

POZAR, Hrvoje, prof. dr. inz.; BUTARA, Slavko, inz. (Kraljevac)

Productivity of the Hydroelectric-Power Plant Kraljevac  
and its role in the development of electrification of  
Dalmatia. Energija Hrv 11 no.1/2:19-25 '62.

1. Elektrotehnicki fakultet i suradnik Instituta za elektroprivredu,  
Zagreb, Proleterskih brigada 37 (for Pozar). 2. Hidroelektrana  
Kraljevac (for Butara).

PLETNEV, B.D.; BUTAREVA, T.A.

Modified postepilatory treatment in fungus diseases. Vest. ven. i  
derm. 30 no.4:53 J1-Ag '56. (MLRA 9:10)

1. Iz Chebaksarskogo respublikanskogo kozhno-venerologicheskogo  
dispansera.

(SCALP--DISEASES) (HAIR, REMOVAL OF)

BUTARWICZ, Janina; INDULSKI, Janusz

Organization and results of prophylactic gynecological examinations of female industrial workers in Lodz in 1961. Zdrow. publiczne no.6:195-203 Je '65.

I. Z Zakladu Organizacji Ochrony Zdrowia Akademii Medycznej w Lodzi (Kierownik: dr. med. J. Indulski).

BUTARIN, N. S.

37436. Kratkiye itogi raboty po sozdaniyu novoy porody ovets<sup>A</sup> orkharomerinos.  
Izvestiya Akad. Nauk. Kazakh. SSR, No. 71, seriya biol., vyp. 5, 1949, s. 10-57.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

BUTARIN, N. S.

37437. BUTARIN, N. S., ES'KOV, P. A. i DZHIMBEYEV, L. TS. Sravnitel'naya produktivnost' ovets apkhromerinos i drugikh tonkorunnykh porod. Izvestiya Akad. Nauk. Kazakh. SSR, No. 71, seriya biol., vyp. 5, 1949, S. 58-64--Bibliogr: 8 nazv.

SO: Letopis' Zhurnal'nykh Statay, Vol. 7, 1949

BUTARIN, N.S., kandidat biologicheskikh nauk.

Significance of remote interspecific hybridization of animals in Kazakhstan.  
Vest.AN Kazakh.SSR 10 no.6:55-60 Je '53. (MLA 6:8)  
(Kazakhstan--Hybridization) (Hybridization--Kazakhstan)

~~Butarin, N. S.~~

USSR/ Agriculture - Stock raising

Card 1/1 : Pub. 123 - 7/13

Authors : Butarin, N. S.; Yes'kov; Miletskiy, D. M.; and Bagrovskaya, N. M.

Title : Experiments in fattening medium-type hybrids from wild boars and domestic sows on a non-concentrated type of feed

Periodical : Vest. AN Kaz. SSR, 11/2, 61-66, Feb 1954

Abstract : The belief in the use of concentrated feed in fattening hogs is held to be erroneous and extensive data are collected from experimentation with different kinds of hybrids and different kinds of feed. An analysis of these data shows that even more pork is produced with the less concentrated feed at a great saving of outlay. Ten Russian references (1943-1951). Tables.

Institution : ....

Submitted : ....

BUTARIN, N. S.

USSR/ Agriculture - Stock breeding

Card 1/1 : Pub. 123 - 12/17

Authors : Butarin, N. S.; Yes'kov, P. A.; Milet'skiy, D. M.; and Bagrovskaya, N. N.

Title : Increasing the productivity of sows of large white-stock by means of double mating with different boars.

Periodical : Vest. AN Kaz. SSR 11/1, 105-109, Jan 1954

Abstract : An account is given of controlled experimentation with the crossing of sows with a single boar and with several boars, with comparative figures of the number of offspring and individual weights at various periods. Eleven Russian references (1940-1953). Table.

Institution : ...

Submitted : ...



BUTARIN, N.S.; YES'KOV, P.A.; MILETSKIY, D.M.; LI, V.A.

Some results of experiments in feeding modified lard-making rations  
to hybrid swine. Vest. AN Kazakh. SSR 13 no.3:95-99 Mr '57.  
(Swine--Feeding and feeding stuffs) (MLRA 10:6)

BUTARIN, N. S., LOGINOVA, N. V., LOPYRIN, A. I., GIGINEYSHVILI, N. S.,  
RANKHIMOV, A. A.

"An attempt making creative use of the Mitshurin method of remote  
hybridization for the purpose of the selection of agricultural animals."

reported at Conference on Problem of Heredity and Variability, held at  
Institute of Genetics, AS USSR, 8-14 Oct 1957  
Vestnik AN SSSR, 1958, Vol. 28, No. 1, pp. 127-129 (author Kushner, Kh. F.)

BUTARIN, Nikolay Savvich [deceased]; ISENZHULOV, A.I., kand.  
biol. nauk, otv. red.; ALEKSANDRIYSKIY, V.V., red.;  
SHEVCHUK, T.I., red.

[Remote hybridization in animal husbandry; argali Merino  
sheep and hybrid swine] Otdalennaya gibridizatsiya v zhi-  
votnovodstve; arkharomerinos i ginridnaya svin'ia. Alma-  
Ata, Nauka, 1964. 209 p. (MIRA 18:3)

BUTARIN, N.S. [deceased]; BOL'SHAKOVA, Ye.V.

Change in the wool cover of crossbreds in developing the argali  
Merino sheep variety of Kazakhstan. Izv. AN Kazakh. SSR. Ser. biol.  
nauk no.2:60-65 '63. (MIRA 17:10)

BUTAROV, I. N.

25921

K. P. D. stacionarnoy chasti pri utilizatsii tepla, vykhlopного para pakovozon,  
izvestiy Tomskago. politekh. in-ta Kirova. T. LXVI, vyp. 2, 1948. s. 51-56.

SO: Letopis' No. 34

BUTAYEV, B. M.

"Pharmacological Investigation of 'Paramion,' a New Synthetic Preparation With an Action Similar to That of Surare." Cand Med Sci, Inst of Experimental Medicine, Acad Med Sci USSR, Leningrad, 1953. (RZhBiol, No 2, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

BUTAYEV, B. M.

USSR/Pharmacology. Pharmacognosy. Toxicology - Analgesics.

T-3

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71675

Author : Butayev, B.M.

Inst :

Title : The Effect of Paramion on Decerebrate Rigidity and Morphine Spasms of the Tail.

Orig Pub : Byul. Eksperim. Biol. i Meditsiny, 1956, 42, No 8, 55-57

Abstract : Tests were done on 19 cats. The animals were decerebrated above the vestibular nucleus, than tied to the table in a way that the fore-extremities remained free; they stretched upwards due to arising rigidity. Intravenous administration of paramione (I), in 30-250  $\gamma$ /kg doses (not affecting the breathing) produced relaxation of rigidity, the forelimbs bent in the joints and fell towards the body. In 1-3 $\frac{1}{2}$  hours the rigidity was gradually reestablished. In mouse tests the abdominal introduction of I in 0.1-0.2  $\gamma$ /kg abolished the morphine induced tail

Card 1/2

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USSR/Pharmacology. Pharmacognosy. Toxicology - Analgesics.

T-3

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71675

spasm (in 21 out of 24 mice). An analogous effect is observed in pyrolaxone administration (in doses 20 times the I doses).

Iz laboratorii obshchey farmakologii (zav.-chlen-korrespondent AMS SSSR prof. V. M. Karasik) otedela farmakologii Instituta eksperimental'noy meditsiny (dir.-chlen-korrespondent AMN SSSR prof. D. A. Biryukov) AMN SSSR, Leningrad. Predstavlena chelenom AMN SSSR V. N. Chernigovskim.

Card 2/2

- 24 -



COUNTRY : USSR V  
CATEGORY : Pharmacology and Toxicology. Cholinergics  
ABS. JOUR. : RZhBiol., No. 1 1959, No. 4502  
AUTHOR : Butayev, B. M.  
INST. : -  
TITLE : On the Antagonism Between Proserine /Neostigmine/ and Paramion /meso-3,4-diphenylhexane-bis-trimethyl-ammonium Iodide/  
ORIG. PUB. : Farmakol. i toksikologiya, 1957, 20, No 6, 60-61  
ABSTRACT : Subcutaneous introduction of proserine (I) into frogs in a dose of 2 mcg/g prevents the depression of the dorsal reversion reflex caused by paramion (II) administered in a dose of mcg/g, or accelerates its restoration by ten times. Under the influence of the previous subcutaneous injection of I (0.05 mcg/g), poisoning by II develops more slowly in mice, and the number of

CARD: 1/2

18

L 28148-65 SUT:1/241(b) Pa-4 RO  
ACCESSION NR: AP5005775

S/001076/1111

AUTHOR: Butayev, B. M.

TITLE: Cholinomimetic effects of certain Soviet drugs with curare-like action

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 11, no. 1, 1966, pp. 11-15

TOPIC TAGS: animal physiology, drug treatment, drug

Abstract: Tests with paramion and pyrolaxon -- curare-like compounds -- demonstrated that these compounds can cause contraction of an isolated tonic muscle of a frog stomach. Orig. art. has 2 figures and 1 table.

ASSOCIATION: Kafedra farmakologii, Leningradskiy pediatricheskiy meditsinskiy institut (Department of Pharmacology, Leningrad Institute of Pediatric Medicine)

SUBMITTED: 04Feb63

ENCL: 00

SUB CODE: LS

NO REF SOV: 003

OTHER: 001

JPRS

Card 1/1

BUTAYEV, D. A.

"Investigation of the Straight-Axial Intake Pipes of Water Turbines,"  
Thesis for degree of Cand Technical Sci. Sub 9 Oct 50, Moscow Order of Labor  
Red Banner Higher Technical School imeni N. E. Bauman.

Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950.  
From Vechernyaya Moskva, Jan-Dec 1950.

BUTAYEV, Davlet Aslanbekovich; KALMYKOVA, Zinaida Alekseyevna, PODVIDZ, Lev Grigor'iyevich; POPOV, Kirill Nikolayevich; ROZHDESTVENSKIY, Sergey Nikolayevich; YAN'SHIN, Boris Ivanovich; KUKOLEVSKIY, I.I., professor, redaktor; NEKRASOV, B.B., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Book of problems in hydraulics for mechanical engineering schools]  
Zadachnik po gidravlike dlia mashinostroitel'nykh vuzov. Pod red.  
I.I.Kukolevskogo. Moskva, Gos. energ. izd-vo, 1956. 343 p. (MIRA 10:1)  
(Hydraulics--Problems, exercises, etc.)

SOV/124-58-7-7653

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 45 (USSR)

AUTHORS: Podvidz, L.G., Butayev, D.A.

TITLE: The Effect of the Shape of a Curved Draft Tube on its (Hydraulic) Efficiency (Vliyaniye formy izognutoy otsasyvayushchey truby na yeye koeffitsiyent poleznogo deystviya)

PERIODICAL: V sb.: Gidromashinostroyeniye (MVTU, Vol 71). Moscow, Mashgiz, 1957, pp 25-36

ABSTRACT: Set forth briefly are the results of an investigation of curved draft tubes of axial-flow variable-pitch-blade water turbines conducted for the purpose of improving their efficiency characteristics without the necessity of changing the height of the draft tube. The investigation, in various modified forms, was made with a model of the hydraulically effective section of the turbine on an air-turbine stand. To evaluate the characteristics of the draft tubes, their efficiency was determined by measuring the flow through them with spherical pressure-measuring heads placed in their inlet sections. Two experimental units were constructed: one to investigate the draft tubes in an untwisted axial flow, the other to study them under the real flow

Card 1/2

SOV/124-58-7-7653

The Effect of the Shape of a Curved Draft Tube (cont.)

conditions existing behind a turbine rotor. Of all the various types of draft tube examined, most efficient was found to be one with an elongated horizontal diffuser and an enlarged outlet area.

R.P. Vorontsov

1. Axial flow turbines--Efficiency
2. Axial flow turbines--Test results
3. Pipes--Applications

Card 2/2

BUTAYEV, Devlet Aslanbekovich; KALMYKOVA, Zinaida Alekseyevna; PODVIDZ, Lev Grigor'yevich, dotsent; POPOV, Kirill Nikolayevich; ROZHDESTVENSKIY, Sergey Nikolayevich; YAN'SHIN, Boris Ivanovich; KUKOLEVSKIY, I.I., prof., red. [deceased]; VORONIN, K.P., tekhn. red.

[Problems in hydraulics for mechanical-engineering institutes]  
Zadachnik po gidravlike dlia mashinostroitel'nykh vuzov. Pod red. I.I.Kukolevskogo i L.G.Podvidza. Izd.2., perer. i dop. Moskva, Gos.energ.izd-vo, 1960. 440 p. (MIRA 13:11)  
(Hydraulics--Problems, exercises, etc.)

BUTAYEV, D.A., kand.tekhn.nauk; OBOLENTSEV, Yu.P., inzh.

New power for testing hydraulic turbines at the hydraulic laboratory  
of the Moscow Technical College. [Trudy] MVTU no.100:148-154 '60.  
(MIRA 14:4)

(Moscow—Engineering laboratories)



KRUTOV, Vitaliy Ivanovich; KALISH, G.G., doktor tekhn. nauk, prof.,  
retsensent; BUTAYEV, D.A., kand. tekhn. nauk, red.; YELISEYEV,  
M.S., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[Analysis of the operation of automatic control systems] Analiz  
raboty sistem avtomaticheskogo regulirovaniia. Moskva, Gos.  
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 178 p.  
(MIRA 14:10)

(Automatic control)

BAYBAKOV, O.V.; BUTAYEV, D.A.; KALMYKOVA, Z.A.; PODVIDZ, L.G.;  
MAR'YANSKIY, L.P., red.; BORUNOV, N.I., tekhn. red.

[Laboratory course in hydraulics and pumping machinery] La-  
boratornyi kurs gidravliki i nasosov. [By] O.V.Baibakov i dr.  
Moskva, Gos. energ. izd-vo, 1961. 248 p. (MIRA 15:2)  
(Hydraulics) (Pumping machinery)

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000307720018-3

BUZBYEV, R. I.

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000307720018-3"

ALL AND TWO SIDES      RECEIVED AND RECEIVED INDEX

564  
d

SA

Single anode mercury rectifiers. BUTAEV, F. J., SAVITSKI, V. L., AND ETTINGER, E. L. *Elektrichesvo (No. 11) 29-34 (1946) In Russian.*—A survey of modern foreign and Russian Hg vapour rectifiers and ignitrons and a description of new Russian designs, with particular emphasis on single anode metal rectifiers. Constructional data with cross-sectional drawings, including one of the electro-magnetic igniter, are supplied. A. L. 1011

ASR-51A METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX										COMMON VARIANTS INDEX									
GROUPS										GROUPS									
SUBGROUPS										SUBGROUPS									
LITERATURE										LITERATURE									

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

SA

13 64

2479. Rolling mill drive with speed regulation by means of a rectifier cascade. BUTAYEV, F. I. AND JACOBSON, N. B. *Vesta. Elektroprom.*, 19, 11-16 (Nov., 1948) *In Russian*.—The method, introduced in 1948, employs inverter-fed Hg-arc rectifiers; the speed regulation is achieved by controlling the phase of the ignition of a group of rectifiers. A. I.

COMMON ELEMENTS

COMMON VARIABLE INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODES

1ST AND 2ND CODES

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

BUTAYEV, F. I.

USSR/Electricity - Rectifiers  
Grid Control Aug 49

"Grid Control of a Single Anode Mercury Arc Rectifier," F. I. Butayev, Cand Tech Sci, All-Union Elec Eng Inst iment V. I. Lenth, 1 3/4 pp

"Vest Elektro-Prom" No 8

Before 1945 author's institute produced RMNV-200 x 6 rectifiers without grids (see "Elektrichestvo, No 11, 1945). It was then decided to fit a grid for control purposes. Describes difficulties encountered and how they were overcome. Subject rectifiers have been installed in two projects

2/50771

USSR/Electricity - Rectifiers Aug 49  
Grid Control (Contd)

(plt head gear with DC motor and rolling mill with AM induction-drive motor) and are working satis- factorily. Includes six diagrams.

2/50771

BUTAYEV, F. I.

PA 153750

USSR/Engineering - Rectifier, Mercury-Arc Sep 49

"The Influence of Ionic Currents on the Stability of Excitation Arcs of a Mercury-Arc Rectifier,"  
F. I. Butayev, Cand Tech Sci, All-Union Elec Eng Inst Lment Lenin, 2 pp

"Elektrichestvo" No 9

One reason for extinction of excitation arcs of mercury-arc rectifiers is ionic current flowing during nonconducting period from plasma of main arc to excitation anode. Studies were made of dependency of ionic current on various factors. Points out that shielding excitation anodes

153750

USSR/Engineering - Rectifier, Mercury-Arc Sep 49  
(Contd)

(With AC excitation) results in decreased ionic current. Includes illustration of rectifier cylinder, and diagrams.

153750

1. BUTAYEV, F. I.
2. USSR (600)
4. Technology
7. Valve electric drive. Moskva, Gosenergoizdat, 1951.

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



*Handwritten text, possibly a signature or name, appearing in the center of the page.*

*BUTAYEV, F.I.*

YUDITSKIY, S.B., kandidat tekhnicheskikh nauk.; BUTAYEV, F.I., kandidat tekhnicheskikh nauk.

Single-anode pumpless mercury-arc rectifiers with uninsulated cathodes. Vest. elektroprom, 28 no.1:38-42 Ja '57. (MIRA 10:4)

1. Vsesoyuznyy elektrotekhnicheskiiy institut im. Lenina.  
(Mercury-arc rectifiers)

BUTAYEV, F. I.

110-9-3/23

**AUTHOR:** Butayev, F.I., Klimov, N.S., Sakovich, A.A. and Stepanov, N.P.,  
Candidates of Technical Sciences.

**TITLE:** High-voltage Rectifiers/Inverters for Direct Current Power  
Transmission. (Vysokovol'tnyye preobrazovateli dlya pere-  
dachi energii postoyannym tokom)

**PERIODICAL:** Vestnik Elektropromyshlennosti, 1957, Vol. 28, No. 9,  
pp. 8 - 14 (USSR)

**ABSTRACT:** Brief reviews of the main stages of development of high-  
power, high-voltage mercury valves at the All-Union Thermo-  
technical Institute. The first stage concerns the Kashira-  
Moscow experimental transmission line. The second stage includes  
high-voltage valves of intermediate power and the production of  
single experimental installations. The third stage concerns  
high-power, high-voltage valves suitable for practical high-  
voltage d.c. transmission systems. High-voltage rectifiers  
have been under development at the All-Union Thermo-technical  
Institute since 1935. A number of the principles then evolved,  
including single-anode construction, a sectionalised anode system,  
and oil-cooling, are still used. German experience with d.c.  
transmission was notable for the fruitful work, directed by  
G. Dobke, on the development of mercury-arc rectifiers for 150 A  
max. and 120 kV max. Joint work with the Scientific Research  
Card 1/5

High-voltage Rectifiers/Inverters for Direct Current Power Transmission. 110-9-3/23

Institute for Direct Current (NIPT) using the Kashira-Moscow experimental transmission line, showed that equipment for d.c. power transmission should be considered as a complex whole. In this experimental system, great difficulties were encountered as a result of instability of valve characteristics and a number of specific properties of high-power, high-voltage, rectifier circuits. The valves are subject to back-fire, break-down, loss of control action of the grids, loss of excitation, flashover of anode insulators, and over-voltages on the auxiliary electrodes. There were also difficulties arising from system disturbances such as over-voltages, high-frequency oscillations and current surges. For example on the Stalingrad-Donbas line, where the normal voltage on a valve should be 65 kV, calculations show that during over-voltages it may reach 250 kV. Considerable difficulties arose as a result of free oscillations which appeared in the circuit during ignition and extinction of a valve. High-frequency oscillations, which caused severe radio-interference and damage to the anodes were suppressed by special reactors. Low-frequency oscillations were more difficult to suppress, and damper circuits consisting of capacitance and resistance are being used for this purpose. At first, the Kashira-Moscow line operated with one bridge having three series valves in each arm

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110-9-3/23

High-voltage Rectifiers/Inverters for Direct Current Power Transmission.

and later with two bridge circuits connected in series, one having one valve per arm and the other two. In designing the Stalin-grad-Donbas line, it is proposed to use a sub-station circuit consisting of eight bridge circuits in series, each for a voltage of 100 kV and a current of 900 A. In all, there will be 192 valves working as converters and 32 "shunting" valves. At full load, each valve will handle a power of 7.5 MW. A serious problem was the control of individual circuits from the auxiliary supply panel which was solved under the guidance of Candidate of Technical Sciences I.L. Rubinshteyn. Control is effected by means of a light ray acting on photo-resistance cells which operate relays. For development work, the All-Union Electro-technical Institute (VEI) has constructed equipment for making static tests at up to 200 kV r.m.s., surge generators and a high-power equivalent for testing valves under rated conditions. A large test installation with a transformer group of 120 MW has been constructed at one sub-station. Questions of valve design are then discussed. A sectional drawing of a high-voltage valve is shown in Fig.1. The distinctive feature of high-voltage valves is the anode system and different methods of sectionalising the anodes are shown in Fig.2. It is usually advisable to extend anode sectionalisation to the discharge space, and different types of screens are shown

Card3/5

110-9-3/23

High-voltage Rectifiers/Inverters for Direct Current Power Transmission.

in Fig.3. Other anode constructions are shown in Fig.4; Fig.4zh shows an anode design developed by V.D. Andreyev. Several types of valves developed in the All-Union Electro-technical Institute are illustrated in Fig.5 (photos). The main relationships of voltage division between the intermediate electrodes of the anode assembly were established during the investigations of high-voltage valves. When the valve works as a rectifier, the negative voltage drop occurs mainly in the gap between the anode and the first anode insert. When working as an inverter the positive blocking voltage lies very largely in the space between the insert furthest from the anode and the upper grid. Development of rectifiers proceeded alongside theoretical and physical investigations, of valve strength, current distribution in the anode, and voltage distribution in the anode assembly, ignition effects, effects during failure of operation and during heavy overloads. In the investigation of physical effects, probe methods of vapour density measurement were very useful. Graphs of the probability of back-fire for the valves BP-1 and BP-3 as functions of cooling temperature are shown in Fig.6. Laboratory results have been confirmed by data of 12 000 hours tests on valve type BP-3 in the experimental transmission line.

Card4/5 Valves type BP-4/2 and BP-9/3 are intended for the Stalingrad-

110-9-3/23

High-Voltage Rectifiers/Inverters for Direct Current Power Transmission.

Donbas transmission line and have passed a wide variety of laboratory tests and the results of the first high-power tests confirm the satisfactory operation of the valves in approximately their normal working conditions. In the light of the experience gained, development is likely to comprise: valves of greater power for higher voltages and currents, which will be combined with improvement in manufacture to improve reliability; valve designs which will ensure great vacuum-tightness, enabling the manufacture of pumpless valves or, if necessary, to provide internal devices to maintain and restore vacuum. Two new types of pumpless valve are shown in Fig.7, one for 150 A max. and the other for 900 A max. with reverse voltages of the order of 100 - 120 kV max. There are 7 figures and 5 Slavic references.

ASSOCIATION: All-Union Electrotechnical Institute (VEI)

SUBMITTED: April 23, 1957.

AVAILABLE: Library of Congress.

Card 5/5

*БУТАЙЕВ, Е.И.*

~~БУТАЙЕВ, Е.И.~~ kand.tekhn.nauk; KLIMOV, N.S., kand.tekhn.nauk;  
SAROVICH, A.A., kand.tekhn.nauk; STEPANOV, N.P., kand.tekhn.nauk.

High voltage transformers for transmitting d.c. current. Vest.  
elektrom. 28 no.9:8-14 S '57. (MIRA 10:11)

1. Vsesoyuznyy elektrotekhnicheskiy institut.  
(Electric transformers)



NEYMAN, L.R.; TOLSTOV, Yu.G., doktor tekhn. nauk; PIMENOV, V.P., kand. tekhn. nauk; POSSE, A.V., kand. tekhn. nauk; SAKOVICH, A.A., kand. tekhn. nauk; BUTAYEV, F.I., kand. tekhn. nauk; MEL'GUNOV, N.M., inzh.; SONIN, M.R., inzh.

[Long-distance high-voltage direct-current transmission] Peredacha energii postoiannogo toka vysokogo napriazhenia na dal'nie rasstojania. Pod red. L.R. Neimana. Moskva, 1958. 64 p. (MIRA 11:10)

1. Russia (1923- U.S.S.R.) Sovet Ministrov. Gosudarstvennyy nauchno-tekhnicheskij komitet. 2. Chlen-korrespondent Akademii nauk SSSR (for Neyman).

(Electric power distribution)

AUTHORS: Butayev, F. I., Candidate of Technical Sciences, 105-58-5-1/28  
Sciences, Klimov, N. S., Candidate of Technical Sciences,  
Kostrov, M. F., Candidate of Technical Sciences,  
Sakovich, A. A., Candidate of Technical Sciences

TITLE: A High-Power High-Voltage Valve (Moshchnyy vysokovol'tnyy ventil')

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 1-7 (USSR)

ABSTRACT: At first a survey of the development of the high-voltage valves abroad and at home is given. In the USSR such works were carried out in the laboratories of the VEI (A. N. Larionov, S. V. Krauz 1957, N. S. Klimov 1938 - 1939, M. I. Gal'din 1940). After the war high-voltage valves and control boxes for the first test-d.-c.-trunk line from the hydroelectric plant Kashira to Moscow were elaborated. These works were mainly performed in the Scientific Engineering Office of the former Ministry for Electrical Industry under participation of important German specialists, as G. Dobke, R. Khel'ters, and others. 30 valves of the type VR-1 were produced by this office and partly by the

Card 1/5

A High-Power High-Voltage Valve

105-58-5-1/28

test works of the VEI during the second half of 1950. 1950 - 1951 12 valves of the type VR 3 for a maximum of 300 A and 130 kV were produced in the VEI. Since 1952 works were started on a valve for a maximum of 900 a and 130 kV. These works are shortly described here.

1) The problem whether the valve is to be constructed as single-anode- or multi-anode-valve, was solved in favor of the single-anode type. It was shown that the difficulties in connection with the discharge concentration on a small cross section can be overcome. 2) The number of the insets was selected in a way that the advantages are relatively great and the disadvantages are as small as possible. The tests were carried out with 15 (valve by Kesayev), 5, 4, 3, 2 and 1 insets (construction by Andreyev). 3) The problem of size and density of these insets is finally to be cleared in the plant. 4) The materials were investigated, 1951 - 1952 a special vacuum-technological equipment was put into operation, solitary test stands were established (up to 1000 A and 160 kV, pulse circuit up to 350 kV). The construction of the valve essentially differs from those used in industry. Then

Card 2/5

A High-Power High-Voltage Valve

105-58-5-1/28

follows a description of such a valve of the type VR 9/3 for 900 A and 130 kV. In 1952 25 samples of different power and different types were produced. The electric strength of the valve is high. In static tests it stands 140 - 160 kV without an exterior divider. The investigations of the mercury vapor took place according to the probe methods, which had been elaborated in the Laboratory for gas discharge devices at the VEI. The electrical tests at full amperage and voltage were carried out with the equivalent scheme constructed in the VEI for maximally 1000 A and 160 kV, and valuable data were obtained. An extraordinary phenomenon was determined: At positive anode-voltage and normal operation of all excitation anodes and nets no lighting of the principal anode took place at high voltage. At low voltage this phenomenon was not observed. This fact is explained by the occurrence of negative potentials. In investigating the overload capacity it was found that also at 15 000 A within the range of working temperatures an interruption of the current does not occur. When the voltage in the

Card 3/5

A High-Power High-Voltage Valve

105-58-5-1/28

arc drops to 700 - 800 V. For the purpose of energy investigations a test stand for 120 MVA was built at the Moscow Institute for D. C. The results of the first test series showed that 900 A and a countervoltage jump of 50 kV no disturbances occurred at the valves. At 900 A and 90 kV countervoltage jump the valves do not lead to an extinction of the excitation arc. For the transmission line from the Stalingrad hydroelectric plant to Donbass (the voltage between the poles amounts to 800 kV and the amperage in the line to 900 A) the VEI proposed an eight-bridge-scheme. The voltage of each bridge amounts to 100 kV. The scheme was accepted by the expert commission. Here two valves are connected in series into the bridge arm: maximum countervoltage 61 kV, countervoltage jump 34 kV, maximum amperage 900 A. - The work for the valve was performed at the Laboratory for High-Voltage Rectifiers at the VEI under participation of the Laboratory for Gas Discharge Devices, and of the Laboratory for Physical Investigations at the institute. The samples of the valves were produced by the electromechanical test plant of the VEI. The porcelain- and ceramic products were produced by the

Card 4/5

A High-Power High-Voltage Valve

105-58-5-1/28

"Izolyator" porcelain plant and by the Institute of the GIEKI. N. P. Stepanov, N. P. Savin, N. M. Maslennikov, I. D. Shkolin, A. A. Pertsev, V. S. Grigor'yev, A. A. Timofeyev, R. I. Grigor'yeva, V. V. Bazhenov, I. V. Blond, A. A. Ivanov, Ye. P. Shmarina and others directly and actively participated in the work. There are 12 figures.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina (VEI)  
( All-Union Institute for Electrical Engineering imeni Lenin)

SUBMITTED: November 5, 1957

AVAILABLE: Library of Congress

1. Electron tubes--Development
2. Electron tubes--USSR
3. Electron tubes--Test results
4. Electron tubes--Applications
5. Transmission lines--Equipment

Card 5/5

*BUTAYEV, F.I.*

**AUTHORS:** Shekhtman, M.G., Candidate of Technical Sciences, 105-58-5-20/28  
Aksel'rod, M.M., Engineer, ~~Butayev, F.I.~~, Candidate  
of Technical Sciences, Klimov, N.S., Candidate of  
Technical Sciences, Levitskiy, K.K., Engineer

**TITLE:** On the Prospects of Employing D.C. Transmission in the USSR  
(O perspektivakh primeneniya elektroperedach postoyannogo toka  
v Sovetskom Soyuze)

**PERIODICAL:** Elektrichestvo, 1958, Nr 5, pp. 81-83 (USSR)

**ABSTRACT:** Comments on the article by N.M.Mel'gunov, Elektrichestvo, 1957,  
Nr 2:  
1.) This is a comment on the article by I.F.Polovoy in  
Elektrichestvo, 1957, Nr 5. A number of errors is criticized. The  
ratio between the costs of an A.C. substation and a D.C. sub-  
station are assumed by Polovoy as amounting to 0.5. According to  
data published by Teploelektroproyekt it is 0.557-0.580 and ac-  
cording to those given by the Institute for Direct Current it is  
0.76 (taking account of the fact that valves are produced in the  
factory). Doubts expressed with respect to the possibility of

Card 1/3

On the Prospects of Employing D.C. Transmission  
in the USSR

105-58-5-26/26

covering reactive (idle) power are unfounded because the rectifier plant has a  $\cos \psi = 0.90 - 0.95$ . Polovoy does not take power losses in compensation devices into account. He assumes the specific costs of the transformer plant of D.C. substations to amount to 36% of the substation costs. According to Teploelektroproyekt they amount to 26%, and according to the Institute for Direct Current and the All-Union Institute for Electrical Engineering - 17%. According to experience gathered in connection with the line Kashira hydraulic station - Moscow, and according to technical conditions the life of valves between two repairs amounts to 15 000 hours or two years and not one year.

2.) Criticism of the article by Mel'gunov. It is wrong to declare that the costs of D.C. - and A.C. substations including devices for the increase of stability are the same already at the present stage of transformer-engineering, that in the case of long-distance transmission no intermediate output is necessary, that by means of the mercury valve grids the intermediate substations can be reliably disconnected from the long distance line. Advantages and disadvantages of a D.C. line are enumerated.

Card 2/3



On the Prospects of Employing D.C. Transmission  
in the USSR

105-58-5-20/28

The atomic electric power plants will only supplement existing power systems, and hydraulic power still remains the most inexpensive type of energy. The large valves for 130 kV and 300 A developed at the All-Union Institute for Electric Engineering will render D.C. transmission more economical. For high power transmissions of from 0.75 to 6 million kW over distances of 900 km and more direct current offers great advantages.

There is 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut postoyannogo toka (Scientific Research Institute for Direct Current)  
Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina (All-Union Institute for Electric Engineering imeni Lenin)  
Teploelektroproyekt

AVAILABLE: Library of Congress

1. Direct currents--Transmission--USSR
2. Electric power plants
- Substations--Effectiveness
3. Atomic power plants--Applications
4. Power plants--Economic aspects

Card 3/3

BUTAYEV, F.I., kand.tekhn.nauk; KLIMOV, N.S., kand.tekhn.nauk; PERTSEV, A.A.,  
Inzh.; STEPANOV, N.P., kand.tekhn.nauk

Developments in the field of high-voltage power rectifiers.  
Elektrotehnika 36 no.11:22-24 N '65.

(MIRA 18:11)

L 23770-66 EWA(h)/EWT(1)

ACC NR: AP6015276

SOURCE CODE: UR/0292/65/000/011/0022/0024

AUTHOR: Butayev, F. I. (Candidate of technical sciences); Klimov, N. S. (Candidate of technical sciences); Pertsev, A. A. (Engineer); Stepanov, N. P. (Candidate of technical sciences)

ORG: none

TITLE: Developments in high-voltage power rectifiers 25

SOURCE: Elektrotehnika, no. 11, 1965, 22-24

TOPIC TAGS: direct current, electric power transmission, mercury rectifier

ABSTRACT: The Leningrad-Donbass transmission line is presently being put into operation. This will be the most powerful d-c transmission line in the world, sending 750 Mw of power at 800 kv over a distance of roughly 500 km. The transmission system uses a three-phase eight-bridge network with power rectifiers which operate at a maximum voltage of 130 kv and a maximum current of 900 amps. The eight-bridge system, proposed by the All-Union "Order of Lenin"

Electrical Engineering Institute imeni V. I. Lenin, has the following advantages over the four-bridge circuit: 1) when individual bridges in the system fail, the transmitted power is maintained by current overload on the bridges remaining in operation; 2) the work load on the equipment is lighter in emergency conditions, and two rectifiers can be series-connected in each arm of the bridge to reduce the work load by increasing the number of rectifiers from

Card 1/2

UDC: 621.314.65.001.8

L 23770-66- -

ACC NR: AP6015276

72 to 96; 3) when separate rectifiers fail, the voltage applied to the elements remaining in operation does not exceed the nominal value, while in the four-bridge system the voltage is twice the rated value in this type of emergency. Various foreign high-voltage d-c transmission lines now in operation and being planned are mentioned and their parameters are given. Some of the advances made in high-voltage power rectifiers since 1940 are discussed. Work was begun on the rectifier being used in the Volgograd-Donbass system in 1952 at the All-Union Electrical Engineering Institute. The various problems involved in the development and construction of this device are discussed. This single-anode pool unit, called the VR-9 Excitron, is now being mass-produced at a specially built factory in Moscow. The overall dimensions of the rectifier are 1.9 x 1.2 x 3.4 m. A comparison of the VR-9 Excitron with the Swedish-made rectifiers used in the English Channel d-c Transmission line shows that the Soviet high-power mercury rectifier is up to modern requirements with respect to electrical characteristics and construction. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 10, 09 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 002

Card 2/2

S/103/63/024/001/008/012  
D201/D308

9.8380  
9.3277

AUTHOR: Butayev, G. M. (Kiev)

TITLE: The effectiveness of optimum coding of primary meter scale in pulse-code telemetering

PERIODICAL: Avtomatika i telemekhanika, v. 24, no. 1, 1963, 92-96

TEXT: If the primary meter has a linear scale, the optimum scale coding of this meter in pulse-code telemetering of the output may result in a considerable reduction of the overall telemetering error. The optimum distribution of coding combination is derived as a function of the distribution of probability of occurrence of the primary meter indications. An expression is given for the minimum telemetering error for a given probability distribution. The error reduction depends on the form of statistical characteristics of the measured variable and has to be determined individually for every measured variable. A circuit diagram for coding combination distribution is given for the case when the primary meter produces the output signal as a sequence of pulses, the number of which varies

Card 1/2

The effectiveness of ...

S/103/63/024/001/008/012  
D201/D308

as the measured variable. If the output is either a long pulse or a phase difference it may be transformed into a number of pulses by slicing to a time scale and hence into the code of the required combination distribution as shown. There are 3 figures and 1 table. ✓<sub>B</sub>

SUBMITTED: April 10, 1962

Card 2/2

L 11387-65 EWT(d)/EED-2/EWP(1) Pg-1/Pk-1/PO-1/Pq-1 IJP(c) GG/BB

ACCESSION NR: AP4046110

S/0302/64/000/003/0026/0028

AUTHOR: Butayev, G. M. (Candidate of technical sciences); Romashkan, V. S.

TITLE: Digital square-root extractors

SOURCE: Avtomatika i priborostroyeniye, no. 3, 1964, 26-28

TOPIC TAGS: root extractor, square root extractor 16C

ABSTRACT: Two experimental models of digital devices for extracting square roots, a parallel and a series, are briefly described. A squaring unit compares the squares of 1, 2, 3, etc., numbers with X in the equation  $Y = C\sqrt{X}$ . The root extractor is designed for a binary code. The parallel version is recommended for a functioning time of not over a few tenths of a second; for a longer time, the series version is more suitable. Block diagrams of both models are given. Orig. art. has: 2 figures, 8 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 1

SUB CODE: DP

NO REF SOV: 002

ORIG: 1

Card 1/1

BUTAYEV, G.M., kand. tekhn. nauk; ROMASHKAN, V.S.

Improved unit for the solution of the equation of consumption.  
Avt. i prib. no.42-45 O-D '64 (MIRA 18:2)



L 00080-66 EWT(1)/EWA(h)

ACCESSION NR: AR5013615

UR/0271/65/000/004/B014/B014  
681.142.644.6

47

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 4B110

AUTHOR: Butayev, G. M.; Romashkan, V. S.

TITLE: A method of functional discrete conversion

CITED SOURCE: Sb. Ustroystva i elementy prom. telemekhan. Kiyev, 1964, 79-83

TOPIC TAGS: function generator

TRANSLATION: A digital-analog-type function generator operating by the method of piecewise-linear approximation is described. A circuit diagram of such a generator yielding  $Y=K \ln X$ , where  $K = 21.8$ , is presented. Increments in the coupling factor between the argument and function variations are programmed by a matrix which is controlled by a function-value counter. The generator is intended for data correction in a coded telemetering system and is built with semiconductor devices. Figs. 2, tab. 1.

SUB CODE: DP, EC  
Card 1/1

ENCL: 00

L 6437-66 EWT(1)/EWA(h)

ACC NR: AR5014354

SOURCE CODE: UR/0271/65/000/005/A047/A048

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika.  
Svodnyy tom, Abs. 5A329

AUTHOR: Butayev, G. M.; Romashkan, V. S.

TITLE: Pulsed converter of code into instrument reading

CITED SOURCE: Sb. Ustroystva i elementy prom. telemekhan. Kiyev, 1964, 83-87

TOPIC TAGS: pulsed converter, pulsed reading converter

TRANSLATION: A converter of code into average current is described, in which the code of a parameter is converted into square pulses that have a constant height and a duration proportional to the code. A continuous train of such pulses arriving with a definite periodicity is applied to the coil of a moving-coil permanent-magnet instrument; this pulse train results in an averaged instrument reading which is proportional to the relative pulse duration. The figure shows a functional diagram of the device with <sup>25</sup> i converters of a 6-digit binary code into the average current. Code telemeter signals, according to their addresses, are successively distributed from a central register to individual output registers whence the

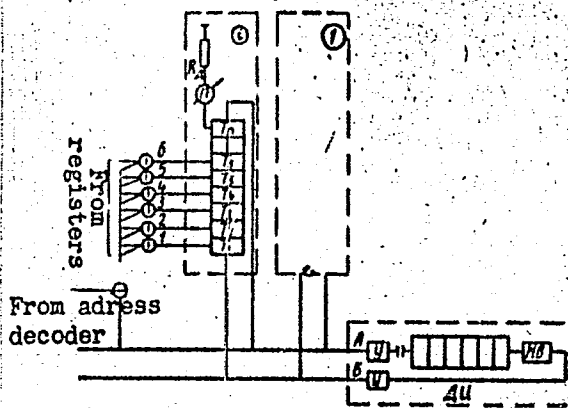
Card 1/2

UDC: 621.398.63/64

0901 1773

L 6437-66

ACC NR: AR5014354



current signals are fed to the indicating instruments. A common pulse generator is connected to two trunks. From these trunks, square pulses of  $F/64$  frequency from the output A and the pulses of  $F$  frequency shifted by  $1/2F$  from the output B are applied to the converters. The pulses are taken from two collectors of a multivibrator. Between each two pulses in the channel A, 64 pulses in the channel B are located. The parameter value in an inverse binary code is transferred, according to its address, to an individual register when the pulse is being supplied to the trunk A. Bib. 2, figs. 2.

SUB CODE: DP

Card 2/2

SECRET  
TOP SECRET

TOPIC TAGS: pulse recurrence frequency

ABSTRACT: This technical certificate presents a device (containing a variable preliminary recording circuit) for changing the frequency of a pulse sequence. This device is particularly efficient both for the initial and for the subsequent stages of a pulse sequence. The device is particularly suitable for use in a pulse sequence of a variable frequency. The device is particularly suitable for use in a pulse sequence of a variable frequency. The device is particularly suitable for use in a pulse sequence of a variable frequency.

ASSOCIATION: none

Card 1/1

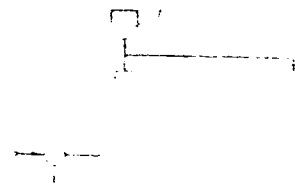
D 21051-65

A MESSAGE TO: 121007473

00 00

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... the frequency  
... generator, ...  
counters, 1 - gates; 4 - preliminary  
recording circuits; 5 - trigger; 6 - storage  
...  
...



L 20991-66 EWT(d)/EWT(1)/EWP(1)/EWA(h) IJP(c) BE/GG

ACCESSION NR: AP5014006

UR/0119/65/000/005/0027/0028  
621.3.042.15:621.314

15  
13  
10

AUTHOR: Butayev, G. M. (Candidate of technical sciences); Shchedrov, N. I. (Engineer)

TITLE: Angle-to-code contactless converter with ferrite sensing elements

SOURCE: Priborostroyeniye, no. 5, 1965, 27-28

160, 144

25

TOPIC TAGS: angle to code converter, contactless converter

ABSTRACT: The development is reported of a new angle-to-gray-code converter in which the on-off switching is effected by copper-foil segments passing through the gap of a very sensitive ferrite core. The sensing element comprises a transistor and a 3-winding ferrite-core transformer connected to form a nonsinusoidal-wave oscillator. Insertion and withdrawal of the copper segment result in starting and stopping the oscillations, with the oscillator functioning as a low-resistance switch. One sensing element is required for every digit of the converter. A wire-saving time-sequence 50-cps-supplied circuit is envisaged for transmitting many-digit signals to a receiver. An experimental model of the converter was

Card 1/2

L 20991-66

ACCESSION NR: AP5014006

tested for over 1 year in actual operation at the Dzerzhninskiy Metallurgical Plant. 2  
Orig. art. has: 4 figures.

ASSOCIATION: Kiyevskiy institut avtomatiki (Kiev Institute of Automatics)

SUBMITTED: 00

ENCL: 00

SUB CODE: DP, EC

NO REF SOV: 001

OTHER: 000

Card 2/2



I. 3635-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACCESSION NR: AP5021440

UR/0146/65/008/004/0063/0066  
681.142.9

AUTHOR: Butayev, G. M. 44

13  
11  
B

TITLE: General digital unit for squaring and for extracting square roots

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 4, 1965, 63-66

TOPIC TAGS: computer arithmetic unit 16c, 44

ABSTRACT: A digital unit which performs the functions of squaring and extracting square roots and which contains a binary code summator and a delay multivibrator is presented. Squaring is accomplished according to the algorithm  $(K + 1)^2 = K^2 + (2K + 1)$ . The number K to be squared is supplied to a counter register as a sequence of K pulses. At the i-th pulse the number  $2(i-1) + 1$  is formed in a storage register and is added to the sum of the results of the previous i-1 steps. Thus, at the conclusion the counter register contains the number K, and the summator -  $K^2$ . To obtain the square root of a number, the logical inverse of the number is placed in the storage register, and the above procedure is followed until the vacant

Card 1/2

L 3635-66

ACCESSION NR: AP5021440

2

capacity of the storage register is filled. Then the square root of the number is contained in the counter register. Orig. art. has: 5 equations and 1 diagram. [04]

ASSOCIATION: Kiyevskiy inzhenerno-stroitel'nyy institut (Kiev Civil Engineering Institute) 44

SUBMITTED: 25Apr64

ENCL: 00

SUB CODE: DP

NO REF SOV: 003

OTHER: 001

ATD PRESS: 4114

BVK

L 27814-66 EWT(d)/WP(c)/T/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6007594

SOURCE CODE: UR/0119/66/000/002/0012/0014

AUTHOR: Basov, V. I. (Engineer); Butayev, G. M. (Candidate of technical sciences);  
Melik-Askarov, A. G. (Engineer); Ponomarev, A. I. (Engineer); Romashkan, V. S.  
(Engineer); Tupas, V. I. (Engineer)

ORG: none

TITLE: Coded telemetry system for concentrated plants

SOURCE: Priborostroyeniye, no. 2, 1966, 12-14

TOPIC TAGS: telemetry system, telemetry technique

ABSTRACT: Fifteen quantities are telemeasured and seven two-position-indication signals are transmitted; also, deviation of any quantity from its normal measuring span is signalled. In addition to indicating instruments and signal lamps, the dispatcher station has a digital printer and a specialized computer. Three frequency channels transmit 1, 0, and change-quantity signals. A number protection in the interrogation cycle of each parameter is provided, as well as a protection against missing or breaking up pulses. The system is designed with semiconductor devices only. These characteristics are claimed: frequencies, 4400, 4600, and 4800 cps; transmission time of one frequency signal, 10 millisecc; interrogation time of one parameter, 130 millisecc; basic error,  $\pm 0.6\%$  or less; line attenuation, 3 nep; tolerable supply-voltage variation,  $+10 -15\%$ . The system has been tentatively put in operation at the Dzerzhinskiy Metallurgical Plant, Dneprodzerzhinsk. Orig. art. has: 4 figures and 1 table.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 005  
Card 1/1

UDC: 621.398:654.931

L 26258-66 EWT(d)/EWP(1) IJP(c) GG/BB

ACC NR: AP6010290 SOURCE CODE: UR/0103/66/000/003/0148/0152

AUTHOR: Butayev, G. M. (Ordzhonikidze)

ORG: none

TITLE: A circuit for the conversion of binary code signals into current signals

SOURCE: Avtomatika i telemekhanika, no. 3, 1966, 148-152

TOPIC TAGS: circuit design, digital analog converter, coupling circuit, binary code, computer technology

ABSTRACT: <sup>166</sup>Pulse code-time-current converters are being rapidly developed and may be considered among the most promising means of coupling discrete and analog data processing devices. The converter described by A. K. Zavolokin (Preobrazovatel' chislovykh velichin v elektricheskiye. Avtomatika i telemekhanika, vol. XXI, no. 2, 1960), in particular, possesses the important feature of correcting its own reduction errors. However, when the requirement of time-parallel processing of several code signals is imposed, the Zavolokin converter becomes complicated. The present author introduces a circuit of a simple pulse code-time-current converter for the parallel processing of 16 code signals (see Fig. 1). The circuit is intended for the output of code outputs  $X_1, \dots, X_1, \dots, X_{16}$  to the indicators  $\alpha_1, \dots, \alpha_1, \dots, \alpha_{16}$  of the control panel. Each channel of the converter contains a counter circuit of  $n + 1$

Card 1/3

UDC: 681.142.621

L 26258-66

ACC NR: AP6010290

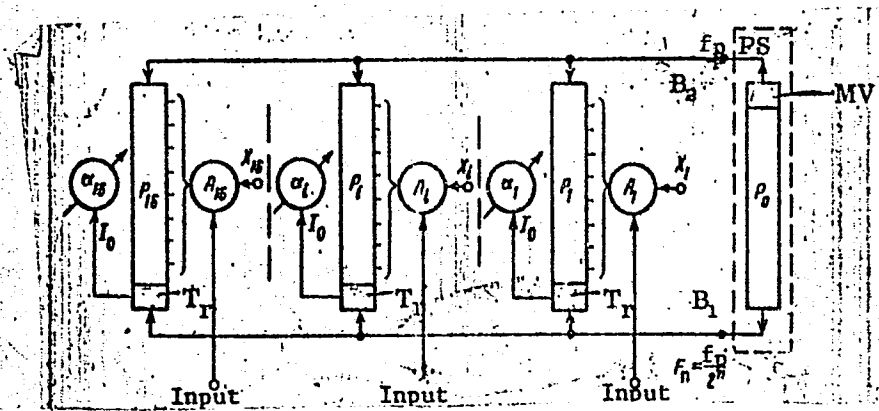


Fig. 1. Block diagram of a converter of 16 binary code signals into code signals.

PS - pulse sensor; MV - multivibrator;  
 $P_i$  - pulse counter;  $A_i$  - switches of input  $X_i$ ;  
 $\alpha_i$  - M-24 microampere meter.

Card 2/3

L 26258-66

ACC NR: AP6010290

triggers,  $n$  of these triggers form the pulse counter  $P_i$ , and the  $(n + 1)$ th trigger  $T_r$  has separated inputs and is connected by these inputs to the busbar  $B_1$  and to the output of  $P_i$ . The second busbar  $B_2$  regularly feeds the outputs of all counters  $P_i$  the frequency pulses  $f_p$  from the multivibrator MV. A comparison of the Zavolokin circuit with the circuit described in the present article shows that the latter is more advantageous in time-parallel processing of several code signals. The Zavolokin circuit is most efficient in processing single code signals. The circuit described (Fig. 1) was constructed on the basis of semiconductor devices and, after passing tests, operated for more than 800 hrs. in accordance with technical specifications. Orig. art. has: 13 formulas and 3 figures. [08]

SUB CODE: 09 / SUBM DATE: 11Sep64 / ORIG REF: 002 / ATD PRESS: 4254

Card

3/3

N.Y.

SHCHERBAN', A.N., akademik; BUTAYEV, O.A.; FURMAN, N.I.; TEREENT'YEV, N.F.

Automatic methane indicator for gas reducer plants and compressor  
stations of main gas pipelines. Gas. prom. 4 no.4:42-45 Ap '59.  
(MIRA 12:6)

(Gas, Natural--Pipelines) (Gas detectors)

BUTAYEV, O.A.; IVANOV, S.K.; KROSHKO, A.N.; MASKEVICH, V.D.

Investigating gas pipelines as radio wave guides. Gaz.  
prom. 7 no.6:43-48 '62. (MIRA 17:6)



BUDKER, S.B.; BUTAYEV, O.A.; LEYDERMAN, M.I.; MELAMED, S.S.

Using gear pumps for transporting liquefied petroleum gases.  
Gaz. prom. 10 no.9:19-22 '65.                      (MIRA 18:11)

**"APPROVED FOR RELEASE: 06/09/2000**

**CIA-RDP86-00513R000307720018-3**

**APPROVED FOR RELEASE: 06/09/2000**

**CIA-RDP86-00513R000307720018-3"**

1796: Pressure Effect on Discharge Radiation in Mercury Vapor. V. Fabrikant, F. Butajeva and J. Cirg. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.*, 6, 4-5, pp. 183-184, 1935. In German.—The non-detection of a minimum in the intensity of radiation from Hg discharges as pressure is gradually increased is discussed in relation to effects of addition of an indifferent gas, such as were observed in Cd (see Abstract 806 (1936)). In Hg + A the intensity in the visible region first remains constant and then falls off rapidly; in Hg + Ne a minimum occurs which is sharpest with very little Ne; and as in the case of Cd, A is more effective than Ne. In Hg, as in Cd, there must be considerable reabsorption of the visible triplets in a low-pressure discharge. This is verified by absorption measurements by a mirror—or autocollimation—method for Hg discharges at  $10^{-4}$  mm. The absorption of  $\lambda 4358$  (> 65 %) exceeds that of  $\lambda 5464$ , which exceeds that of  $\lambda 4960$ , 5770 and 5790. These high absorptions exceed those in a high-pressure discharge and explain the deviations of the observed intensity ratios of the visible Hg triplets in low-pressure discharges from the ratios given by the intensity rules. W. J.

sa

A 53  
i

1796 AND 1797 (1935) PROCESSES AND PROPERTIES INDEX

1796 AND 1797 (1935) COMMON VARIABLES INDEX

ASPH-51A METALLURGICAL LITERATURE CLASSIFICATION

1796H 51V181VW 1796DD 51P 51V 51G 51

1796DD 51P 51V 51G 51

1796H 51V181VW

1796H 51V181VW

BUTAYEVA, F.

4095

OPTICAL INVESTIGATION OF THE DEFORMATION OF METALS UNDER THE ACTION OF HIGH PRESSURE ON THE BASIS OF THE THEORY OF MERCURY AND ATOMOSPHERIC PRESSURE

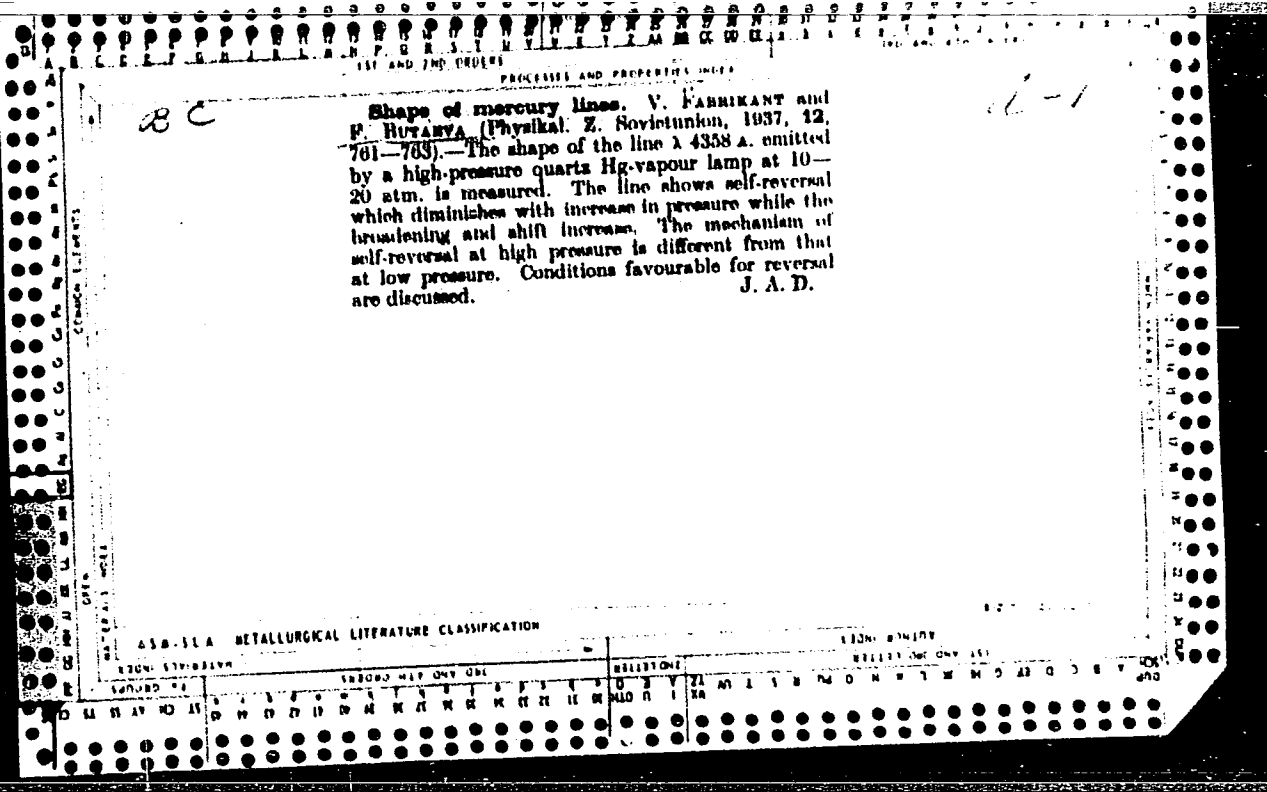
The investigation is devoted to the study of the optical properties of metals under the action of high pressure. The results of the investigation are presented in the form of a series of graphs and tables. The data obtained show that the optical properties of metals change significantly under the action of high pressure. The change in the refractive index of the metal is found to be proportional to the pressure applied. The change in the absorption coefficient of the metal is also found to be proportional to the pressure applied. The results of the investigation are compared with the theoretical predictions of the theory of metals under high pressure. It is shown that the experimental results are in good agreement with the theoretical predictions. The investigation is of interest for the study of the optical properties of metals under high pressure and for the development of new optical materials.

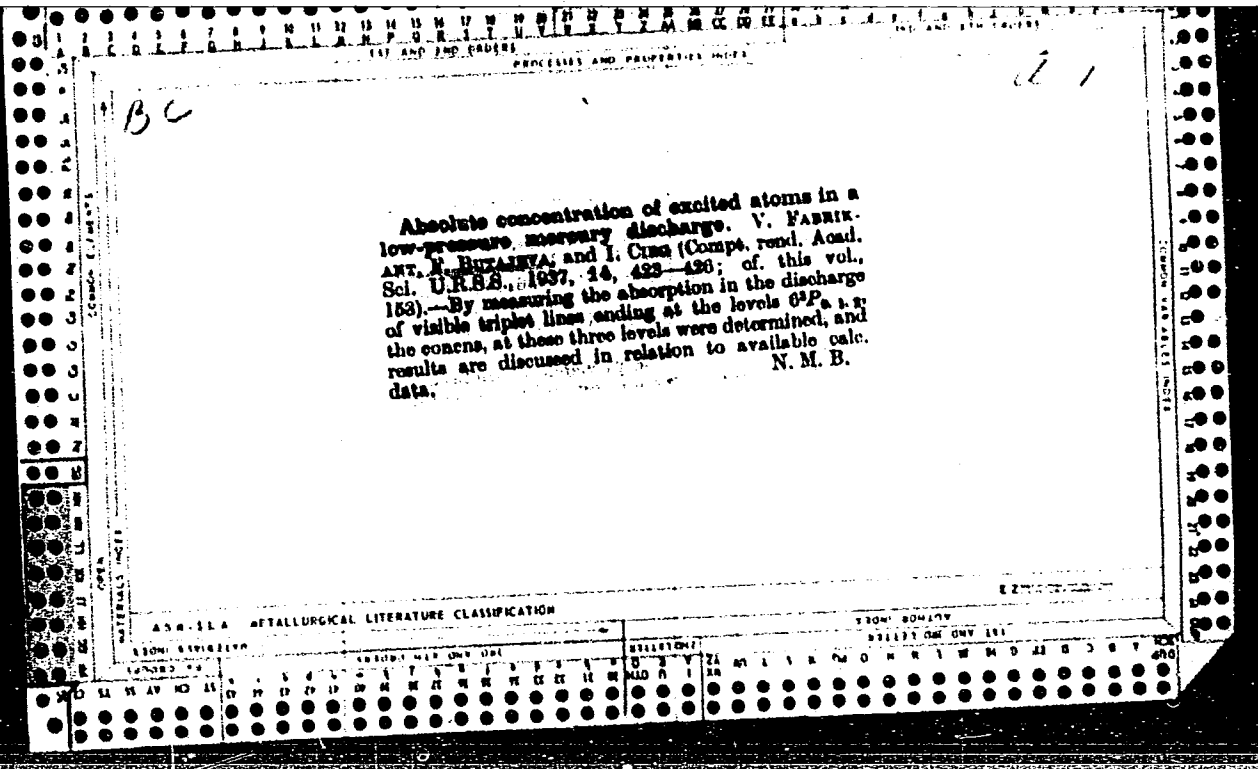
BUTAYEVA, F.

1297

OPTICAL INVESTIGATION OF THE RELATIVE CONCENTRATIONS OF EXCITED ATOMS IN A LOW-PRESSURE MERCURY DISCHARGE. Y. A. FIZELMAN, F. BUTAYEVA and I. ZIL'BERMAN. Translated from *Dokl. Akad. Nauk SSSR*, 1977, 239, No. 5, 1133-1135.

Absorption measurements were made to determine the concentrations in which atoms appear in the levels  $6^3P_1$ ,  $6^1D_2$  to  $10^1D_2$  atoms per cm<sup>3</sup> in a discharge of mercury at pressures of  $10^{-4}$  to  $10^{-2}$  mm of Hg and at a discharge intensity of 1 amp. It was established that the atoms of discharge were far from the state of temperature equilibrium. It was also found that the distribution of the atoms between the levels  $6^3P_{1,2}$  corresponded to the excitation functions which Penner has calculated for these levels. In contrast to the excitation functions, the relative transition probabilities in the discharge were found to be





PROCESSES AND PROPERTIES INDEX

Stepwise excitation of atoms in a low-pressure mercury discharge. V. A. Fabrikant, F. Butaeva and I. Us'ng. *Exptl. Theoret. Phys. (U. S. S. R.)* **35-10** (1981). As in the case of results calcd. from absorption-measurement data, the no. of acts of stepwise excitation is strictly proportional to the sq. root of the electron concn.

F. H. Rathmann

458-55A METALLURGICAL LITERATURE CLASSIFICATION

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



TEST AND /NO (PROY) PROCESSED AND REPRODUCTION

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Optical investigation of a metal-vapor discharge V. Cumulative excitation of atoms in a low-pressure mercury discharge. V. A. Faltrikant, F. Butava and I. Tsirk. *Physik. Z. Sowjetunion* 13, 377 (1968) (in English). *J. C. A.* 31, 8352. The concn. of atoms on the 6P<sub>1/2</sub> levels increases proportionally to that of electrons. The mechanism seems to be excitation of the 7S<sub>1/2</sub> levels. The no. of cumulative excitations is proportional to the square of the electron concn. Gregg M. Evans

ASME-55A METALLURGICAL LITERATURE CLASSIFICATION

6300-537-01104

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PROCESSES AND PROPERTIES INDEX

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Luminescing probe in a gaseous discharge. F. A. Butaeva and V. A. Fabrikant. *Bull. acad. sci. U. R. S. S. S. Ser. phys.* 4, 125-7 (1940); cf. preceding abstr. - The method of luminescing probes was employed for the detailed study of radiation density of the line 2537 A. in a tailed discharge tube (diam. 30 mm,  $I = 3$  amp.) at 3 different pressures (1, 3 and  $6.5 \times 10^{-4}$  mm. Hg). The observed curves show a slight asymmetry, which is due to minute absorption of the luminescent radiation in the body of the discharge. From two curves, photographed from the opposite sides of the tube, are obtained symmetrical curves representing real distribution of radial energy flow within the tube. The variations of radial energy flow can be obtained by differentiating density curves. The comparison of observed curves with the theoretical expressions based on the analogy between diffusion of photon and of atom showed that this analogy can be used only up to a certain limit. Roksalana Gamow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

E-2

PROCESSES AND PROPERTIES INDEX

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11

**Excitation of luminescence in low-pressure mercury lamps.** F. A. Bataeva (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, **57**, 654-657).—Measurements of the luminescence of  $ZnSiO_3$  luminescophors with 1% of Mn, 15% of Be + 1% of Mn, and 18% of Be + 2% of Mn, irradiated with light from low-pressure and capillary (medium-pressure) quartz-Hg lamps, and with monochromatized 2537 Å radiation from a high-pressure lamp, show that  $ZnSiO_3$  is activated equally effectively by both 1850 Å and 2537 Å, whilst Zn-Be luminescophors are less sensitive to the former and those with 2% of Mn are affected only by the latter λ.

L. J. J.

A S B - S L A METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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100 126

Diffusion of radiation in a gas discharge. F. A. Butaya, I. M. G. Huberman, and V. A. Fabrikant (*Bull. Acad. Sci. USSR, Div. Phys.*, 1941, 5, 25-30). - Differences between diffusion phenomena involving particles and photons are discussed, and a method of taking photon diffusion into account in the theory of radiation from gas discharges is outlined. J J B

3

Resonant radiation of a discharge in a mixture of mercury vapor and argon: P. Hutarva and V. Pabrikant *Bull. acad. sci. U.S.S.R., Div. Phys.* 9, 230 (1945).  
 A quartz probe with luminescent willemite screen is introduced into the discharge tube. Part of the screen can be covered by a filter transparent to line 2537 A, and absorbing line 1850 A. The diam. of the tube was 31 mm, the current 0.35 and 3 amp. The ratio of the intensities of the lines 1850 A, and 2537 A, decreased with increasing pressure in accordance with the theory. In a mixt. of Hg and 4 mm. A the ratio is decreased 2.7 times as the electron temp. (measured with Langmuir probes) decreases from 18,000 to 13,000°K. The ratio decreases also when the current is raised from 0.35 to 3 amp. This is attributed to the increase of 2537-A, radiation by secondary processes involving metastable states.  
 H. Pakawel

ASB-52 A METALLURGICAL LITERATURE CLASSIFICATION

CA

3

Some problems in fluorescent-lamp development.  
 P. A. Butaeva, V. I. Dviggopolov, and V. A. Falukant  
 (Iber. Tech. Inst. of the U.S.S.R.). *Bull. Acad. Sci. U.S.S.R. Ser. Phys.* 9, 1018 (1945). A summary. According to tests made in 1943-44 the Hg lines 1850 Å and 2537 Å are equally responsible for the excitation of fluorescent powders. The optimum amt. of fluorescent material is approx. 2 mg./cm.<sup>2</sup>. The brightness of mixt. is given by the formula  $(B_m - B_{100}) / (B_{100} - B_{10}) = \alpha_1 K_1 / \alpha_2 K_2$ , where  $B_m$  is the brightness of a layer completely absorbing the ultraviolet radiation  $\alpha_1$  and  $\alpha_2$  the relative parts of the materials in the mixt. and  $K_1$  and  $K_2$  their absorption coeff. in the ultraviolet. This formula has only approximate value. In recent Russian lamps the fluorescent powders are Zn Be silicate (activator Mn) and MgWO<sub>4</sub>. Spectral-distribution curves and colorimetric characteristics are given. S. Pakswar

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

BUTAYEVA, F. A.

PA 26T89

USSR/Physics  
Luminescence  
Lamps

Dec 1946

"Excitation of Luminescence in Luminescent Lamps,"  
F. A. Butayeva, 6 pp

"Zhur Tekh Fiz" Vol XVI, No 10

During experiments for constructing the energy-  
distribution curves for luminescence compounds the  
author noticed a change in the spectral curve form  
when there was a change in the light source. The  
author investigated the role of the 1849 A line  
during the excitation of luminescence in a tube,  
determined the filtration coefficient in a tube, by

ID  
26T89

USSR/Physics (Contd) Dec 1946

measuring the brightness of various luminescence in  
various apparatus with or without filters, and the  
sensitivity of a luminescent lamp to the 1849 A line.  
Submitted at the All-Union Electro-Technical In-  
stitute, Laboratory of New Sources of Light.

ID  
26T89

P.32/49T105

BUTAYEVA, F. A.

USSR/Physics  
Spectrometers  
Spectrum Analysis

Sep 48

"The Influence of the Parameters of Discharge on the Intensity of Resonance Mercury Lines of 1,850 Å and 2,537 Å," F. A. Butayeva, V. A. Fabrikant, All-Union Electrotech Inst tment V. I Lenin, 9 pp

"Zhur Tekh Fiz" Vol XVIII, No 9

Investigates effect of current, vapor pressure, and argon pressure on intensity of 1,850 Å and 2,537 Å lines, using vacuum luminescence

32/49T105

USSR/Physics (Contd)

Sep 48

spectrometer. Intensity of 1,850 Å line increases linearly with current, while noticeable deviations from linearity are observed for the 2,537 Å line. Working conditions of luminescent lamps correspond to maximum intensities of the two resonance lines of mercury. Submitted 5 May 48.

32/49T105



PA 42/49-80

BUTAYEVA, F. A.

USSR/Physics  
Fluorescence  
Lamps, Fluorescent

Mar/Apr 49

"Influence of Discharge Parameters Upon the Intensity of Lines (1,850 and 2,537 Angstroms) in Fluorescent Lamps," F. A. Butayeva, V. A. Fabrikant, All-Union Elec Eng Inst Imeni V. I. Lenin, 4 pp

"Iz Ak Nauk SSSR, Ser Fiz" Vol XIII, No 2

Using a vacuum monochromator which permitted separate observation of subject lines, author studied influence of discharge parameters (current strength, pressure of mercury vapors, and relative of argon) on intensity of these lines.

42/49T86

USSR/Physics (Contd)

Mar/Apr 49

sensitivity of luminophors to light of these two wave lengths.

42/49T86

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*12-24-25 D '57*  
VUL'FSON, K.S., prof.; GUREVICH, M.M., prof.; MESHKOV, V.V., prof.; NILENDER,  
R.A., prof. YUROV, S.G., kand. tekhn. nauk; SOKOLOV, M.V., prof.;  
BIBERMAN, L.M., kand. tekhn. nauk; BUTAYEVA, F.A., kand. tekhn. nauk;  
IVANOVA, N.S., kand. tekhn. nauk; SUSHKIN, N.G., kand. tekhn. nauk.

Valentin Aleksandrovich Fabrikant; on his 50th birthday. Svetotekh-  
nika 3 no.12:24-25 D '57. (MIRA 11:1)  
(Fabrikant, Valentin Aleksandrovich, 1907-)

Butayeva, F.A.

SUBJECT: USSR/Luminescence

48-4-24/48

AUTHORS: Butayeva F. A. and Fabrikant V.A.

TITLE: Sensitivity of Luminophores for Luminescent Tubes to Ultra-violet Radiation of Short Wavelengths (Chuvstvitel'nost' lyuminescentnykh lamp v korotkovolnovom ul'trafioletovom izluchenii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, # 4, pp 541-543 (USSR).

ABSTRACT: The relative sensitivities of tube luminophores to mercury lines of 1,850 and 2,537 Å were directly measured.

A specially designed vacuum monochromator was used. The brightness of the luminophores at their excitation by the 1,850 and 2.537 Å lines was measured by a photomultiplier.

Table 1 in the article gives data for the ratio of sensitivities of these lines. Table 2 gives results of calculations of the quantum yield. These data indicate quantum yields exceeding 1 at the excitation by the 1,850 Å line. The ratio of sensitivities depends on the type of a luminophore.

Card 1/2

TITLE: Sensitivity of Luminophores for Luminescent Tubes to Ultra-  
violet Radiation of Short Wavelengths (Chuvstvitel'nost'  
lyuminestsentnykh lamp v korotkovolnovom ul'trafiolotovom  
izluchenii) 48-4-24/48

The article contains 1 figure, 2 graphs and 2 tables.

The bibliography lists 3 references, all of which are Slavic  
(Russian).

INSTITUTION: All-Union Scientific Research Optico-Engineering Institute

PRESENTED BY:

SUBMITTED: No date indicated.

AVAILABLE: At the Library of Congress.

Card 2/2

*B. TAYEVA, F.M.*

21(0) 24(0) PHASE I: BOOK EXPLOITATION SOVIET  
 Akademlya nauk SSSR. Fizicheskii Institut  
 Iasledovaniya po eksperimental'noy i teoreticheskoj fizike; [sobornik]  
 (Studies on Experimental and Theoretical Physics; Collection of  
 Articles) Moscow, Izd-vo AN SSSR, 1959. 304 p. Errata slip  
 inserted. 2,300 copies printed.

Ed.: I. L. Fabelinskii, Doctor of Physical and Mathematical Sci-  
 ences; Zds. of Publishing H. M. L. Chernyak and V. G. Berkgaut.  
 Tech. Ed.: V. P. Kuznetsov, Commission for Publishing the Collection  
 (Chernomir) Academician; M. A. Leontovich, Academician;  
 P. A. Bazhulin, Doctor of Physical and Mathematical Sciences;  
 S. L. Mandel'shtam, Doctor of Physical and Mathematical Sciences;  
 I. L. Fabelinskii, Doctor of Physical and Mathematical Sciences;  
 P. S. Landsberg-Barybanskaya, Candidate of Physical and Math-  
 ematical Sciences; and O. P. Nobilevich (Secretary), Candidate of  
 Physical and Mathematical Sciences.

PURPOSE: This book is intended for physicists and researchers  
 engaged in the study of electromagnetic radiations and their role  
 in investigating the structure and composition of materials.

COVERAGE: The collection contains 30 articles which review  
 investigations in plasma physics, optics, molecular optics, seal-  
 conductor, and nuclear physics, and other branches of  
 physics. The introductory chapter gives a biographical profile  
 of G. S. Landsberg, Professor and Head of the Department of  
 Optics of the Division of Physical Technology at Moscow Uni-  
 versity, and reviews his work in Rayleigh scattering, combat  
 gases, spectral analysis of metals, etc. No personalities are  
 mentioned. References accompany each article.

Bazhulin, P. A., V. I. Malyshev, and M. M. Sushchinskii. The  
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BUTAYEVA, F.A., kand.tekhn.nauk

Role of the 1850 A. line in the output of fluorescent lamps.  
Svetotekhnika 5 no.7:17-20 J1 '59. (MIRA 12:9)

1. Vsesoyuznyy svetotekhnicheskiy institut.  
(Fluorescent lamps)



BUTAYEV, G.M., kand.tekhn.nauk; LUCHENITSER, I.A.

Digital computer for the solution gas-flow equation with automatic correction for pressure. Avtom. i prib. no.1:45-49 Ja-Mr '63.  
(MIRA 16:3)

1. Institut avtomatiki Gosplana UkrSSR.  
(Flowmeters) (Electronic digital computers)

BUTAYEV, G.M. (Kiyev)

Efficiency of optimal coding of the primary meter scale in  
pulse-code telemetering systems. Avtom. i telem. 24 no.1:92-96  
Ja '63. (MIRA 16:1)

(Telemetering)

BUTAYEVA, M.

Butayeva, M. "The use of bone and meat meal in feeding healthy and ill children," Trudy Azerbaydzh. nauch.-issled. in-ta okhrany materinstva i mladenchestva i pediater. kafedr Azerbaydzh. med. in-ta, Baku, 1949, p. 155-59, (Resume in Azerbaijani).

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

**BUTAYEVA, R.S.**

**Effect of the nutrition of preganant mares on fetal development of  
the offspring. Trudy Inst. morf. shiv. no.22:235-242 '57.**

(MIRA 11:4)

1. Moskovskiy sootekhnicheskiy institut.

(Mares--Feeding and feeding stuffs) (Fetus)