ORLOV, Pavel Mikhaylovich, doktor tekhnicheskikh nauk; SHIDAREV, I.M., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor.

[Land surveying (geodesy)] Zemlemerie (geodeziia) 2. izd., ispr.i dop. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1953. 337 p. (MLRA 7:5)

1. Professor Moskovskoy ordena Lenina sel'skokhozyaystvennoy akademii imeni K.A.Timiryazeva. (Geodesy)

ORLOV, Pavel Mikhailovich, professor, doktor tekhnicheskikh nauk.

[Geodesy course] Kurs geodezii. 2., perer. izd. Moskva, Gos.izd-vo sel'-khoz.lit-ry, 1953. 368 p. (MLRA 6:8)
(Geodesy)

ORLOV, P.M., doktor tekhnicheskikh nauk, professor; OZEROV, V.N., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor.

[Course in geodesy] Kurs geodezii. 4-e, isprav. izd. Moskva, Gos. izd-vo selkhoz. lit-ry, 1955. 472 p. [Microfilm] (MLRA 8:5)
(Geodesy)

ORLOV, P. M.

GOLUBEVA, Z.S.; KALOSHINA, O.V.; SOKOLOVA, N.I.; ORLOV, P.M., doktor tekhn. nauk, prof. red.; PLESHKOV, B.I., red.; GOR'KOVA, Z.D., tekhn.red.

[Practical laboratory manual for work in surveying] Posobie k laboratorno-prakticheskim zaniatiiam po geodezii. Pod red. P.M. Orlova. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 181 p. (MIRA 11:7)
(Surveying)

3(4) PHASE I BOOK EXPLOITATION SOV/1681

Orlov, Pavel Mikhaylovich, Doctor of Technical Sciences, Professor, Moscow Adademy of Agriculture

Osnovy geodezii; zemlemeriye (Fundamentals of Geodesy; Surveying) 3d ed. Moscow, Sel'khozgiz, 1957. 247 p. (Series: Uchebniki i uchebnyye posobiya dlya sel'skokhozyaystvennykh tekhnikumov) 25,000 copies printed.

PURPOSE: This book is intended as a text in surveying for agricultural tekhnikums.

COVERAGE: This textbook provides complete coverage of practical problems in surveying, expecially of cases that are frequently encountered by agricultural specialists. Although basic geodetic and astronomic measurements are touched upon, only enough of these subdivisions of surveying are included to give the student background knowledge. The text is detailed and explicit for such cases as determining areas, plane table surveying, compiling plans and low order leveling. Instruments and devices for conducting large scale, low order surveys are also thoroughly explained. Aerial surveys and topographic maps are described very briefly. There are no references given.

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Fundamentals of Geodesy; Surveying

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Fundamentals of Geodesy; Surveying

Fundamentals of Geodesy; Surveying SOV/1681

AVAILABLE: Library of Congress (TA545.076)

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MM/gmp
5-21-59

MASLOV, Aleksey Vasil'yevich; LARCHENKO, Yefim Gerasimovich; GORDEYEV, Aleksandr Vasil'yevich; ALEKSANDROV, Nikolay Nikolayevich; OKLOV, P.M., prof., retsenzent; ZUBRITSKIY, I.V., dotsent, retsenzent; MASLOV, A.V., red.; INOZEMTSEVA, A.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Surveying] Geodeziia. Pt.1. Moskva, Izd-vo geodez.lit-ry. 1958. 510 p. (MIRA 12:4)
(Surveying)

ORLOV, P.M., doktor tekhnicheskikh nauk, prof.

Tmutorokan' stone, the oldest geodetic monument in Russia. Izv. TSKhA no.6:217-220 '60. (MIRA 13:12)
(Tmutorokan'--Antiquities) (Surveying)

ORLOV, Pavel Mikhaylovich, doktor tekhn. nauk, prof.; GRACHEVA, V.S., red.; SHARUPICH, S.G., spets. red.; DEYEVA, V.M., tekhn. red.

[Course in geodesy]Kurs geodezii. Izd.3., perer. Moskva, Sel'khozizdat, 1962. 383 p. (MIRA 16:1)

(Surveying)

ORLOV P.N.

KONOVALOV, I.M.; doktor tekhnicheskikh nauk, professor; YEMEL'YANOV, K.S.; ORLOV, P.N.; FEDOROV, V.V., redaktor; VOLCHOK, K.M., tekhnicheskiy redaktor.

[Principles of ice control in river navigation] Osnovy ledotekhniki rechnogo transporta. Leningrad, Izd-vo Ministerstva rechnogo flota SSSR, 1952. 261 p. [Microfilm] (MLRA 7:12)
(Inland navigation--Cold weather conditions)(Ice on rivers, lakes, etc.)

SOV/124-58-2 1890

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 53 (USSR)

AUTHOR: Orlov, P. N.

TITLE: On the Effect of the Entraining Force of a Current on an Ice Covering (O vliyanii vlekushchego usiliya potoka na ledyanoy pokrov)

PERIODICAL: Tr. Novosibir. in-ta inzh. vod. transp., 1956, Nr 2, pp 61-67

ABSTRACT: An examination of the entraining force of a current and the resultant break-up of the ice on rivers during the spring period and the initial freeze-over period. Assuming a uniform current in a wide prismatic channel the author derives a formula for the entraining force of the current as follows:

$$\tau_d = \frac{\gamma_w v_{mean}^2}{c_1^2}$$

where γ_w is weight per unit volume of the water (ton/m^3), v_{mean} is the mean flow velocity of the water (m/sec), and c_1 is the Chézy coefficient for the layer of water adjacent to the undersurface of the ice covering. The formula is derived from an examination of the force relationships in the upper portion of the current, which is

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On the Effect of the Entraining Force of a Current on an Ice Covering

limited on top by the ice covering and underneath by the maximum-speed surface within the current. This formula agrees with the propositions set forth by V M. Makkaveyev and I. M. Konovalov [Gidravlika (Hydraulics), Moscow-Leningrad Rechizdat, 1940]. The entraining force is equaled to the compressive strength of the ice coverings; as a result, the author obtains the length (l) of a strip of ice which under the action of the entrainment force will evoke the destruction of the ice covering along its lower edge in the absence of shore friction:

$$l = \frac{h_{ice} [\sigma]_{compr} c_1^2}{\gamma_w v_{mean}^2}$$

where h_{ice} is the thickness of the ice (m) and $[\sigma]_{compr}$ is the ultimate compressive strength of the ice (ton/m^2). Manning's values are used for the Chézy coefficient for various values of the roughness of the lower surface of the ice The author gives the thickness of the respective lengths of an ice field computed according to the foregoing formula It is indicated that if the shore friction of the ice is taken into account the crushing length will become roughly twice that shown in the table The tearing off of ice fields due to the entrainment force can also be calculated in a similar manner, wherein the tensile strength of the ice must be known. The problems examined here afford, to some extent, a means for assessing, and also

On the Effect of the Entraining Force of a Current on an Ice Covering

explaining, a number of phenomena that occur during the spring and autumn break-ups of the ice covering on rivers.

V. V. Piotrovich

Card 3/3

First experimental pressing of seeds of Nicotiana rustica for the separation of oil. P. N. [illegible]. *Tabach. Prom.* **1933**, No. 4, 30-1. A 31% yield of an oil was obtained from slightly spoiled seeds of *Nicotiana rustica*. The oil had an acid no. of 28, sp. gr. [illegible], viscosity 0.28 at 20°, sapon. no. 192 and I no. 152. Nicotine was absent. The pressings, which were successfully used for feeding horses, had the following characteristics: H_2O [illegible], ash 11.63, oil 10.00, fiber 17.[illegible], digestible albumin 30.37, total protein 38.31. Nicotine was absent. A. A. Boehtlingk

Agriculture

Forty centners of "makhorka" (nicotiana rustica) per hectare; (Saratov) Saratovskoe obl. izd- vo, 1948. (Bibliotechka kolkhoznika).

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

ORLOV, P.N.

Forestry Engineering

Sprinkling operations in forestry, Les. khoz. 5 No. 3 (42), 1952

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

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

1. ORLOV, P. N.

2. USSR (600)

4. Tobacco

7. Increasing the size of the harvest and improving the quality of tobacco and makhorka raw material. Tabak 13 no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

S/145/60/000/010/011/01[illegible]
D211/D304

AUTHOR: Orlov, P.N., Aspirant

TITLE: On the choice of permissible tensile stress in design of extruders

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Mashinostroyeniye, no. 10, 1960, 145 - 150

TEXT: Description of tests of hardness and structure of specimens cut from different parts of (tail part, cutting part and calibrating part) high-speed cutting steel extruders P18 (R18). They were subjected to the following thermal treatment: 1) Working and calibrating part: First heating at 350 ÷ 600°C, second at 830 ÷ 850°C, final heating at 1260° ± 10°C with exposure of 5 sec per 1 mm of section, cooling in oil to 150 ÷ 220°C then in air up to room temperature; preliminary tempering at 400 - 450°C, exposure of 20 ÷ 25 min., triple tempering at 560°C, exposure of 1 hr., cooling in air 2) Tail part: Hardening at 850° ± 10°C with exposure of 7 sec per 1 mm of section, cooling in oil; tempering at 630° ± 10°C with ex

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S/145/60/000/010/011/014
D211/D304

On the choice of permissible ...

posure of 5 sec. To establish the tensile strength limit specimens with predetermined place of failure were prepared. Results of tests are given in tables and graphs. The author concludes that the R18 steel has practically constant hardness and uniform structure in sections up to 80 mm in diameter, the tensile strength limit may be considered as equal for different parts of extruders. There are 4 figures and 2 tables.

ASSOCIATION: MVTU im. N E. Baumana (MVTU im Bauman)

SUBMITTED: June 20, 1960

Card 2/2

S/122/61/000/004/
D211/D303

AUTHOR: Orlov, P.N., Engineer

TITLE: The accuracy of machining through holes and slots of small dimensions by coordinate-broaching

PERIODICAL: Vestnik mashinostroyeniya, no. 4, 1961, 58-64

TEXT: The author describes a method of producing slots of square cross section. In the Metal Cutting Laboratory of MVTU im. Baumana (MVTU im Bauman) experiments were carried out on samples made of steel 45, having the following dimensions: 50 x 50 mm square, 20 - 70 mm long having a 20 mm diameter hole in the middle, whose center is given by coordinates X = Y = 25 + 0.05 mm. The hole in the specimen center had to be machined, the final shape being a square, of dimensions 20.8 x 20.8 with coordinates X_2 = 35.4 mm and Y_1 = 35.4 mm. The specimens were held in a special fixture which also served as guides for the broaching tool. The broaching tools had the following specifications: Pitch - 12 mm, rise per tooth - 0.08 mm,

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The accuracy of machining...

number of cutting teeth - 44. The experiments were carried out on a Schutte-horizontal tensile machine. The deviations from the prescribed coordinate values (X and Y) were measured on a -21 (UIM-21) microscope. The author emphasizes that the accuracy of machining is based on the X-Y coordinate system, whose origin is the lower left-hand corner of the specimen. It was found that the condition for accurate machining i.e. $H = Y_1$, and $\varphi = 90^o$ was satisfied by broaching tools having a clearance angle $> 0^o$ and "a" having a value of 0.043 to 0.09 mm. Operation no. 2 is carried out by using the slot produced in operation no. 1 for guiding the broaching tool. Since this slot is not deep enough, a lateral support -guide is used to increase the accuracy of operation no. 2. Operation no. 3 was carried out similarly to operation no. 1 and the broaching tool was so chosen as to give the required dimensions, ($B = 20.8^{-0.02}_{-0.03}$ mm.) Operation no. 4 was based on operations 1, 2 and 3 and gave the final dimensions, i.e. a square of 20.8 x 20.8 mm. This operation also required a lateral support. The measure

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The accuracy of machining...

of accuracy along the length of the square slot is given by the quantity and this is illustrated for various lengths of specimens, and different broaching tools. The author claims that by the above-described method an accuracy of 0.02 - 0.03 mm can be achieved, also a profile accuracy of 2 - 2a. The author concludes that in order to achieve this degree of accuracy the broaching tool must have a rake angle of $\gamma = 8^{\circ} \div 15^{\circ}$ and a clearance angle of $\lambda = 0^{\circ} \div 8^{\circ}$; and $\gamma = 6^{\circ} \div 8^{\circ}$, $\gamma = 2^{\circ} \div 8^{\circ}$ if the broaching tool is guided by lateral support-guides and by previously obtained slots. There are 2 tables and 10 figures.

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S/122/61/000/010/009/011
D221/D304

AUTHOR: Orlov, P.N., Engineer

TITLE: Accuracy of coordinate broaching external surfaces

PERIODICAL: Vestnik mashinostroyeniya, no. 10, 1961, 61 - 65

TEXT: The Laboratory of Metal Cutting MVTU im. Bauman carried out experimental investigations on the rational design of broaches and fixtures for the keyway type of tools. A number of specimens in steel 45 were made with a П type of shape, two sets of broaches with different forms of cutting edges, and a special fixture. All broaches had the same pitch t, height increment of teeth a_z, number of cutting teeth z_p, calibrating (burnishing) teeth z_c, depth of chip cavities h_o, length of front and rear guiding parts l_f, l_r. Keyway with a depth h = 4.5 mm, and width s = 20 and 51 mm were machined in a horizontal braching machine made by Schütte. Errors in the profile and its coordinates were measured by the Universal Microscope УИМ-21 (UIM-21). Specimens were rigidly clamped in the

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fixture so as to maintain the accuracy of coordinate, y = H, in r-- spect to the base of fixture's guide. Errors due to various clearances are tabulated. At the beginning of cutting action the broach is guided by the keyway only, whereas towards the end of machining it is supported by the sides of broached groove as well. Experiments revealed that enlargement of groove at the start of machining is not greater than clearance. Depth of enlargement in some grooves attained 1/3 of broaching allowance. Enlargement of width and errors of profile and its coordinates depend upon the following clearance, length of guideway, latter's height, out-of-line between slide of the broaching machine and guide of keyway, errors in seating the broach in the chuck of machine, errors in setting the unit as well as in fixing the specimen in fixture. The height should be chosen by considering the strength of broach and its clamping arrangement. The length of the guide in the fore and aft of the broached workpiece must at least equal the length of the latter. Greatest accuracy was obtained with broaches working on principle of profile generating. The clearance must be designated on the basis of accuracy requirements of the profile and its location, as well as by taking into account the residual curvature and

length of guide etc. Dimensions of key and keyway in relation to width and height of first cutting tooth are fixed in accordance with data obtained by A.V. Shchegolev (Ref.2: Koordinatnoye protyagivaniye otverstiy, R.M.V., 1948). The length of front and rear guide parts of broach should be designed with regard to clearance between key and keyway, length of broached component, geometrical dimensions of broach etc. The length of the rear guide depends on possible additional cutting-in of last teeth due to elastic deformations and lift of broach in the jaws of chuck produced by the bending moment of the cutting force, $\bar{P}_z + \bar{P}_y$. This force should be directed through the supporting surface of rear guide, i.e.

$$\operatorname{tg} \frac{P_y}{P_z} \qquad \operatorname{tg} \frac{H}{l_k + l_z},$$

where P_y and P_z are vertical and horizontal components of force for broaching. Consequently, the accuracy of coordinate broaching of external grooves and contour depends upon clearance of the keyway, ratio of geometrical dimensions of broach and its guideway, as well as on precision in setting the workpiece in the fixture. Acuracy in

Accuracy of coordinate broaching ... S/122/61/000/010/009/011
D221/D304

the case of a three-sided guide is higher than with keyways. There are 4 figures, 5 tables and 3 Soviet-bloc references.

Card 4/4

ORLOV, P.N.

Local stresses in flat broaches. Stan. i instr. 32 no. 5:27-30 My '61.
(MIRA 14:5)

(Broaching machines)

ORLOV, P.N.

Methods for preventing vibrations of broaches during coordination boring. Stan.i instr. 32 no.8:14-16 Ag '61. (MIRA 14:8)

(Broaching machines—Vibration)

KON'KOV, V.V.; ORLOV, P.N.

Increasing the precision of machining key grooves. Stan.i instr. 34 no.3:28-29 Mr '63. (MIRA 16:5)
(Broaching machines)

ORLOV, P.N.; KON'KOV, V.V.; TERESHCHENKO, L.M.

Improving surface quality in external broaching. Stan.i instr. 35 no.2834-35 F'64 (MIRA 17:3)

ORLOV, P. P.

USSR/Electricity - Electric Power Plants

Card : 1/1

Authors : Orlov, P. P., Engineer

Title : Near the city of Gorkiy, USSR

Periodical : Nauka i Zhizn', 6, 4 - 6, June 1954

Abstract : Report dealing in the construction of the Gorkiy hydroelectric plant situated on the Volga river north of the city and close to the town of Gorodets. Map showing location of the plant is included. Illustrations, drawings.

Institution : ....

Submitted : ....

ORLOV, P.P.

Observations of solar radiation in Volgograd on February 15, 1961, by means of a gas-discharge counter. Biul.VAGO no.32:35-36 '62. (MIRA 15:11)

1. Volgogradskoye otdeleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva.
(Solar radiation--Observations) (Nuclear counters)

ORLOV, P.P.

Methods of purifying and utilizing sulfurous and highly sulfurous mazuts; scientific session of the Department for the Physical and Technical Problems of Power Engineering. Vest AN SSSR 34 no.10: 79-81 O '64. (MIRA 17:11)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

ORLOV, P.P.

In the department of physical and technical problems of power engineering. Izv. AN SSSR. Energ. i transp. no.2:151-157 Mr-Ap '65. (MIRA 18:6)

L 24072-66 EWT(l)/ETC(f)/EPF(n)-2/EWG(m)/EWA(d)/T/ETC(m)-6/EWA(l)
ACC NR: AP6014967 IJP(c) JKT/WW/GG/AT SOURCE CODE: UR/0281/65/000/002/0151/0157

131
113
8

AUTHOR: Orlov, P. P.

ORG: none

TITLE: News in the division of physical and engineering problems of the power industry

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 2, 1965, 151-157

TOPIC TAGS: physics conference, engineering conference, electric power production, electric power transmission, petroleum refining, gas turbine, steam turbine, thermodynamics, hydrodynamics, plasma research, heat exchanger, liquid flow, boiling, electromagnetism

ABSTRACT: January 5 of this year marked the annual meeting of the Division of Physical and Engineering Problems of the Power Industry held in the conference hall of the Presidium of the Academy of Sciences, USSR. Work done during 1964 was discussed.
On January 8, 1964 the general meeting of the Division of Physical and Engineering Problems of the Power Industry disqussed problems dealing with the fuel-energy balance of the USSR. This deals with the most efficient use of natural energy sources, the optimum level of electrification of the national economy, and the effect of power on the development and location of production facilities. It was recommended to create a scientific council on the

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overall problems of the power industry, to deal with scientific methods for making engineering economics calculations in the power industry and methods of using electric computers.

On 13 and 14 May 1964, there was a scientific session of the Division of Physical and Engineering Problems of the Power Industry on the purification and use of sulfurous and highly sulfurous petroleum residues in the power stations of the Soviet Union. There has recently been a considerable increase in the amount of highly sulfurous petroleums in the total production of the USSR. It is possible to get tens of millions of tons of liquid boiler fuel every year, but the high sulfur content makes them difficult to use. Also, large amounts of valuable products are carried away by the smoke.

On 18 and 19 May 1964, the Division held a scientific session prepared by the commission on gas turbines, dealing with the problems of building gas turbines for the large scale power industry. Although greatest attention is given to high powered steam turbines operating at high and super high steam conditions, an important effect on the speed of electrification and the efficiency of operation of the stations may be exerted by the use of gas turbine and steam-gas installations of high power, the session recommended to the State Committee on Coordination of Scientific Research Work to take measures for speeding up scientific studies at the universities and industrial institutes. These recommendations are included in the plan for 1965.

In addition to the work on large scale power and long transmission lines, great importance attaches to transportation (traction) power of all types.

The total power of transportation engines greatly exceeds the power of electrical stations, but they consume comparable amounts of fuel. Definite advances have been made in developing engines of various types for transportation, both in the field of scientific studies and in building new engines.

A considerable contribution has been made by the division in the development of atomic energy. The Soviet Union has the first reactor in the world using nuclear super heat of the steam at a power of 100 MW. The "Romashka" equipment is in operation, which gives direct conversion of the heat of nuclear reactions to electrical energy by means of silicon-germanium converters.

Among the fundamental studies forming the scientific basis for the development of the power industry, an important role is played by heat physics. The studies include the thermal properties of operating media, coolants, and constructional materials, particularly at high temperatures, studies in the associated fields of chemical thermodynamics, and in heat and mass exchange, particularly at high temperatures and high heat fluxes, in the field of two-phase hydrodynamics and gas hydrodynamics of blade machines, a number of problems in chemical kinetics, particularly combustion at very high over-loads, the behavior of mineral impurities in the fuel and interactions between materials and the operating medium at high temperatures.

In addition to the basic improvements in turbine equipment, it is necessary to push work on fundamentally new ways of producing electrical energy on the basis of organic and nuclear fuel -- by direct conversion of thermal energy or chem-

ACC NR: AP6014967

ical energy of oxidation, skipping the heat stage, into electrical energy. Only these methods (usually in combination with a turbine) promise an increase in the efficiency to 50%, and possibly higher. A large amount of work still has to be done in new fields of science (magnetohydrodynamics and the properties of a low temperature plasma, long lasting heat resisting materials, and powerful magnetic systems using superconducting materials, etc.). Definite advances in small installations have been made on other methods of transforming thermal energy into electrical energy -- thermoionic and thermoelectrical methods.

II

The Scientific Research Institute for High Temperatures has obtained new data on the thermal and thermodynamic properties of materials over a wide range of temperatures, including the properties of alkali metals and their vapors, as well as interesting results on equilibrium and nonequilibrium low temperature plasma. Methods have been developed for producing new structural materials using nitrides, borides, and carbides for temperatures up to 3000° C. Advances have been made in producing superconducting magnetic systems.

III

The Siberian Power Institute has continued theoretical and experimental work on finding economically well founded proportions for the development of the power and fuel industry for the next 15-20 years, and up to the end of the 20th century. Calculations have been made for optimizing a unified electrical system for Siberia for the period up to 1975. Work has been started on experimental samples of cybernetic regulators and control devices. Work has

been done on overall optimazation of the parameters and circuits of thermal power cycles (including magneto-hydrodynamic) using electronic computers. A new method has been developed for producing smoke free briquettes of semi-coke for heating buildings, which is an effective means of improving the conditions in the air of the cities of Eastern Siberia.

The heat physics institute of the Siberian Division, Academy of Sciences, USSR has developed the basis of the theory of heat exchange in turbulent flow. Theoretical solutions have been obtained for heat exchange in free convection under various conditions. Theoretical formulas give the instant the steam phase is formed upon the surface. Theoretical work has been done on flow of liquids with variable physical properties, as well as schemes for power plants using low boiling materials for geothermal sources. Geothermal sources have been used for refrigerating machines and heat pumps. Studies have been made of the properties of materials over a wide range of temperatures, and at high pressures, up to 45,000 atm quasi-hydrostatic pressure and up to 11,000 atm hydrostatic pressure.

The Institute of Theoretical and Applied Mechanics of the Siberian Division, Academy of Sciences, USSR has done a large amount of work on steam-gas equipment as well as on gasifying sulfurous petroleum residues to obtain elementary sulfur or sulfuric acid, together with the problem of separating vanadium from the sol produced during gasification.

ACC NR: AP6011967

Studies are being made on plasmotrons for alternating and direct current. A plasmotron has been built for cracking methane, and studies are being made on using the plasmotron for drilling hard rocks.

The Institute of Engineering Heat Physics of the Academy of Sciences, Ukr SSR has extended its work on boiling of pure liquids and solutions. The first reliable data have been obtained on the growth kinetics of steam bubbles during boiling of various liquids with widely different physical properties, and of aqueous solutions of salids, and a relation has been found between the growth rate of the bubbles and the pressure. New methods have been developed for speeding up heat and mass exchange in the production of chemical fibers as well as a method for evaporating low molecular compounds and moisture from a polymer in the fluidized layer. Wide use has been made in industry of the methods developed at the institute for speeding up heat and mass exchange. New methods have been developed for cooling gas turbines, and the air cooling systems previously developed have been used in a number of installations.

The Institute of Electrodynamics of the Academy of Sciences, Ukr SSR is making studies in the field of generation and conversion of electrical energy, phenomena in super high powered turbogenerators, new methods of controlling electrical machines, frequency converters, and models for electromechanical and electrical systems, automation of electrical systems, and new electrical measurement methods. Electronic computers are being used for analyzing electrical circuits.

3

The Institute of Heat and Mass Exchange of the Academy of Sciences, White Russian SSR has developed a theory of high intensity nonequilibrium heat and mass exchange processes, including the finite transference rate, and the theory has been developed for turbulent transfer of the heat and mass of a material in transient heat and mass exchange during interaction of a capillarily porous solid with a gas stream. A new method has been developed for heat treatment of capillarily porous damp materials, using electric current at commercial frequency and ferromagnetic elements.

The Power Institute of the Academy of Sciences, Latvian SSR has developed more exact methods for calculation of the fuel-energy balance by using probability characteristics, including the inaccuracies and uncertainties in the calculational parameters. A dynamic heat exchanger has been developed using both mechanical vibrations and pulsations of the stream, which increases the efficiency of heat exchange by a factor of almost two. The theoretical basis have been worked out for progressed automatic control of the heating and ventilating systems of industrial buildings.
Studies have been made on heat exchange of a moving electrically conducting medium in a magnetic field, as well as on the magnetic field in synchronous machines, and finally on the electromagnetic processes in power, semiconducting converters.
The Power and Electrical Engineering Institute of the Academy of Sciences, Lithuanian SSR has made studies in connection with the design of the Black Sea-Baltic route, as well as an analysis of the operation of the hydroelectric

stations on the Neman River in combination with the other hydroelectric stations of the Northwestern USSR. Studies have been made on materials at high temperatures and large gas flow rates in aggressive and nonaggressive media. The heat-energy balance of the Lithuanian SSR has been worked out up to 1970. The Institute of Thermal Physics and Electrophysics of the Academy of Sciences Estonian SSR has done work on designing the mixing chambers of gas and steam-gas turbines, as well as on building more powerful gas burners. Work has been done on autooscillation of a three-phase magnetic amplifier to be used in producing new types of static commercial frequency converters.

The Division of Power and Water Economy of the Kazi Branch of the Academy of Sciences, USSR has made studies on the fuel-energy balance of the Kazi economic region up to 1970. Studies have been made of the effect of projected reservoirs on the natural conditions in the surrounding territory.

The Power Laboratory of the Mining and Metallurgical Institute of the Kol'sk branch has analyzed the data on the operating conditions of power systems in the northwest and developed methods for finding the loading effect when power systems are connected together. [JPRS]

SUB CODE: 20, 13, 10, 11 / SUBM DATE: none / ORIG REF: 002

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L 24072-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m)/EWA(d)/T/ETC(m)-6/EWA(1)
ACC NR: AP6014967 IJP(c) JKT/WW/GG/AT SOURCE CODE: UR/0281/65/000/002/0151/0157

AUTHOR: Orlov, P. P.

ORG: none

TITLE: News in the division of physical and engineering problems of the power industry

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 2, 1965, 151-157

TOPIC TAGS: physics conference, engineering conference, electric power production, electric power transmission, petroleum refining, gas turbine, steam turbine, thermodynamics, hydrodynamics, plasma research, heat exchanger, liquid flow, boiling, electromagnetism

ABSTRACT: January 5 of this year marked the annual meeting of the Division of Physical and Engineering Problems of the Power Industry held in the conference hall of the Presidium of the Academy of Sciences, USSR. Work done during 1964 was discussed.
On January 8, 1964 the general meeting of the Division of Physical and Engineering Problems of the Power Industry discussed problems dealing with the fuel-energy balance of the USSR. This deals with the most efficient use of natural energy sources, the optimum level of electrification of the national economy, and the effect of power on the development and location of production facilities. It was recommended to create a scientific council on the

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overall problems of the power industry, to deal with scientific methods for making engineering economics calculations in the power industry and methods of using electric computers.

On 13 and 14 May 1964, there was a scientific session of the Division of Physical and Engineering Problems of the Power Industry on the purification and use of sulfurous and highly sulfurous petroleum residues in the power stations of the Soviet Union. There has recently been a considerable increase in the amount of highly sulfurous petroleums in the total production of the USSR. It is possible to get tens of millions of tons of liquid boiler fuel every year, but the high sulfur content makes them difficult to use. Also, large amounts of valuable products are carried away by the smoke.

On 18 and 19 May 1964, the Division held a scientific session prepared by the commission on gas turbines, dealing with the problems of building gas turbines for the large scale power industry. Although greatest attention is given to high powered steam turbines operating at high and super high steam conditions, an important effect on the speed of electrification and the effiqiency of operation of the stations may be exerted by the use of gas turbine and steam-gas installations of high power, the session recommended to the State Committee on Coordination of Scientific Research Work to take measures for speeding up scientific studies at the universities and industrial institutes. These recommendations are included in the plan for 1965.

In addition to the work on large scale power and long transmission lines, great importance attaches to transportation (traction) power of all types.

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The total power of transportation engines greatly exceeds the power of electrical stations, but they consume comparable amounts of fuel. Definite advances have been made in developing engines of various types for transportation, both in the field of scientific studies and in building new engines.

A considerable contribution has been made by the division in the development of atomic energy. The Soviet Union has the first reactor in the world using nuclear super heat of the steam at a power of 100 MW. The "Romashka" equipment is in operation, which gives direct conversion of the heat of nuclear reactions to electrical energy by means of silicon-germanium converters.

Among the fundamental studies forming the scientific basis for the development of the power industry, an important role is played by heat physics. The studies include the thermal properties of operating media, coolants, and constructional materials, particularly at high temperatures, studies in the associated fields of chemical thermodynamics, and in heat and mass exchange, particularly at high temperatures and high heat fluxes, in the field of two-phase hydrodynamics and gas hydrodynamics of blade machines, a number of problems in chemical kinetics, particularly combustion at very high over-loads, the behavior of mineral impurities in the fuel and interactions between materials and the operating medium at high temperatures.

In addition to the basic improvements in turbine equipment, it is necessary to push work on fundamentally new ways of producing electrical energy on the basis of organic and nuclear fuel -- by direct conversion of thermal energy or chem-

ACC NR: AP6011967

ical energy of oxidation, skipping the heat stage, into electrical energy. Only these methods (usually in combination with a turbine) promise an increase in the efficiency to 50%, and possibly higher. A large amount of work still has to be done in new fields of science (magnetohydrodynamics and the properties of a low temperature plasma, long lasting heat resisting materials, and powerful magnetic systems using superconducting materials, etc.). Definite advances in small installations have been made on other methods of transforming thermal energy into electrical energy -- thermoionic and thermoelectrical methods.

The Scientific Research Institute for High Temperatures has obtained new data on the thermal and thermodynamic properties of materials over a wide range of temperatures, including the properties of alkali metals and their vapors, as well as interesting results on equilibrium and nonequilibrium low temperature plasma. Methods have been developed for producing new structural materials using nitrides, borides, and carbides for temperatures up to 3000° C. Advances have been made in producing superconducting magnetic systems.

The Siberian Power Institute has continued theoretical and experimental work on finding economically well founded proportions for the development of the power and fual industry for the next 15-20 years, and up to the end of the 20th century. Calculations have been made for optimizing a unified electrical system for Siberia for the period up to 1975. Work has been started on experimental samples of cybernetic regulators and control devices. Work has

been done on overall optimazation of the parameters and circuits of thermal power cycles (including magneto-hydrodynamic) using electronic computers. A new method has been developed for producing smoke free briquettes of semi-coke for heating buildings, which is an effective means of improving the conditions in the air of the cities of Eastern Siberia.

The heat physics institute of the Siberian Division, Academy of Sciences, USSR, has developed the basis of the theory of heat exchange in turbulent flow. Theoretical solutions have been obtained for heat exchange in free convection under various conditions. Theoretical formulas give the instant the steam phase is formed upon the surface. Theoretical work has been done on flow of liquids with variable physical properties, as well as schemes for power plants using low boiling materials for geothermal sources. Geothermal sources have been used for refrigerating machines and heat pumps. Studies have been made of the properties of materials over a wide range of temperatures, and at high pressures, up to 45,000 atm quasi-hydrostatic pressure and up to 11,000 atm hydrostatic pressure.

The Institute of Theoretical and Applied Mechanics of the Siberian Division, Academy of Sciences, USSR has done a large amount of work on steam-gas equipment as well as on gasifying sulfurous petroleum residues to obtain elementary sulfur or sulfuric acid, together with the problem of separating vanadium from the sol produced during gasification.

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Studies are being made on plasmotrons for alternating and direct current. A plasmotron has been built for cracking methane, and studies are being made on using the plasmotron for drilling hard rocks.

The Institute of Engineering Heat Physics of the Academy of Sciences, Ukr SSR has extended its work on boiling of pure liquids and solutions. The first reliable data have been obtained on the growth kinetics of steam bubbles during boiling of various liquids with widely different physical properties, and of aqueous solutions of solids, and a relation has been found between the growth rate of the bubbles and the pressure. New methods have been developed for speeding up heat and mass exchange in the production of chemical fibers as well as a method for evaporating low molecular compounds and moisture from a polymer in the fluidized layer. Wide use has been made in industry of the methods developed at the institute for speeding up heat and mass exchange. New methods have been developed for cooling gas turbines, and the air cooling systems previously developed have been used in a number of installations.

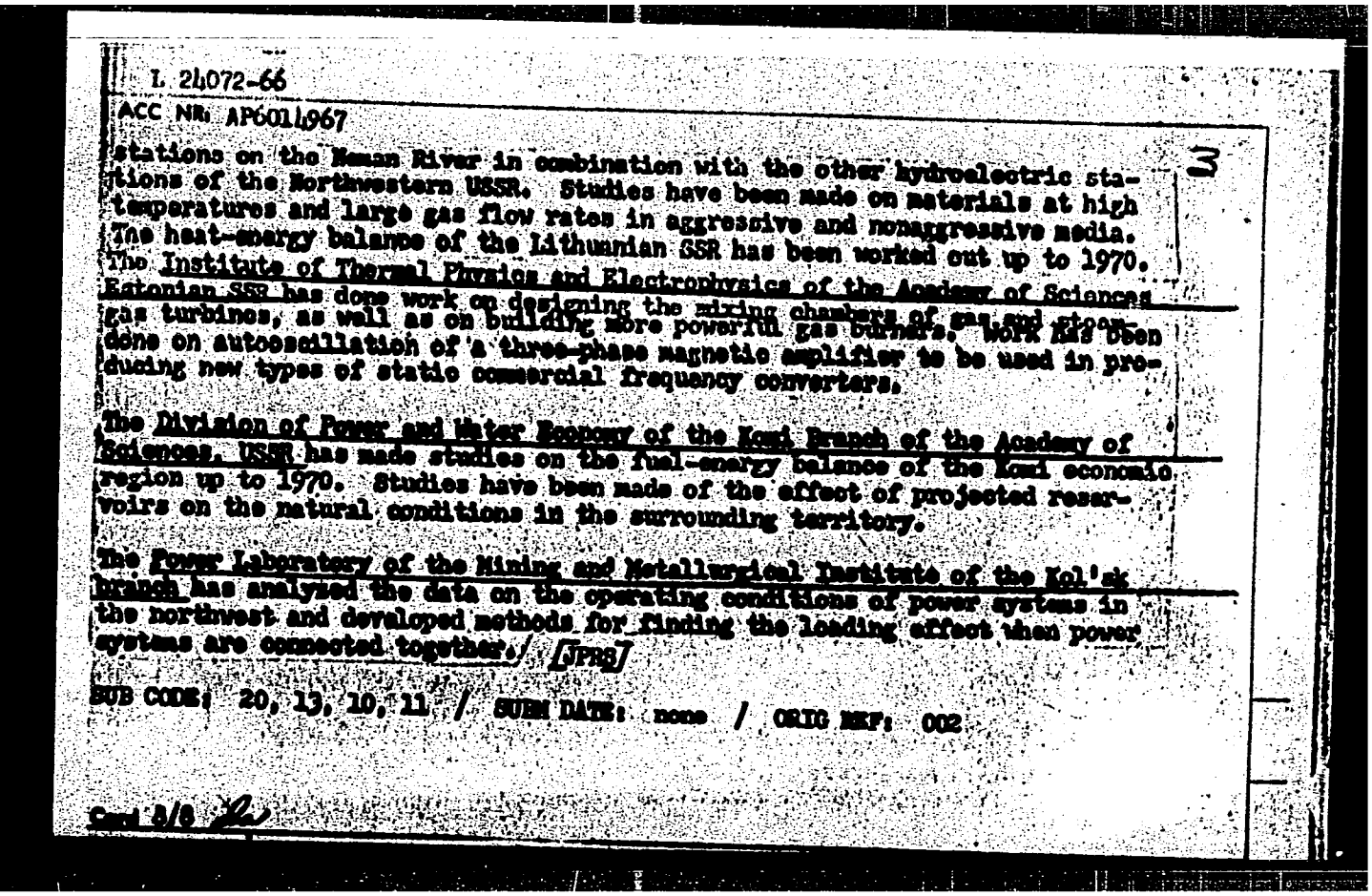
The Institute of Electrodynamics of the Academy of Sciences, Ukr SSR is making studies in the field of generation and conversion of electrical energy, phenomena in super high powered turbogenerators, new methods of controlling electrical machines, frequency converters, and models for electromechanical and electrical systems, automation of electrical systems, and new electrical measurement methods. Electronic computers are being used for analyzing electrical circuits.

The Institute of Heat and Mass Exchange of the Academy of Sciences, White Russian SSR has developed a theory of high intensity nonequilibrium heat and mass exchange processes, including the finite transference rate, and the theory has been developed for turbulent transfer of the heat and mass of a material in transient heat and mass exchange during interaction of a capillarily porous solid with a gas stream. A new method has been developed for heat treatment of capillarily porous damp materials, using electric current at commercial frequency and ferromagnetic elements.

The Power Institute of the Academy of Sciences, Latvian SSR has developed more exact methods for calculation of the fuel-energy balance by using probability characteristics, including the inaccuracies and uncertainties in the calculational parameters. A dynamic heat exchanger has been developed using both mechanical vibrations and pulsations of the stream, which increases the efficiency of heat exchange by a factor of almost two. The theoretical basis have been worked out for programmed automatic control of the heating and ventilating systems of industrial buildings.

Studies have been made on heat exchange of a moving electrically conducting medium in a magnetic field, as well as on the magnetic field in synchronous machines, and finally on the electromagnetic processes in power, semiconducting converters.

The Power and Electrical Engineering Institute of the Academy of Sciences, Lithuanian SSR has made studies in connection with the design of the Black Sea-Baltic route, as well as an analysis of the operation of the hydroelectric



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stations on the Neman River in combination with the other hydroelectric stations of the Northwestern USSR. Studies have been made on materials at high temperatures and large gas flow rates in aggressive and nonaggressive media. The heat-energy balance of the Lithuanian SSR has been worked out up to 1970. The Institute of Thermal Physics and Electrophysics of the Academy of Sciences Estonian SSR has done work on designing the mixing chambers of gas and steam-gas turbines, as well as on building more powerful gas burners. Work has been done on autooscillation of a three-phase magnetic amplifier to be used in producing new types of static commercial frequency converters.

The Division of Power and Water Economy of the Komi Branch of the Academy of Sciences, USSR has made studies on the fuel-energy balance of the Komi economic region up to 1970. Studies have been made of the effect of projected reservoirs on the natural conditions in the surrounding territory.

The Power Laboratory of the Mining and Metallurgical Institute of the Kol'sk branch has analyzed the data on the operating conditions of power systems in the northwest and developed methods for finding the loading effect when power systems are connected together. [JPRS]

SUB CODE: 20, 13, 10, 11 / SUBM DATE: none / ORIG REF: 002

Card 2/2

ACC NR: AP6030235 SOURCE CODE: UR/0030/66/000/008/0103/0104

AUTHOR: Orlov, P. P. (Candidate of technical sciences)

ORG: none

TITLE: Work on thermophysics and nuclear power engineering at the Academy of Sciences BSSR

SOURCE: AN SSSR. Vestnik, no. 8, 1966, 103-104

TOPIC TAGS: nuclear physics, power engineering, thermophysics, nuclear reactor, engineering reactor, research reactor, industrial nuclear application

ABSTRACT: On 17—19 May 1966, the Department of Physicotechnical Problems of Power-Engineering of the Academy of Sciences USSR held a session in Minsk to review the activities of the Heat and Mass Exchange and Nuclear-Power Institutes of the Academy of Sciences Byelorussian SSR. Other scientists from the Byelorussian, Latvian, Lithuanian, and Ukrainian republics also participated. The research work of the Heat and Mass Transfer Institute includes: problems of nonsteady-state heat and mass transfer, including the development of experimental methods for the determination of the thermophysical characteristics of various materials over a wide temperature range. These methods make it possible to determine the thermal conductivity, thermal diffusivity, and the thermal capacity from a single short-duration test. Heat and mass transfer in porous bodies and in plasma media under high temperatures, heat and mass transfer under fluidized conditions, the possibilities of using

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chemically reacting systems for the thermal protection of structural materials, and thermal conductivity of porous bodies have also been investigated at the Institute. The Nuclear Power Institute of the Academy of Scineces Byelorussian SSR was established in 1965. The institute's main research deals with the potential use of nuclear reactors and other radiation sources for radiation-chemical production processes. The institute's research reactor is used to study these processes, in particular the radiation-thermal cracking of petroleum products. Research work is also carried out in the field of the thermophysical properties of chemically reacting mixtures which are of practical interest to chemical technology and power engineering.

SUB CODE: 20, 18/ SUBM DATE: none/

Card 2/2

ORLOV, P.P.

Data on the agricultural significance of the hawfinch (Coccothraustes coccothraustes L.) and the turtledove (Streptopelia turtur L.) Zool.zhur.34 no.4 950-952 Jl-Ag '55. (MLRA 8:9)

1. Kafedra zoologii Melitopol'skogo gosudarstvennogo pedagogicheskogo instituta
(Finches) (Pigeons)

ORLOV, Pavel Pavlovich

[Homemade electronic apparatus and experiments made with them] Samodel'naia elektronnaia apparatura i opyty s nei; posobie dlia uchit lei. Moskva, Uchpedgiz, 1960. 115 p. (MIRA 15:8)

(Electronic apparatus and appliances)

KHOKHLOV, Ye.I., inzh.; ORLOV, P.S.

PB-2,1 attachment to single-beam mowing machines for pulse crops. Trakt. i sel'khozmash. 31 no.7:28-29 Jl '61. (MIRA 14:6)

1. Zavod imeni Ukhtomskogo.
(Mowing machines--Attachments)

38229. ORLOV, P. T.

Novaya kalininskaya myasosherstnaya poroda ovets-Sov. zootekhniya, 1949, No 3, s. 103-05

ORLOV, P.T., Cand. of Vet. Sciences
Moscow Veterinary Academy
"Epizootiological facts on the spread of rabies."
SO: Vet. 28 (8) 1951, p. 23

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ORLOV, P.T., Lect.
Moscow Vet. Acad.
"Measures in the fight against rabies."
SO: Veterinariia 29(1), 1952, p. 39

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Cand of Vet-Sci.
ORLOV, F. T., KALMYKOV, S. T.

GASTROENTERITIS

"Sintomitsin" treatment for acute gastroenteric illnesses in newborn calves. Veterinariia 29 no. 9, 1952.

Sci. Production Lab. for Fight Against Diseases of Young of Agricultural Animals, Ministry of Sovkhozes, RSFSR.

9. Monthly List of Russian Accessions, Library of Congress, November 1952, Uncl.

ORLOV, P. T.

USSR/Medicine - Veterinary, Organizational

Sep 53

"Reorganization of the Activities of Veterinary Diagnostic Laboratories," Docent P. T. Orlov, Moscow Vet Acad

Veterinariya, Vol 30, No 9, pp 3-7

The five-year plan for the development of animal husbandry in the USSR provides mainly an increase in the number of cattle. The new Veterinary Code of 1951 imposes specific duties upon the diagnostic laboratories and the veterinary specialists of

270T68

rayons and oblasts. The following organizations must provide practical guidance and training for all personnel: sci res vet exptl stas (NIVOS), zonal sci res vet inst (NIVI), and affiliates of the All-Union Inst of Exptl Vet Med (VIEV). The administrative unit of the veterinary service is the veterinary district. Chief Veterinarian of the Div of Agr of each rayon is responsible for all necessary veterinary measures within the rayon under his jurisdiction.

270T68

ORLOV, P.T.

Lecturer, Moscow Veterinary Acad. - "Synthomycin as a Medicinal Means in Lingering Dyspeptic Processes in Calves and as a Prophylactic Means in New Born Calves,"

VET: Vol 31, No 2, 1954.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

USSR / Farm Animals. Small Horned Stock. 1-8

Abs Jour: Ref Zhur-Biol., No 23, 1958, 105655.

Author : Orlov, I. T.
Inst : Grodno Agricultural Institute.
Title : Northern Short-Tail Sheep and Ways for Their Improvement.

Orig Pub: Tr. Grodnensk. s.-kh. in-ta, 1957, vyp. 3, 200-208.

Abstract: Northern short-tail sheep, small and with low yield of wool and with certain shortcomings of the exterior, but early maturing, are capable of coming in heat any time of the year and have a high reproductiveness (160-185%). The ewes supply a good sheepskin. It is recommended to effect the cross breeding of these sheep with Eng-

SHARABRIN, I.G., prof.; KOROPOV, V.M., prof.; ORLOV, P.T., dotsent

Feed quality as a basis of normal metabolism in animals.
Veterinariia 40 no.6:54-56 Je '63. (MIRA 17:1)

1. Moskovskaya veterinarnaya akademiya.

ORLOV, P. V.

"Psoroptosis in Cattle Under the Conditions in Stavropol'skiy Kray (Epizootiology, Clinical Aspects, Control Measures)." Cand Vet Sci, Stavropol' Agricultural Inst, Stavropol', 1953. (RZhBiol, No 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

ORLOV, P.V., aspirant.

Pathogenic role of itch mites (Sarcoptidae). Vest.ven.i derm. no.4:62 Jl-Ag '53. (MLRA 6:9)

1. Stavropol'skiy sel'skokhozyaystvennyy institut. (Scabies)

OBLOV, P.V., kandidat veterinarnykh nauk.

Control of psoroptosis in cattle. Veterinariia 33 no.3:45-50 Mr '56. (MLRA 9:5)

1. Stavropol'skiy sel'skiy sel'skokhozyaystvennyy institut.
(SCABIES) (CATTLE--DISEASES AND PESTS)

ORLOV, P.Yu.

Role of deformation lamellae in the formation of certain quartz maxima. Izv.vys.ucheb.zav.; geol.i razv. 2 no.8:71-75 Ag '59. (MIRA 13:4)

1. Moskovskiy gosudarstvennyy universitet.
(Quartz)

ORLOV, R.I.

Bases for the design of the structure of a repair cycle. Mashinostroitel' no.5:8-10 My '65. (MIRA 18:5)

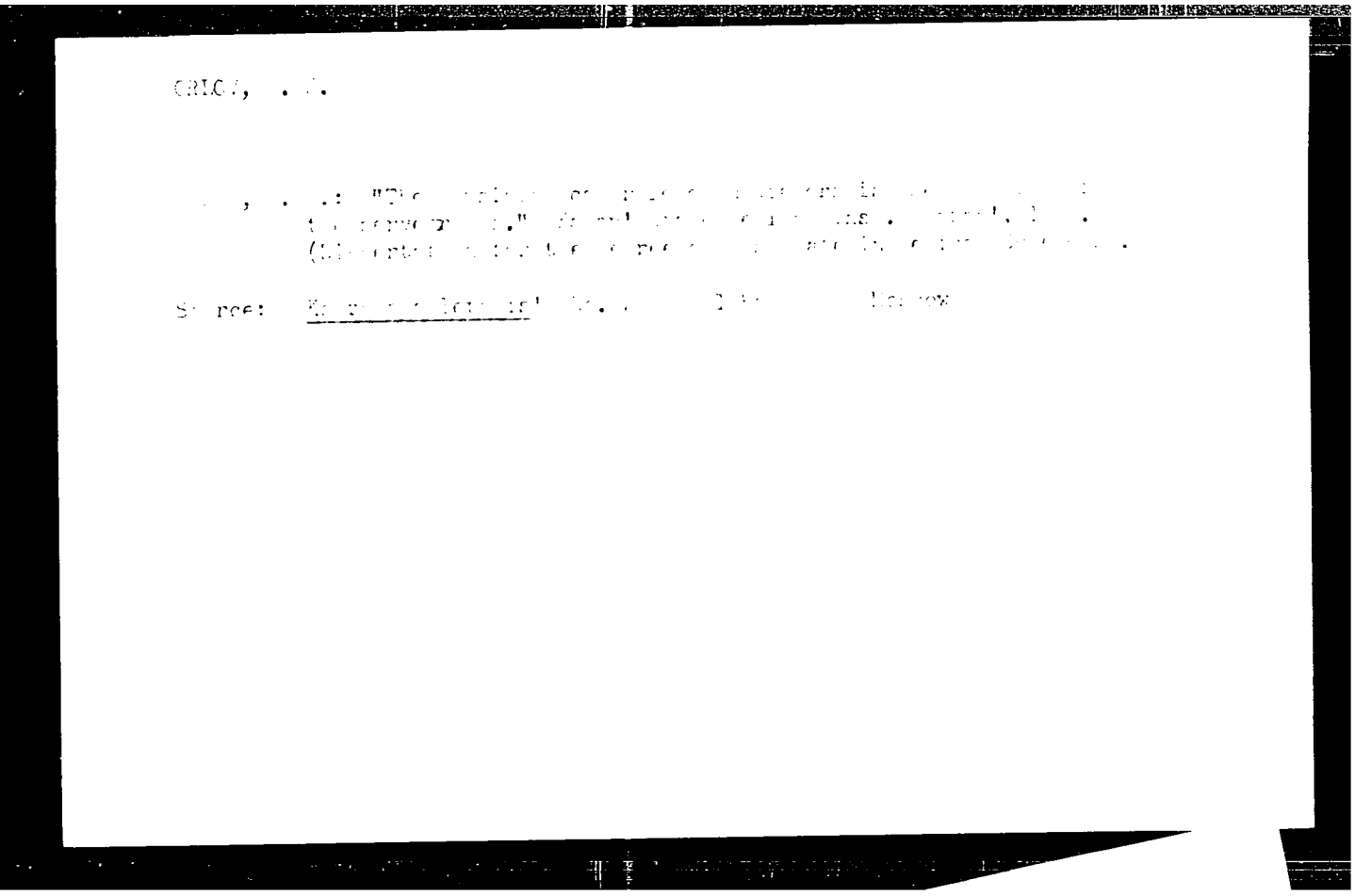
ORLOV, R.P.

Incorrect use of rural water supply souces in Ryazan Province.
Vod. i san. tekh. no.4:7-9 Jl'55. (MLRA 8:12)
(Ryazan Province--Water supply, Rural)

ORLOV, R.S., SHVALEV, V. N.

Application of certain physiological rules for clarification of symptoms of cerebral and cerebellar otogenous abscesses. Vest. oriniolar. Moskva 15 no.6: 30-34. Nov.-Dec. 1953. (CIML 25:5)

1. Assistant Departmental Physicians. 2. Of the Clinic for Diseases of the Ear, Throat, and Nose (Director -- Prof. N.N. Lozanov), Kazan' Medical Institute.



ORLOV R S.

T-9

USSR/Human and Animal Physiology. Nerve and Muscle Physiology.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55948.

Author : Zefirov, L.N., Kibyakov, A.V., Orlov, R.S.
Inst :
Title : The Role of Acetylcholine in the Mechanism of the Skeletal Muscles' Reflectory Tonus.

Orig Pub: Fiziol. zh. SSSR, 1956, 42, No 11, 971-976.

Abstract: A spinocortically dissected frog with exposed sciatic nerves was suspended and the nervation height of the digits was noted. After the nerve was severed, the paw which has lost its reflectory tonus became 4.5-14.0 mm longer. On the 4th to 9th day the removal of the pancreas, which caused an impairment to the formation of acetylcholine (I) in the organism, clearly lowered and even annihilated the tonus of

Kazan Med Inst

Card : 1/3

great

COMMUNIST CHINA/Human and Animal Physiology (Normal and Pathological). Nervous System. Vegetative Nervous System. T

Abs Jour : Ref Zhur Biol., No 6, 1959, 27021

Author : Orlov, R.S.
Inst :
Title : The Changes of Absolute and Relative Refractory Periods of Vegetative Nerves After Pancreas Removal.

Orig Pub : Shen-li hsueh-pao, Acta physiol. sinica, 1957, 21, No 3, 337-342

Abstract : 6-14 days after removal in cats of a considerable part of the pancreas, lengthening of the absolute and relative refractory periods of sympathetic and parasympathetic nerves of neck, increase of threshhold of their excitability, shortening and frequently disappearance of supernormal phase and decrease of lability were observed. Daily introduction of 1-2 ml of 1:10 000 solution of

Card 1/2

COMMUNIST CHINA/Human and Animal Physiology (Normal and Pathological). Nervous System. Vegetative Nervous System. T

Abs Jour : Ref Zhur Biol., No 6, 1959, 27021

acetylcholine with eserine into the muscle, starting with the 4th post-operative day, prevented the appearance of these changes. However, acetylcholine induced a short-lived increase of functional parameters of the nerve. Participation of acetylcholine in the regulation of functional condition of nerve fibers is confirmed.

Card 2/2

USSR / Human and Animal Physiology. Neuromuscular Physiology. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41639.

Author : Orlov, R. S.; Sharagin, A. G.
Inst : Not Given.
Title : A Generator of Paired Impulses of Electrical Tension.

Orig Pub: Fiziol. zh. SSSR, 1957, 43, No 5, 473-475.

Abstract: An electronic tube circuit for the production of 2 impulses of electrical tension of rectangular form is described. The amplitude of the impulses, the duration of each one of them and the interval between them is regulated in wide ranges and

Card 1/2

USSR/Human and Animal Physiology (Normal and Pathological) T
Neuro-Muscular Physiology.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26911

Author : Orlov, R.S.
Inst : -
Title : On the Problem of Influence of Acetylcholine on Functional Properties of Somatic Nerve.

Orig Pub : Fiziol. zh. SSSR, 1958, 44, No 7, 660-663

Abstract : The Experiments were conducted on ramuli of the aciatic nerve of cat which had preserved blood circulation but were separated from CNS. In order to study the absolute and relative refractory (RP) and exaltation phases, a vacuum-tube generator of paired impulses was utilized. The value of absolute RP of the nerve fluctuated within the limits of 0.8-2 msec. and of relative RP 3-6 msec. Exaltation phase lasted 20-25 m secondes in the interval of 12-20 m secondes from the first impulses. In the

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Chair Normal Physiology, 1st Med Inst im Pavlov
Leningrad

Abs Jour : Ref Zhur Biol., No 6, 1959, 26911

primary investigation of lability, its value was 370-450 imp/sec. After 5 minutes stimulation with the frequency of 50 Hertz, lability increased to 420-500 imp/sec. Later increase of the frequency of stimulation led to transformation of excitability rhythm and decrease of the amplitude of currents of effect. The rhythm of stimulation with frequency of 150-180 Hertz was optimal. In experiments on animals in which greater part of pancreas was removed the increase of the duration of absolute RP to 11-4.5 msec. was noted (in experiments on unoperated animals 0.9-2.5 msec); considerable lengthening of relative RP to 12-15 msec (in unoperated 3-6 msec) and reduction of range of exaltation phase. Distortion of the optimal rhythm of stimulation to the side of low frequencies to 80-100 imp/sec was noted. The removal of greater part of the gland induced a slowing down of the

USSR/Human and Animal Physiology (Normal and Pathological)
Neuro-Muscular Physiology. T

Abs Jour : Ref Zhur Biol., No 6, 1959, 26911

development and compensation of the wave of stimulation in the somatic nerve. -- F.I. Mumladze

Card 3/3

KHAMITOV, Kh.S., ORLOV, R.S.

Smooth muscle contractions. Fiziol.zhur. 44 no.12:1137-1139 D'58 (MIRA 12:1)

1. Kafedra normal'noy fiziologii Meditsinskogo instituta, Kazan'.
(MUSCLES, physiol.
contraction of smooth musc. (Rus))

ORLOV, R.S.

Role of acetylcholine in function of vegetative nerve trunks [with summary in English]. Biul.eksp.biol. i med. 45 no.1:3-7 Ja '58. (MIRA 11:4)

1. Iz kafedry normal'noy fiziologii 1-go Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova (zav. - chlen-korrespondent AMN SSSR A.V.Kibyakov). Predstavlena deystvitel'nym chlenom AMN SSSR M.D.Tushinskim.

(ACETYLCHOLINE, physiology,
in autonomic nerve funct. (Rus))
(AUTONOMIC NERVOUS SYSTEM, physiology,
acetylcholine (Rus))

UDRITS, Vil'gel'm Fomich; KHILOV, K.L.; LOZANOV, N.N.; SUPRUNOV, V.K.; ORLOV, R.S., red.; RULEBA, M.S., tekhn. red.

[Diseases of the ear, throat, and nose; concise manual for physicians] Bolezni ukha, nosa i gorla; kratkoe rukovodstvo dlia vrachei. Leningrad, Gos. izd-vo med. lit-ry Medgiz, Leningr. otd-nie, 1960. 559 p. (MIRA 14:9)
(OTOLARYNGOLOGY)

ORLOV, R.S.; KHAMITOV, Kh.S.

Changes in the lability of smooth muscle during the stimulation of sympathetic and parasympathetic nerves. Biul.eksp. biol. i med. 49 no.2:22-26 F '60. (MIRA 14:3)

1. Iz kafedry fiziologii I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova i kafedry fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.V.Kibyakov) Kazanskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(NERVOUS SYSTEM, SYMPATHETIC)
(NERVOUS SYSTEM, PARASYMPATHETIC)
(MUSCLE)

LEBEDEVA, L.I.; ORLOV, R.S.; YAKOVLEV, I.I.

Uterine contractions and blood acetylcholine during labor in women with arterial hypotensive types of vascular diseases. Akush.i gin. no.4:33-38 '61. (MIRA 15:5)

1. Iz laboratorii interotseptivnykh uslovnykh refleksov (zav. - prof. E.Sh. Ayrapetyants) Instituta fiziologii imeni I.P. Pavlova AN SSSR (dir. - akad. V.N. Chernigovskiy), kafedry fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.V. Kibyakov) i kafedry akusherstva i ginekologii (zav. - zasluzhennyy deyatel' nauki prof. I.I. Yakovlev) I Leningradskogo meditsinskogo instituta imeni akad. I.P. Pavlova.

(CHOLINE) (HYPOTENSION) (LABOR (OBSTETRICS))

ORLOV, R.S.

Intracellular recording of smooth muscle potentials during the irritation of stimulating and inhibiting nerves. Fiziol. zhur. 47 no.4:500-503 Ap '61. (MIRA 14:6)

1. From the Normal Physiology Chair, Pavlov 1st Medical Institute, Leningrad.
(MUSCLE) (ELECTROPHYSIOLOGY)

LEBEDEVA, L.I.; ORLOV, R.S.

Electrical activity of the rectus abdominis muscle in women during labor. Kaz.med.zhur. no.4:41-42 Jl-Ag '62. (MIRA 15:8)

1. Laboratoriya interotseptivnykh uslovnykh refleksov (zav. - prof. E.Sh.Ayrapet'yants) Instituta fiziologii imeni I.P.Pavlova AN SSSR, kafedra akusherstva i ginekologii (zav. - prof. I.I.Yakovlev) i kafedra normal'noy fiziologii (zav. - prof. A.V.Kibyakov) 1-go Leningradskogo meditsinskogo instituta imeni akademika Pavlova.
(LABOR (OBSTETRICS)) (MUSCLES) (ELECTORMYOGRAPHY)

ORLOV, R.S.

Transfer of impulses from the sympathetic motor nerve to the smooth muscle. Fiziol. zhur. 48 no.3:342-348 Mr '62. (MIRA 15:4)

1. From the Department of Physiology, I.P.Pavlov Medical Institute, Leningrad.
(MUSCLES--INNERVATION) (NERVOUS SYSTEM, SYMPATHETIC)

ORLOV, R.S.

Presynaptic character of the pessimum in the motor innervation of the smooth muscle. Biul. eksp. biol. i med. 53 no.4:3-7 Ap '62.
(MIRA 15:4)

1. Iz kafedry normal'noy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.V.Kibyakov) I Leningradskogo meditsinskogo instituta imeni akademika I.P.Pavlova. Predstavlena deystvitel'nym chlenom AMN SSSR P.S.Kupalovym.

(MUSCLES--INNERVATION)

ORLOV, R.S.

"Spontaneous" electric activity of individual cells of smooth muscles before and after denervation. Fiziol. zhur. 49 no.1: 115-121 Ja '63. (MIRA 17:2)

1. From the Department of Physiology, I.P. Pavlov Medical Institute, Leningrad.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

ORLOV, R.S.

Transmission of inhibitory impulses from nerve to smooth muscle and the interrelationship of stimulatory and inhibitory innervation. Fiziol. zhur. 49 no.5:575-582 My '63.

(MIRA 17:11)

1. From the Department of Physiology, Pavlov Medical Institute, Leningrad.

KIBYAKOV, A.V.; ORLOV, [illegible]

Electric ex[illegible] eksr. biol. i med. 55 [illegible] 1985)

1. Iz kafedry [illegible] doma AMN [illegible] skogo Inst[illegible]

SVETLAKOV, Mikhail Ivanovich; ORLOV, R.S., red.

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