Technical Sciences

TITLE: Electrical properties of electrical insulating oils obtained from eastern sulfurous petroleum

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Energetika, no. 12, 1962, 19-25

TEXT: The tests were carried out on Д -89 (D-89) and D-105 oils obtained by the selective refinement of low-viscosity Tuymaza petroleum distillates. The properties of D-89 and D-105 oils were respectively: d_4^{20} 0.8515; kinematic viscosity at 50°C, 8.67 and 8.10 cst; sulfur content 0.95 and 0.42%; stability by the ВТИ (VTI) method: acid number 0.29 and 0.68 mg KOH/g; sediment 0.04 and 0.03%. Comparisons were made against a high-purity vaseline oil as employed in Class A capacitors. Gassing tests were carried out on impregnated paper insulation. As a function of temperature at 50 c/s, the loss

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Electrical properties ...

angles were greater for both oils than for the vaseline oil while the permittivity of the D-105 oil was very near to that of the vaseline oil, a fact which is associated with the aromatic constituents, while the difference in the loss angles can be atrributed to the influence of electrolytic additions in the D-105 oil. The resistivity/temperature tests showed a lower resistivity for the D-89 and D-105 oils. Slightly lower breakdown voltages as compared with the vaseline oil over the temperature range 20° to 120°C are attributed to inferior refinement. Gassing tests were carried out at 2.5 kv, 50 c/s across 10 layers of impregnated paper with an overall thickness of 0.1 mm representing 25 kv/mm. The higher content of aromatics in the D-89 oil affords improved resistance to gassing, approaching that of the vaseline oil. Loss angle measurements at 50 c/s carried out on test capacitors over a temperature range of 20° to 100°C indicated a marked deviation from the vaseline oil only at temperatures exceeding ~ 90°C. Loss angle tests on D-89 and the vaseline oil at 1800 v, 50 c/s representing 45 kv/mm, indicated complete stability at tan δ = 0.004, over 33 hours, for the D-89 oil. The vaseline oil, starting at 0.003, displayed a catastrophic trend after 20 hours, manifested

Electrical properties....

by the development of intense ionization processes. The D-89 oil was considered as having advantages over the vaseline oil. The Tuymaza oils are assessed as suitable for power capacitors, given the correct pretreatment. There are 6 figures and 3 tables.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina (Leningrad Polytechnic Institute im. M.I. Kalinin) (Renne, Bondarenko and Li Kuo-ho); Institut organicheskoy khimii Bashkirskogo filiala AN SSSR (Institute of Organic Chemistry, Bashkirskiy Division, AS USSR) (Kalantar)

RENNE, Vladimir Tikhonovich, doktor tekhn.nauk, prof.; BERKU, Adrian [Bercu, A.], inzh.; KARABANOV, Valentin Iosifovich, inzh., kand.-tekhn.nauk, nauchnyy sotrudnik; KOZYREVA, Mariya Semenovna, kand.-tekhn.nauk, nauchnaya sotrudnitsa

Study of a saturation liquid for power condensers. Izv. vys. ucheb. zav.; elektromekh. 5 no.12:1424-1428 '62. (MIRA 16:6)

1. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy tekhniki Leningradskogo politekhnicheskogo instituta (for Renne). 2. Bukharestskiy institut elektrotekhnicheskikh issledovaniy (for Berku). 3. Leningradskiy politekhnicheskiy institut (for Karabanov, Kozyreva).

(Condensers (Electricity)) (Electrolyte solutions)

RENNE, Vladimir Tikhonovich; ZAKGEYM, L.N., retsenzent; KAZARNOVSKIY, D.M., red.; SOBOLEVA, Ye.M., tekhn. red.

[Thin film capacitors with synthetic organic dielectric] Plenochnye kondensatory s organicheskim sinteticheskim dielektrikom. Moskva, Gosgortekhizdat, 1963. 201 p. (MIRA 16:6)
(Condensers (Electricity))

ZAKGEYM, Lev Nakhmanovich; RENNE, V.T., retsenzent; KAZARNOVSKIY, D.M., red.; ZHITNIKOVA, O.S., tekhn. red.

[Electrolytic condensers] Elektroliticheskie kondensatory. Izd.2., perer. i dop. Moskva, Gosenergoizdat, 1963. 283 p. (MIRA 16:7)

(Condensers (Electricity))

RENNE, V.T., doktor tekhn. nauk, prof.; STEPANOV, S.I., inzh.; LAVROVA, D.S., inzh.

Ionization processes in the dielectric of paper condensers subject to the action of d.c. potential. Elektrichestvo no.5: 67-71 My '63. (MIRA 16:7)

1. Leningradskiy politekhnicheskiy institut i Nauchno-issledovatel'skiy institut postoyennogo toka, Leningrad.
(Condensers (Electricity))

L 17963-63 EWT(1)/BDS/ES(s)-2 AFFTC/ASD/ESD-3/IJP(C)/SSD Pt-4

ACCESSION NR: AP3004226 S/0105/63/000/007/0094/0095

AUTHOR: Renne, V. T. (Doctor of technical sciences, Professor)

TITLE: Fourth vuz conference on breakdown of dielectrics and semiconductors (11-16 February 1963, Tomsk)

SOURCE: Elektrichestvo, no. 7, 1963, 94-95

TOPIC TAGS: dielectric breakdown, semiconductor breakdown

ABSTRACT: The Conference at the Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskogo instituta im. Kirova—TPI (Tomsk Polytechnic Institute) counted over 320 members who represented 24 institutes of higher learning, 16 institutes of the Academy of Sciences, 17 industrial research institutes, and 58 production plants. The following reports were delivered before the plenary session of the Conference: "The founding father of Soviet investigations in the physics of breakdown, A. F. Ioffe," by V. A. Sokolov, TPI, Tomsk; "Investigation of long sparks and the problem of lightning," by I. S. Stekol'nikov, LVGREI im. Krzhizhanovskogo, Moscow (LVGREI); "Electric

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ACCESSION NR: AP3004226

9

strength of paper capacitors," by V. T. Renne, LPI, Leningrad. Further, the following five Sections opened their work: (1) "Electric breakdown of gases and vacuum," under B. M. Gokhberg; (2) "Physical processes in breaking down liquid and solid dielectrics," under S. S. Gutin; (3) "Behavior of semiconductors in strong electric fields and breakdown," under V. A. Presnov; (4) "Behavior and breakdown of insulation in strong electric fields," under V. T. Renne; (5) "Applications of electric charges," under O. M. Todes. Some particulars of the above topics are given in the article. Also, two doctor dissertations were defended by I. Ye. Baly*gin (on the breakdown of liquid dielectrics) and G. A. Vorob'yev (on the theory of electric breakdown of solid-state dielectrics) at TPI at the time of the Conference. Orig. art. has: no figure, formula, or table.

ASSOCIATION: Leningradskiy Politekhnicheskiy Institut, LPI (Leningrad Polytechnic Institute)

SUBMITTED: 00 DATE ACQ: 08Aug63 ENCL: 00

SUB CODE: EE, PH NO REF SOV: 000 OTHER: 000

Card 2/2

BOGORODITSKIY, N.P.; VAVILOV, V.S.; VALEYEV, Kh.S.; DROZDOV, N.G.; KORITSKIY, Yu.V.; PRIVEZENTSEV, V.A.; RENNE, V.T.; TAREYEV, B.M.; YAMANOV, S.A.

B.M. Vul; on his 60th birthday and 35th anniversary of his scientific work. Elektrichestvo no.8:95 Ag '63. (MIRA 16:10)

RENNE, V.T., doktor tekhn.nauk, prof.; PONOMARENKO, Ye.D., inzh.

Effect of polarity on the control of damp insulation. Izv. vys. ucheb. zav.; energ. 6 no.12:113-117 D '63. (MIRA 17:1)

1. Leningradskiy politekhnicheskiy institut. Predstavelna kafedroy elektroizolyatsionnoy i kabel'noy tekhniki.

RENNE, V.T., doktor tekhn.nauk, prof.; YAMANOVA, L.V., inzh.

"Synthetic liquid dielectrics" by K.A. Anrianov, and V.V. Skiperov. Reviewed by V.T. Renne, L.V. IAmanova. Ëlektrotekhnika 34 no.12:76 D '63. (MIRA 17:1)

LEBEDEV, N.N., kand. tekhn. nauk, dots. MATSONASHVILI, B.N., kand. fiz.-matem. nauk, KOSNE, V.I., doktor tekhn. nauk, prof.; TAREYEV, B.M., doktor tekhn. nauk, prof., red.

[Electric engineering materials: electric condensers, wires, and cables] Elektrotekhnicheskie materialy, elektricheskie kondensatory, provoda i kabeli 1963-1969. Moskva, 1964. (MIRA 18:2) 158 p.

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.

POSHERSTNIK, Moisey Yudovich; SALYUTINA, Mariya Alekseyevna; RENNE, V.T., doktor tekhn. nauk, retsenzent; MINDIN, G.R., nauchn. red.; SACHUK, N.A., red.

[Thermal calculations of ship cables] Teplovoi raschet sudovykh kabelei. Leningrad, Izd-vo "Sudostroenie," 1964. 238 p. (MIRA 17:5)

ACCESSION NR: AP4045825 S/0105/64/000/009/0076/0080

B

AUTHOR: Renne, V. T. (Doctor of technical sciences, Professor); Soya, G. P. (Engineer)

TITLE: Investigation of the heat resistance of capacitor paper

SOURCE: Elektrichestvo, no. 9, 1964, 76-80

TOPIC TAGS: paper capacitor, capacitor paper, heat resistance, capacitor paper heat resistance

ABSTRACT: Three mechanisms of destruction of cellulose by heat -- pyrolysis, hydrolysis, and oxidation -- are briefly discussed. In its initial stage, the destruction is due to the breaking of long molecular chains, to depolimerization; the mechanical strength of the capacitor paper decreases while its electrical characteristics do not deteriorate. A high-sensitivity instrument for the pneumatic punching of capacitor paper, developed by the Ukrainian Scientific

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Research Institute of Paper and Cellulose Industry, is described. Specimens of Soviet (KON-II), French (Bollore), Japanese, and Finnish (Tervakoski) capacitor paper were heated for up to 36 hrs at temperatures within 150—200C and then tested for strength. Curves illustrating the test results are supplied. Orig. art. has: 6 figures and 2 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 05Feb64 ENCL: 00

SUB CODE: EE, EC NO REF SOV: 004 OTHER: 001

Card 2/2

BASHARIN, A.V.; BELYAKOV, V.A.; DONSKOY, A.V.; NEYMAN, L.R.; RAVDONIK, V.S.; RENNE, V.T.; RUZIN, Ya.L.; SABININ, Yu.A.; USOV, S.V.

Vasilii Gavrilovich Drannikov, 1904 -; on his 60th birthday and the 35th anniversary of his theoretical and educational work. Elektrichestvo no.10:87 O '64. (MIRA 17:12)

KLINE, V.T., doktor tekhn. nauk, prof.; MATEVOSYAN, M.A., inzh.

Accelerated tests of the corona resistance of insulating films. Izv. vys. ucheb. zav.; energ. 7 no.12:108-111 D '64. (MIRA 18:2)

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina. Predstavlena kafedroy elektricheskoy izolyatsii, kabeley i kondensatorov.

BELINSKAYA, Galina Vasil'yevna; PERCHKOV, Izyaslav Borisovich; [illegible], Nikolay Pavlovich; REHNE, V.T., doktor tekhn. nauk prof., otv. red.

[Heat insulation of winding wires] Zharostoikaia izoliatsiia obmotochnykh provodov. Moskva, Nauka 1965. 97 p. (MIRA 18:8)

TOROSHCHIN, Pavel Alekseyevich; ZAKGEYM, L.N., retsenzent; RENNE, V.T., doktor tekhn. nauk, prof., nauchn. red.; RASKINA, T.D., red.

[Metallized paper capacitors] Metallobumazhnye kondensatory. Moskva, Energiia, 1965. 212 p. (MIRA 18:5)

EPSHTEYN, Solomon Lazarevich; KAZARNOVSKIY, D.N., doktor tekhn. nauk, prof., retsenzent; RENNE, V.T., doktor tekhn. nauk, prof., nauchn. red.; RASKINA, T.D., red.

[Measurement of the characteristics of condensers; capacitance and tangent of the loss angle] Izmerenie kharakteristik kondensatorov; emkost' i tangens ugla poter'. Moskva, Energiia, 1965. 234 p. (MIRA 18:8)

BELINSKAYA, Galina Vasil'yevna; PESHKOV, Izyaslav Borisovich, KHARITONOV, Nikolay Pavlovich; RENNE, V.T., doktor tekhn. nauk, prof., otv. red.

[Heat insulation of winding wires] Zharostoikaia izoliatsiia obmotochnykh provodov. Moskva, Nauka, 1965. 97 p. (MIRA 18:7)

BOGORODITSKIY, Nikolay Petrovich; VOLOKOBINSKIY, Yuriy Mikhaylovich; VOROB'YEV, Aleksandr Akimovich; TAREYEV, Boris Mikhaylovich; RENNE, V.T., retsenzent; VOSKRESENSKIY, K.K., retsenzent; KAZARNOVSKIY, D.M., nauchn. red.; PAVLOVA, L.S., red.

[Theory of dielectrics] Teoriia dielektrikov. Moskva, Energiia, 1965. 344 p. (MIRA 18:12)

RENNE, V.T., doktor tekhn. nauk, prof.

Sectionalizing of wound high-voltage condensers. Elektrichestvo no.7: 91-92 Jl '65. (MIRA 18:7)

L 10229-66
ACC NR: AP6002410 SOURCE CODE: UR/0105/64/000/010/0087/0087

AUTHOR: Basharin, A. V.; Belyakov, V. A.; Donskoy, A. V.; Neyman, L. P.; Ravdonik, V. S.; Renne, V. T.; Ruzin, Ya. L.; Sabinin, Yu. A.; Usov, S. V.

ORG: none

TITLE: Professor V. G. Drannikov (60th birthday and 35th anniversary of his scientific and pedagogical activity)

SOURCE: Elektrichestvo, no. 10, 1964, 87

TOPIC TAGS: electric engineering personnel, electric engineering

ABSTRACT: Vasiliy Gavrilovich Drannikov was born in Serpukhov on 30 June 904 to a worker's family. He began as a textile worker at the "Proletariy" factory in 1920, transferring to the Textile Institute in the same year. In 1924 he was enrolled in the college of Electromechanics at the Leningrad Industrial Institute. In 1930 he became a candidate for an advanced degree and began his teaching career at the then newly organized Chair of "Elektroprivod" (Electric power drives). One of his first publications was the laboratory textbook "Opredeleniye poter'v transmissii" (Determination of transmission losses) in 1932. In 1931 he became an assistant and in 1934 a reader (docent) for the chair of "Promy"shlennoye ispol'zovaniye elektricheskoy energii" (Industrial uses of electric power). At that time he

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became the first in the USSR to lecture on the "use of ionic-electronic devices in electric power drives." In 1939 Drannikov defended his dissertation "Teoreticheskoye i eksperimental'noye issledovaniye nekotorykh skhem bystrogo vozbuzhdeniya generatora Leonarda" (Theoretical and experimental investigation of certain high-speed excitation circuits for a Leonard generator). During the war Drannikov was Chief Engineer at the Vologodskaya Oblast' Communal Economy Directorate in charge of electric power. Returning to Leningrad in 1944, he took an active part in reopening the Polytechnical Institute. From 1952 to 1955 he was abroad on teaching assignments. Since 1958 he has been dean of the Chair of "Elektroprivod i avtomatizatsiya promyshlennykh ustanovok" (Electric power drives and automation of industrial equipment). He has written 10 books, 12 texts, and many scientific papers on automation and electric drives. For his scientific and pedagogical activities he holds among other awards the "Znak pocheta" (Badge of Honor). Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2

RENNEBACH, E.

Standardization of surface roughness. Jemna mech opt 7 no.9:289-294 S '62.

1. VEB Carl Zeiss Jena, normalizacni stredisko.

NOVOKRESHCHENOV, Aleksey Aleksandrovich; RENNENGARDT, Fridrikh Fridrikhovich; GORYANSKIY, Yu.V., kand. tekhn. nauk, red.; VOLCHOK, K.M. tekhn. red.

[Maintenance of hulls of ships engaged in inland navigation] Ukhod za korpusami sudov vnutrennego plavaniia. Pod red. IU.V. Gorianskogo. Leningrad, Izd-vo "Rechnoi transport," Leningr. otd-nie, 1961. (MIRA 14:6)
(Ships—Maintenance and repair)

KENNENGART, F.F., red.

[Rules for the classification and building of seagoing steel ships] Pravila klassifikatsii i postroiki morskikh stal'nykh sudov. Leningrad, Izd-vo "Morskoi transport" (MIRA 16:1)
F.F. 1963. 26 p.

1. Russia (1923- U.S.S.R.) Register Symbol ASH.

RENNENGARDT, F. F.

GORYANSKIY, Yu.V., kandidat tekhnicheskikh nauk, redaktor; GORBUNOV, B.A., professor, redaktor; RENNENGARDT, F.F., redaktor; VOLCHOK, K.M., tekhnicheskiy redaktor.

[Rules for the construction of steel ships for inland waterways of the U.S.S.R.: rivers, lakes, canals] Pravila postroiki stal'nykh sudov vnutrennego plavaniia SSSR; reki, ozera, kanaly. Leningrad, Izdvo Ministerstva rechnogo flota SSSR, 1952. 295 p. [Microfilm] (MLRA 7:12)

1. Russia (1923- U.S.S.R.) Rechnoy registr. (Shipbuilding)

RENNENKAMPF, L.F.

American impressions (continuation). Nashi vesti 9 no.38:6-7 S '53.
(MLRA 6:7)
(United States--Description and travel)

HUNGARY

BALINT, B., Jozsef, Dr, RENNER, Antal, Dr; National Institute of Traumatology (director: SZANTO, Gyorgy, Dr, professor) (Orszagos Traumatologiai Intezet).

"On the Use of the Converted Plate Method to Correct Tibial Pseudoarthrosis."

Budapest, Magyar Traumatologia, Orthopaedia es Helyreallito Sebeszet, Vol IX, No 2, 1966, pages 103-109.

Abstract: [Authors' English summary modified] The mode of function of the well-known and widely used slipped or converted graft is evaluated and a comparison is made with the Phemister method. In addition to some important statistical data, 26 personal cases of surgery are reported and used to analyze the more important aspects of indication and surgical technique in the light of the functional mechanism. All 6 references are Western.

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