

BEKMET'YEV, R. M.

Possibility of using data accumulated over a four year period
for determining the characteristics of maximum wind speed.
Izv. AN Kazakh. SSR, Ser. energ. no.2:3-10 '62.
(MIRA 16:1)

(Electric lines—Overhead)

BEKMUZHAMBETOV, Ye.S.; GUS'KOV, Yu.K.; LEBEDEV, S.Ya.

Effect of krypton on the performance of a thermionic converter.
Zhur. tekhn. fiz. 35 no.9:1707-1709 S '65.

Performance of a cesium thermionic converter in the presence of
xenon. Ibid.:1709-1711 S '65. (MIRA 18:10)

BEKMUKHAMEDOV, G.

Relation between the electrophysiological and histochemical indices of excitation wave spreading over the myocardium. Dokl. AN SSSR 154 no. 3:735-737 Ja '64. (MIRA 17:5)

1. Rostovskiy-na-Donu gosudarstvennyy universitet. Predstavleno akademikom V.N.Chernigovskim.

BEK MUKHAMEDOV, K.

TSARNV, G.P.; ANDRONNIKOV, V.V.; KOBYCHENVA, A.A.; ANNENKOVA, A.A.;

VAKHMISTROVA, M.P., red.; MEDVEDOVA, S.G., red.; BEK MUKHAMEDOV,
K., red.; NI'KONINA, F.I., red.

[Kazakhstan; on the 40th anniversary of the Great October Socialist
Revolution; a concise reference manual and bibliography] Kazakhskaiia
SSR; k 40-letiiu Velikoi Oktiabr'skoi sotsialisticheskoi revolutsii;
kratkie spravochnye svedeniia i ukazatel' literatury. Alma-Ata,
1957. 233 p. (MIRA 11:10)

1. Alma-Ata. Gosudarstvennaya respublikanskaya biblioteka.
(Kazakhstan--Statistics) (Bibliography--Kazakhstan)

BEKMUKHAMEDOVA, N.B.

Synthetic activity of the root system of corn under conditions of ammonium and nitrate nutrition. Fiziol. rast. 8 no.1:75-78 '61. (MIRA 14:3)

1. Laboratory of Physiology of Nutrition of Plants, All-Union Fertilizer and Soil Science Institute.
(Corn(Maize)) (Nitrogen metabolism) (Roots(Botany))

BEKMUKHAMEDOVA, N.B.

Method of analyzing the bleeding sap and the possibilities for
its application in studying the metabolism of the root system.
Fiziol. rast. 10 no.2:253-257 Mr-Apr '63. (MIRA 16:5)

1. Laboratory of Physiology of Nutrition, All-Union Scientific
Research Institute of Fertilizers and Agronomical Soil Science.
(Sap) (Roots (Botany))

BEKMUKAMEDOVA, Z. U., KMTURAKULOV, YA. (USSR)

"Iodination of Blood Amino Acids in the Presence of
Radioactive Iodine (read by title)."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 August 1961

AULOV, D.M.; BEKMUKHAMEDOVA, Z.U.

Investigation of the composition of iodic components in the
blood after epiphysectomy and introduction of epiphysis
extract. Vop. biol. i kraev. med. no.4:333-336 '63.

(MIRA 17:2)

ISLAMBEKOV, R.K.; BEKMUKHAMEDOVA, Z.U.; TURAKULOV, Ya.Kh.

Pathogenesis of thyrotoxic crises following strumectomy and
during radioiodine therapy of toxic goiter. Med. zhur. Uzb.
no.6:3-7 Je'63 (MIRA 17:3)

1. Iz Instituta krayevoy eksperimental'noy meditsiny AMN SSSR
(dir. - prof. G.M. Makhkamov).

BEKMUKHAMEDOV, A.Ye.

Some characteristics of the hysterogetic mineralization in the
Benkaly and Shagyrkul' magnetite deposits. Izv.AN Kazakh.SSR.Ser.
geol. no.4:108-110 '62. (MIRA 15:7)
(Turgay Gates—Ore deposits)

БЕНТУКБАЙЕТОВ, А.Ye.

Stages in the endogenetic mineralization in the Benkalinsk ore
deposit. Trudy Inst.geol.nauk AN Kazakh.SSR no.4:72-82 '61.
(MIRA 14:10)

(Turgay region--Ore deposits)

BEKHURHMETOV, A.Ye.

Luminous rocks in the Beksalinsk and Shagyrkal'sk contact-metamorphic deposits of iron in Turgay. Trudy Inst. geol. nauk AN Kazakh. SSR 12:180-187 '65. (USSR 18:9)

BEKMUHAMETOV, Ye.; AMANZHOLOV, S.A., prof., obshchiy red. [deceased]; ABDRAKHMANOV, A., otv. red.; BUKETOV, Ye., otv. red.; KOLICHEVKO, V.V., red.; AITMUKHAMBETOVA, S., red.; ROROKINA, Z.P., tekhn. red.

[Russian-Kazakh dictionary of terms] Russko-kazakhskii terminologicheskii slovar'. Alma-Ata. Vol.1. 1959. 222 p. Vol.2. 1959. 342 p. (MIRA 12:6)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut yazyka i literatury. 2. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for Amansholov).

(Mineral industries--Dictionaries)

(Science--Dictionaries)

L 23703-66 EWT(1)/EWT(m)/EWP(t) 132(1) 00/00
ACC NR: AT6006754 SOURCE CODE: UR/3158/65/000/015/0001/0018

AUTHOR: Bekmukhanbetov, Ye. S.; Gus'kov, Yu. K.; Kasikov, I. I.; Lebedev, S. Ya.; Rodin, A. V.; Stakhanov, I. F. 73
81/

ORG: Physics and Power Institute, State Committee on the Use of Atomic Energy, SSSR
(Fiziko-energeticheskiy institut, Gosudarstvennyy komitet po ispol'zovaniyu atomnoy
energii SSSR)

TITLE: Operation of a cesium diode with ¹¹inert-gas²¹ impurity

SOURCE: Obninsk. Fiziko-energeticheskiy institut. Doklady, no. 15, 1965. Rabota
tseziyevogo dioda s primes'yu inertnogo gaza, 1-18

TOPIC TAGS: cesium electron tube, cesium plasma, thermoelectric convertor, volt
ampere characteristic, pressure effect, temperature dependence, inert gas

ABSTRACT: The investigations were motivated by the fact that when a thermoelectric
converter is operated in a nuclear reactor, the fission products, a large fraction
of which are radioactive krypton and xenon, may enter in the interelectrode gap of
the converter, and their effect on the converter in the operation of a cesium diode
may be appreciable. The tests were made with experimental tubes with flat elec-
trodes, using a molybdenum cathode and niobium anodes. Doubly distilled metallic
cesium and spectrally pure krypton and xenon were used in varying amounts. The
cathode was fed with pulsating halfwave current. The cesium vapor pressure ranged
from 0.1 to 3.9 mm Hg for the krypton-filled tube and 0.028 to 2 mm Hg for the xenon-
filled tube. Plots were prepared of the dependence of the short-circuit current on

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the cathode temperature without and with the inert gases, and volt-ampere characteristics at various pressures. The introduction of the inert gases resulted in a parallel shift of the temperature dependence curves towards smaller currents, and to noticeable reduction in the output parameters of the converter. Comparison of the experimental results with calculations based on diffusion theory show in general good agreement, although some unexplained irregularities were observed in that the saturation current following addition of xenon was higher than following addition of krypton, and that the experimental currents usually were lower than the theoretical ones. These deviations are related to thermal diffusion separation of the cesium-krypton and cesium-xenon mixtures in the tube. The experiments show that addition of inert gases reduces the saturation current compared with pure cesium. The experimental saturation currents were as a rule lower than the theoretical ones by a factor 2--4. Addition of krypton reduced the saturation current more than addition of xenon. The thermal diffusion ratios were calculated for Cs-Kr and Cs-Xe mixtures in the case of low cesium densities. The values obtained for the cross sections of the interaction between cesium and xenon and krypton are 1.05×10^{-13} and 8×10^{-14} cm^2 , respectively. Direct experiments on the thermal diffusion in the mixtures of cesium and inert gases are necessary for a final interpretation of the results. Orig. art. has: 12 figures and 12 formulas.

SUB CODE: 20/1 ORIG REF: 004/ OTH REF: 002

SERIAL DATE: N/A

Card 2/2 FV

BEKMUKHAMEDOV, Yerkebulat Bekmukhametovich; PONOMAREV, V.D.,
akademik, otv. red.; KOROTKOVA, Ye.A., red.

[Nonferrous metallurgy and mining in prerevolutionary
Kazakhstan] TSvetnaia metallurgii i gornoe delo dore-
voliutsionnogo Kazakhstana. Alma-Ata, Izd-vo AN Kaz.SSR,
1964. 314 p.
(MIRA 17:5)

1. Akademiya nauk Kazakhskoy SSR (for Ponomarev).

4981-66 EWT(d)/EWT(1)/EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2/I/ENP(t)/ENP(b)/
ACC NR: AP5024056 ETC(m) IJP(c) SOURCE CODE: UR/0057/65/035/009/1707/1709
JD/WH/JG/AT 44, 45 44, 45

AUTHOR: Bekmukhambetov, Ye. S.; Gus'kov, Yu. K.; Lebedev, S. Ya. 44, 45 76

ORG: none

TITLE: The influence of krypton on the operation of a thermionic converter 44, 45 76

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1707-1709

TOPIC TAGS: thermionic energy converter, cesium, krypton 27

ABSTRACT: The short-circuit currents and volt-ampere characteristics of a thermionic converter were determined in the presence of pure cesium at pressures of 0.31—235 mm Hg and then with various additions of krypton. The molybdenum emitter was kept at temperatures below 600C, and its distance from the niobium collector was about 0.15 mm. The measurements showed a parallel shift of current-temperature curves toward lower currents when krypton pressures were increased. The volt-ampere characteristics indicated that small admixtures of krypton bring about a small increase of the voltage; when krypton pressure is increased, the converter's output drops. A comparison of the experimentally obtained values for current with those calculated by the use of

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ACC NR: AP5024056

the diffusion theory showed the former to be 2—3 times lower than the latter. This can be attributed to insufficiently accurate values of the electron scattering cross sections of krypton atoms, or to a thermodiffusion process involving the elimination of Cs from the interelectrode gap. Orig. art. has: 1 formula and 4 figures. [ZL]

SUB CODE: EC/NP/ SUBM DATE: 06Mar65/ ORIG REF: 001/ OTH REF: 001

ATD PRESS: 4/31

PC

Card 2/2

L 2089-66 EMT(1)/EPA(s)-2/EMT(m)/EPP(c)/EEC(k)-2/ETC/EWG(m)/EPA(w)-2/T/EWP(t)/
EWP(b)/EWA(h) IJP(c) TT/JD/WW/AT

ACCESSION NR: AP5024057

UR/0057/65/035/009/1709/1711

AUTHOR: Bekmukhambetov, Ye. S.; Gus'kov, Yu. K.; Lebedev, S. Ya.

TITLE: The operation of a cesium thermionic converter in the presence of xenon

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1709-1711

TOPIC TAGS: cesium thermionic converter, thermionic converter, cesium, xenon

ABSTRACT: The temperature dependence of short-circuit currents of a thermionic converter was measured, first in pure cesium atmospheres in the range of pressures from 2.75×10^{-2} —2 mm Hg, and then with admixtures of xenon at pressures ranging from 0.27—69 mm Hg. Generally, the experiments showed a parallel shift of the curves toward smaller currents. However, at a xenon pressure of 69 mm Hg a change in the curve's angle was observed. The lack of a plateau in the volt-ampere characteristics is explained by volume recombination. When at cesium pressure of about 2 mm Hg the cathode temperature reaches 1300K, a small admixture of xenon at 0.27 mm Hg brings about an increase of the current and voltage of the converter due to its passing to the arc mode. A further increase of xenon pressure reduces the converter's output. Orig. art. has: 1 formula and 4 figures. [ZL]

ASSOCIATION: none

Card 1/1

L 2089-66
ACCESSION NR: AP5024057

SUBMITTED: 09Mar65

ENCL: 00

SUB CODE: ECEM

NO REF SOV: 002

OTHER: 001

ATD PRESS: 4117

Card 2/2

L 35870-66 EWT(1)/EWT(m)/I/EWP(t)/ETI IJP(c) AT/JD

ACC NR: AP6021220

SOURCE CODE: UR/0294/66/004/003/0454/0456

94
B

AUTHOR: Bekmukhambetov, Ye. S.; Gus'kov, Yu. K.; Lebedev, S. Ya. (Moscow)

ORG: none

(Moscow)

(Moscow)

TITLE: The performance of a thermionic converter in a cesium-neon mixture.

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 454-456

TOPIC TAGS: thermionic emission, thermionic energy conversion, volt ampere characteristic, cesium, cesium compound, thermionic converter, neon

ABSTRACT: The authors present the results of an investigation into the influence of a cesium-neon mixture on the performance of a thermionic converter. The measurements were made on an experimental lamp with plane electrodes. The dependence of the short-circuit current (I) on the cathode temperature was established together with the volt-ampere characteristics at different temperatures of the cathode in pure cesium vapors. Analogous series of measurements were made at different additions of neon. Two graphs presented show the curves I as a function of cathode temperature at cesium vapor pressures of $2.8 \cdot 10^{-1}$ and 2 mm Hg, and with neon pressure from 0.27 to 39 mm Hg. The graphs show that the experimental value of I for pure cesium in a diffusion-equilibrium region agrees satisfactorily with the calculations

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UDC: 537.581.621.362.546.36

L 35870-66

ACC NR: AP6021220

made on the basis of the diffusion theory (B. Ya. Moyzhes, G. Ye. Pikus. Fizika tverdogo tela, 2, 756, 1960). The introduction of neon leads to a parallel shift of the curves toward smaller voltages. In an arc mode the short-circuit currents also decrease. Two other graphs show the volt-ampere characteristics at cathode temperatures from about 1470 to 1900K for cesium pressures of $2.8 \cdot 10^{-1}$ and 2 mm Hg, respectively, for pure cesium, and at neon pressures of 0.27, 0.71, 3.37, and 39 mm Hg for a cesium-neon mixture. Table 1 shows the

PNe, mm Hg	I, a/cm ²	V, v	PNe, mm Hg	I, a/cm ²	V, v	PNe, mm Hg	I, a/cm ²	V, v
0	$1.54 \cdot 10$	0.097	0.71	$2.98 \cdot 10$	0.075	3.37	$3.76 \cdot 10$	0.095
	$4.64 \cdot 10^{-1}$	0.117		$2.74 \cdot 10$	0.173		$3.02 \cdot 10$	0.19
	$4.55 \cdot 10^{-1}$	0.286		$2.28 \cdot 10$	0.296		$2.19 \cdot 10$	0.275
	$9.62 \cdot 10^{-1}$	0.121		$1.81 \cdot 10$	0.341		$1.925 \cdot 10$	0.363
	$9.62 \cdot 10^{-1}$	0.242		$1.67 \cdot 10$	0.462		$1.15 \cdot 10$	0.505
	$9.34 \cdot 10^{-1}$	0.352		$1.18 \cdot 10^{-1}$	0.517		$4.09 \cdot 10^{-1}$	0.616
0.27	$8.05 \cdot 10^{-1}$	0.503	39	$8.87 \cdot 10^{-1}$	0.56	39	$5.07 \cdot 10^{-1}$	0.128
	$5.83 \cdot 10^{-1}$	0.55		$6.75 \cdot 10^{-1}$	0.594		$7.55 \cdot 10^{-1}$	0.19
	$4.725 \cdot 10^{-1}$	0.594		$5.3 \cdot 10^{-1}$	0.665		$6.25 \cdot 10^{-1}$	0.236

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ACC NR, АТГ021220

output parameters of the converter at $p(\text{Cs}) = 2$ mm Hg and cathode temperature of 1900K without neon and in a cesium-neon mixture when the value of the current through the converter exceeded $4 \cdot 10^{-1}$ a/cm². At low cesium vapor pressures (about $2.8 \cdot 10^{-1}$ mm Hg) additions of neon lead only to a decrease in the saturation current. In the region of high cesium vapor pressures (about 2 mm Hg), small additions of neon shift the volt-ampere characteristics toward large output voltages. When the neon pressures are close to and higher than the cesium pressures, the volt-ampere characteristics shift into the region of small output voltages; the output power drops as a result of the decrease in the current and the voltage. Similar results have been obtained for other inert gases elsewhere (Ye. S. Bektukhambetov, Yu. K. Gus'kov. S. Ya. Lebedev. Zh. tekhn. fiziki, 35, No. 9, 1707, 1965). Orig. art. has: 5 figures, 1 formula, and 1 table. [26]

SUB CODE: 10/ SUBM DATE: 06Aug65/ ORIG REF: 002/ ATD PRESS: 5036

Card 3/3 *llb*

TURAKULOV, Ya.Mh.; MIRAKHMEDOV, A.K.; BEKMUKHAMEDOVA, Z.U.; KHAMRAYEVA, F.A.

Ascorbic acid and cholesterol content in the testes of rats at various stages of radiation injury. Uzb. biol. zhur. 8 no.4:14-18 '64.

(MIRA 18:7)

1. Institut yadernoy fiziki AN UzbSSR.

KHASENOV, S.; ZHANPEISOV, Ye.; YRYSMAMBEETOV, K.; RAMAZANOV, Ye.;
ABDRAKHMANOV, A., kand. filol. nauk, red.; SEMENOV, M.N.,
red.; ROROKINA, Z.P., tekhn. red.; BEKMUKHAMETOVA, S.,
red.; KHUDYAKOV, A.G., tekhn. red.

[Russian-Kazakh dictionary] Russko-kazakhskii terminologicheski
skii slovar'. Alma-Ata, Izd-vo Akad.nauk Kazakhskoi SSR.
Vol.10. [Terms used in railroad transportation] Terminy zhe-
leznodorozhnogo transporta. Pod obshchey red. A.Abdrahmanova.
1962. 160 p. Vol.11. [Botany and soil science] Botanika i
pochvovedenie. 1962. 468 p. (MIRA 15:9)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut yazyko-
znaniya.

(Russian language--Dictionaries--Kazakh)
(Railroads--Terminology) (Soil biology--Terminology)

BEKMURADOV, I., Cand Geol-Min Sci -- (diss) "Red-colored stratum of Nebitdag. (Profile, lithology, conditions of stratification and of the distribution of petroleum)." Baku, 1960. 17 pp; (Academy of Sciences Azerbaydzhan SSR, Inst of Geology im Academician I. M. Gubkin, Academy of Sciences Turkmenistan SSR, Inst of Geology); 150 copies; free; (KL, 17-60, 144)

YUREVICH, A.L.; BEKMURADOV, N.; TSEPELEV, N.S.

Mineral composition of "caving clays" of Nebit-Dag. Izv. AN Turk.
SSR no.2:57-58 '59. (MIRA 12:6)

1. Institut geologii AN Turkmenskoy SSR.
(Clay--Analysis)

TSKPELOV, N.S.; BEKMURADOV, N.

Fourth All-Union Lithological Conference. Izv. AN Turk. SSR no.4:
93-94 '59. (MIRA 13:6)
(Petrology--Congresses)

BEKMURADOV, H.

Occurrence of bitumen in the red formation of Nebit-Dag.
Izv. AN Turk. SSR no.5:64-67 '59. (MIRA 13:3)

1. Institut geologii AN Turkmenskoy SSR.
(Nebit-Dag--Bitumen)

BEKMURADOV, N.

Reservoir characteristics of sand and silt rocks in the red-colored series of Nebit-Dag. Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol. nauk no.3:110-113 '61. (MIRA 14:7)

1. Institut geologii AN Turkmenskoy SSR.
(Nebit-Dag--Petroleum geology)

LAPTEVA, T.M.; TELYUSHENKO, T.M.; BEKMUPADOV, N.

Fifth All-Union Lithological Conference. Izv. AN Turk. SSR.
Ser. fiz.-tekhn., khim. i geol. nauk no.6:119-121 '61.

(MIRA 15:3)

1. Institut geologii AN Turkmenskoy SSR.
(Petrology--Congresses)

ESENOV, M. E.; KHANOV, S.; TEGELEKOV, K.; BEKMURADOV, N.

"Geology and oil-and gas deposits of Southwest Turkmenistan."

report submitted for 22nd Sess, Intl Geological Cong, New Delhi, 14-22 Dec
1964.

L 8928-66 EMT(d)/EMT(l)/EMP(m)/T/ECS(k) IJP(c) NW/GS
ACC NR: AT5027194 UR/0000/65/000/000/0067/0069

AUTHOR: Shul'man, Z. P.; Bekmuratov, T. F.

ORG: Institute of Heat and Mass Transfer AN BSSR, Minsk (Institut teplo- i massoobmena AN BSSR)

TITLE: Approximate solution of the laminar boundary layer equation for an elongated body with a permeable surface

SOURCE: AN BSSR. Institut teplo- i massoobmena. Teplo- i massoobmen tel s okruzhayushchey gazovoy sredoy (Heat and mass exchange of bodies with the surrounding gaseous medium). Minsk, Nauka i Tekhnika, 1965, 67-79

TOPIC TAGS: boundary layer theory, surface property, dimension analysis

ABSTRACT: The initial system of dimensionless equations is written in the form:

$$\frac{\partial u}{\partial y^2} = u \frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} \left(v_0 - \int \frac{\partial u}{\partial x} dy \right) - \frac{\partial u}{\partial y} \frac{\partial \ln r_0}{\partial x} \int u dy - U \frac{du}{dx} \quad (1)$$

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ACC NR: AT5027194

$$\frac{1}{Pr} \frac{\partial^2 \theta}{\partial y^2} = u \frac{\partial \theta}{\partial x} + \frac{\partial \theta}{\partial y} \left(V_0 - \int \frac{\partial u}{\partial x} dy \right) - \frac{\partial \theta}{\partial y} \frac{d \ln r_0}{dx} \int u dy + u(\theta - 1) \frac{d \ln(T_w - T_\infty)}{dx} \quad (2)$$

The boundary conditions are:

$$u = 0, V = V_0(x); \theta = 0 \text{ at } y = 0; \quad (3a)$$

$$u = u \text{ at } y = \delta; \theta = 1 \text{ at } y = \Delta. \quad (3b)$$

The article uses the method of successive approximations to solve the above system of equations. It is pointed out that the approximate relationships obtained have an evident limitation; they are valid only for small values of the modulus $|V|$. It is stated in conclusion that this range of values is nevertheless important in many convective problems of practical importance, such as drying, mass transfer and cooling. Orig. art. has: 15 formulas.

SUB CODE: MR/ SUBM DATE: 02Jul65/ ORIG REF: 003/ OTH REF: 000

OC
Card 2/2

BEKMURATOV, T.F.

Device for the automation of layout work (coordinator).
Vop. vych. mat. i tekhn. no.2:205-213 '64.

(MIRA 18:12)

L 20677-66 EWT(d)/EWP(1) IJP(e) BB/CG
ACC NR: AP6008680 SOURCE CODE: UR/0167/66/000/001/0017/0021

AUTHOR: Bekmuratov, T. F.; Malinovskiy, B. N.; Skuridin, V. P.

ORG: Institute of Cybernetics AN UkrSSR (Institut kibernetiki AN UkrSSR); Institute of Mechanics and Computing Center AN UzSSR (Institut mekhaniki i Vychislitel'nyy tsentr AN UzSSR)

TITLE: Analog-digital multiplier 16C

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 1, 1966, 17-21

TOPIC TAGS: computer component, analog digital converter, analog digital computer system

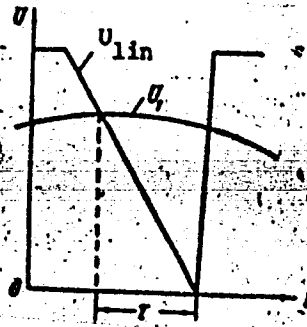
ABSTRACT: The authors describe an analog-digital multiplier based on a sequential counting cyclic converter with intermediate conversion of the analog quantity to a time interval. The input voltage (first cofactor) is converted to a time interval by comparison with a linearly variable compensating voltage whose slope is proportional to the magnitude of the second cofactor which is given in the form of a code. The resultant time interval, which is proportional to the product of the converted voltage and the code, is filled with fixed frequency pulses and calculated

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ACC NR: AP6008680

in the output counter. This method of multiplication is illustrated by the figure which shows the linear voltage U_{lin} and the voltage to be converted U_1 . Voltage U_1 is converted to the time interval $\tau \approx U \cot \alpha$. $\cot \alpha$ is proportional to the RC time product of the linear voltage generator. Consequently, $\tau = k_1 RC U_1$. It is clear from this relationship that if either R or C is proportional to the second cofactor A, τ will be proportional to the product AU_1 , i. e. $\tau = KA U_1$. Block and schematic diagrams of the multiplier are given. RES-9 electromechanical relays with an operating frequency of 100 cps were used in the laboratory model of the analog-digital multiplier. The time required for a single multiplication using relays of this type is 10 msec. Orig. art. has: 3 figures.



SUB CODE: 09/

SUBM DATE: 15Sep65/

ORIG REF: 002/

ATD PRESS: 4223

Card 2/2 BK

[14]

L 47043-66 EWT(d)/EWP(1) IJP(c) BB/CG

ACC NR: AP6015880

SOURCE CODE: UR/0167/65/000/006/0008/0013

AUTHOR: Bekmuratov, T. F.; Skuridin, V. P.; Malinovskiy, B. N.

ORG: Institute of Cybernetics, AN UkrSSR (Institut kibernetiki AN UkrSSR)

TITLE: Analog-digital multiplication systems

SOURCE: AN UkrSSR, Izvestiya. Seriya tekhnicheskikh nauk, no. 6, 1965, 8-13

TOPIC TAGS: analog digital conversion, analog digital computer system, electron multiplier

ABSTRACT: The report reviews operating principles of analog digital computer systems. Grouping these by type of output (i.e., in analog or digital form), the authors attempt a classification by the method underlying the "analog to code" and "code to analog" conversions. Six design principles are illustrated. It is concluded that a cyclical program of converting analog magnitudes by successive registration of single increments with intermediate conversion to frequency or time intervals offers the most effective approach to systems with a digital output. Widespread employment of the comparison and readout approach will require a simplification of its current complexity. Multiplication of digital codes by analog magnitudes, utilizing analog-to-code converters in which the multiplication is accomplished during the conversion process, permits maintenance of accuracy levels typical of the converting system itself.

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B

L 47043-66

ACC NR: AP6015880

Orig. art. has: 3 figures.

SUB CODE: 09/ SUBM DATE: 25Jun65/ ORIG REF: 009/ OTH REF: 002

Card 2/2 ULR

L 44790-66 ENT(1)

ACC NR: AP6031014

SOURCE CODE: UR/0167/66/000/004/0027/0030

AUTHOR: Bekmuratov, T. F.; Skuridin, V. P.

47
B

ORG: Institute of Cybernetics, AN UkrSSR (Institut kibernetiki AN UkrSSR)

TITLE: An analog-digital multiplier with an extended variation range for the coded factor

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 4, 1966, 27-30

TOPIC TAGS: pulse multiplication, logic circuit, *ANALOG DIGITAL COMPUTER SYSTEM, BINARY CODE*

ABSTRACT: An analog-digital multiplier whose block diagram is shown in the figure is presented. The factors to be multiplied are: 1) a binary coded quantity entered into the register from terminal A, and 2) a voltage level U_1 between 0 and 10 v. The operation is as follows: the code entering the 10-bit register (1) sets the switching relays K_1, K_2, \dots, K_N (operating time, 20 msec) into an open or closed position depending on the code. The relay contacts either short out portions of a tapped resistor R or include them in the RC phantatron ramp generating circuit (2), which also includes a constant resistance R_0 . The negative slope ramp, on reaching a level U_1 causes the comparator (3) to issue a pulse at its output (4) which opens a gate (6) permitting pulses with f_0 repetition frequency from generator (11) to reach the counter (13) via the forward count input lead (12). The gate (6) is blocked by a pulse at (7) when the ramp at (5) reaches 0 v. The same pulse sets the flip-flop (8) which clears the input register, activates the reversing gate (10), and causes another
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1. 44790-66

ACC NR: AP6031014

05

ramp voltage (using only R_0 and C) to be generated after a time delay determined by a delay line (15). The pulse counter (13) counts down during this part of the cycle, which is terminated as previously. The product is given with an accuracy of $\pm 0.2\%$ at

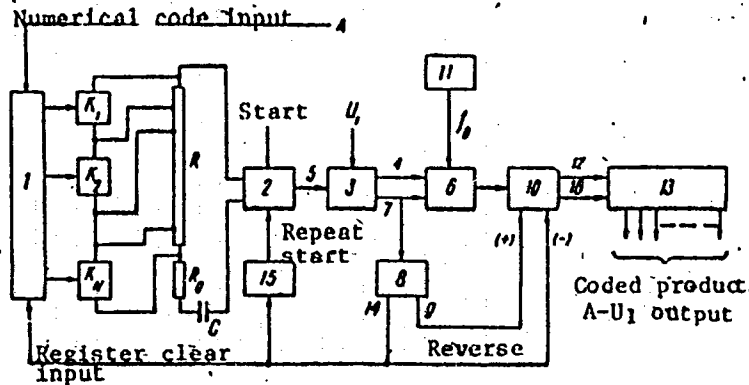


Fig. 1. Block diagram of analog-digital multiplier unit

the 10-bit counter output (13). The multiplier is a modification of a previous model whose operation was based on the first half of the described two-part cycle. The permissible range of the digitally encoded multiplication factor is increased
Card 2/3

L 44790-66

ACC NR: AP6031014

by a factor of 100 at the expense of operating speed which is decreased by half. The accuracy of the results is unchanged. Orig. art. has: 3 figures. [BD]

SUB CODE: 09/ SUBM DATE: 07Sep65/ ORIG REF: 001/ ATD PRESS: 5078

Card 3/3

L 47371-66 EW:(d),EWP(1) IJP(c) BB/GG

ACC NR: AP6030622 SOURCE CODE: UR/0413/66/000/016/0110/0110

INVENTOR: Bekmuratov, T. F. ; Malinovskiy, B. N. ; Skuridin, V. P.

ORG: none

TITLE: Multiplier ¹¹⁰ Class 42, No. 185120 [announced by Cybernetics Institute AN UkrSSR (Institut kibernetiki AN USSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 110

TOPIC TAGS: electron multiplier, analog digital converter, analog factor, comparison circuit, digital resistor, voltage generator

ABSTRACT: The proposed multiplier shown in Fig. 1 has a digital output and an analog-to-digital converter which fills an interval of time proportionate to the value of the analog factor. The converter includes a generator of linearly variable voltage, a comparison circuit, a valve, a counter, and a controlled digital resistor. To simplify the device, the digital resistor controlled by the digital factor code is connected in parallel to a time-setting capacitor in the circuit of the generator of linearly variable voltage. Orig. art. has: 1 figure. [Translation] [DW]

Card 1/2

UDC: 681.142.07

50
B

L 47371-66

ACC NR: AP6030622

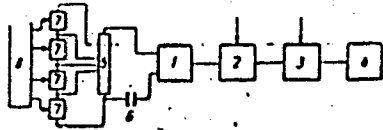


Fig. 1. Multiplier.

1—Generator of linearly variable voltage; 2—comparison circuit; 3—valve; 4—counter; 5—controlled digital resistor; 6—time-setting capacitor; 7—register valves; 8—digital factor register

SUB CODE: 09/ SUBM DATE: 16Feb65/

Card 2/2

mjs

L 40983-66 EWT(m) GG

ACC NR: AR6011862

SOURCE CODE: UR/0299/65/000/020/M016/M016

AUTHOR: Bekmuratov, U. B.

TITLE: Healing morphology of a fracture with intramedullar fixation of fragments with a metal rod in animals irradiated at an earlier date

SOURCE: Ref. zh. Biologiya, Abs. 20M94

REF SOURCE: Nauchn. tr. Samarkandsk. med. in-t, v. 31, 1964, 152-156

TOPIC TAGS: radiation biologic effect, bone, animal experiment

ABSTRACT: Thirty rabbits were irradiated with a single 300 r dose and 12 dogs were irradiated with a single 400 r dose. A fracture of the right hip was performed 1 mo following irradiation. Bone fragments were fixated intramedullarily with a metal rod. X-ray and histological examinations of the bones were conducted from the 15th to the 210th day. In 90 days bone fragments of the rabbits were joined by a callus formed by osseous tissue of a spongy structure; interosseous spaces of the callus were filled with a cellular-fiber tissue, and the surface of the osseous structure was covered with endosteum cells. The space between the cortical layer and rod capsule was filled with a fibrous and fatty bone marrow with a high number of myeloid elements. Connective tissue

Card 1/2

UDC: 591.169

40954-85
ACC NR: AR6011862

formed between the fragments in 120 days. In dogs no histologically complete accretion of the fracture was found (connective or cartilage tissue was deposited between the fragments) after 150 days. N. S.
Translation of abstract.

SUB CODE: 06

Card 2/2 *gd*

PAVLOV, A.P., doktor tekhn. nauk; GORENSHTEYN, B.V., kand. tekhn. nauk;
VINOGRADOV, G.G., inzh.; SPIRIDONOVA, L.Ye., inzh.;
BENMURZIN, A.G., inzh.

Results of using cylindrical shells. Bet. 1 zhel.-bet. 9
no.11:489-495 N '63. (MIRA 17:1)

1. Leningradskiy inzhenerno-stroitel'nyy institut (for Pavlov).

GORENSHTEYN, B.V.; BEKMURZIN, A.G.; DOBSHITS, M.L., inzh., red.

[Experimental construction of an industrial building with a cylindrical shell type of roof] Eksperimental'noe stroitel'stvo proizvodstvennogo zdaniia s pokrytiem v vide tsilindricheskikh obolochek. Moskva, Stroiizdat, 1964. 15 p. (MIRA 18:12)

1. Nachal'nik tekhnicheskogo otdela tresta No.16 Glavzapstroya (fo. Bekmurzin). 2. Glavnyy konstruktor otdela Gosudarstvennogo proyektного instituta "Lenpromstroyproyekt" (for Gorenshteyn).

BEKHAZAR-YUZBASHEV, Benik Gurgenovich; SERGEYEV, S., redaktor; DANILINA, A.,
tekhicheskii redaktor

[Land of the white and Blue Nile; Sudan sketches] Strana Belogo i
Golubogo Nila; ocherki o respublike Sudan. Moskva, Gos. izd-vo
polit: lit-ry, 1956. 77 p. (MLRA 9:11)
(Sudan)

BEKHAZAROV S. I.

COUNTRY	: USSR	T
CATEGORY	: Human and Animal Physiol, Neuromuscular Physiol.	
ABS. JOUR.	: RZhBiol., No. 5 1959, No. 22387	
AUTHOR	: <u>Beknazarov, S. I.</u>	
INST.	: Karaganda Medical Institute	
TITLE	: The Significance of Bipolar Electrostimulation for the Functional State of Experimentally Denervated Muscle.	
ORIG. PJA.	: Tr. Karagandinsk. med. in-ta, 1957, 1, No. 5, 352-354	
ABSTRACT	: The experiments were performed on rabbits and cats. Bipolar nonpolarizing needle electrodes or encircling pincer-type electrodes were employed. A 50 v rectified current was used for stimulation passed through an induction apparatus at a frequency of 30 impulses per second. Duration of the stimulus was 30 seconds with one-minute intervals between stimuli. Stimulation was performed after transection of the sciatic nerve four times daily for a period of 10 to 40 days. In the very beginning, atrophy not only prevented the onset of muscle hypertrophy, but altered its extent.	
Cerd:	1/2	

EXCERPTA MEDICA Sec.12 Vol.12/4 Ophthalmology April 58

592. THE EFFECTIVENESS OF SYNTHOMYCIN IN TRACHOMA (BASED ON DATA ON THE USE OF THE PREPARATION IN THE TURKMEN S.S.R.) (Russian text) - Beknazarova Z. K. - TRUD. TURKMEN TRAKH. INST. 1956, 4 (23-30)

The literature data concerning the effectiveness of synthomycin in trachoma are cited. The author gives from personal experience an account of: the method of synthomycin administration; the percentage of cures in relation to age, stage of disease and sex; the recovery time at different stages of the affection with the analysis of the causes of protraction; the effectiveness of synthomycin in the different forms of trachoma and its complications. (S)

БЕКНАЗАРОВА, З. К.

EXCERPTA MEDICA Sec.12 Vol.12/4 Ophthalmology April 58

594. AN EXPERIMENT IN CURING SCHOOL CHILDREN SUFFERING FROM TRACHOMA (Russian text) - Beknazarova Z. K., Charyev K. A. and Zheltova A. I. - TRUD. TURKMEN TRAKH. INST. 1956, 4 (47-50)

The literature data on the effectiveness of synthomycin therapy in trachoma are cited, and personal observations indicating the percentage of cures of patients at different stages of the disease are described. (S)

BEKNAZAROVA, Z. K.: Master Med Sci (diss) -- "Experience in the mass use of
synthomycin in treating trachoma patients in Turkmenistan". Ashkhabad, 1958.
14 pp (Turkmen State Med Inst, Turkmen Sci Res Trachoma Inst), 350 copies (KL,
No 9, 1959, 117)

BEKHAZAROVA, Z.N., kand.med.nauk; BRITUN, M.N.

Case of osteomalacia in a 4-year old girl. Med. zhur; Uzb. no.10:
64-65 '61. (MIRA 14:10)

1. Iz kafedry detskikh bolezney (zav. - dotsent B.Kh.Karakhodzhayev)
i kafedry rentgenologii i radiologii (zav. - dotsent G.S.Kuznetsov)
Samarkandskogo meditsinskogo instituta.
(OSTEOMALACIA)

BEKNAZAROVA, Z. N.

Beknazarova, Z. N.

"The clinical aspects of Botkin's disease in young children." Second Moscow State Medical Inst imeni I. V. STALIN. Moscow, 1956. (Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 25, 1956

BEKNAZAROVA, Z.N., kand.med. nauk

Clinical aspects, course and treatment of hemorrhagic diathesis
in children. Nauch. trudy SamMI 23:90-92 '63 (MIRA 17:3)

1. Iz kafedry detskikh bolezney Samarkandskogo meditsinskogo
instituta.

BEKHAZARYAN, A.G. (Yerevan)

One type of oral exercise on quadratic equations. Mat.v shkole
no.1:66 Ja-F '60. (MIRA 13:5)
(Equations, Quadratic--Problems, exercises, etc.)

1. BEKNEV, V.
2. USSR (600)
4. Dynames
7. Thermoelectric generator. Tekh. molod. 21 No. 3, 1953.

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

BEKHEV, V., aspirant

Wings of high-speed airplanes. Tekh.mol.22 no.4:36 Ap '54.
(MLRA 7:4)
(Airplanes--Wings)

SOV/124-57-4-4137

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 41 (USSR)

AUTHOR: Beknev, V. S.

TITLE: Calculation of the Inflow Section Design of a Compressor With the Compressibility of the Air Taken Into Consideration (Raschet vsasyvayushchego ustroystva kompressora s uchetom szhimayemosti vozdukha)

PERIODICAL: Sb. statey Mosk. vyssh. tekhn. uch-shcha, 1955, Vol 39, pp 43-54

ABSTRACT: A description is given of an approximate-calculation method of the velocity field in axisymmetrical ducts of a compressible idealized fluid under conditions of stationary flow. The solution for an incompressible fluid is taken as a first approximation. Throughout the equations of the discharge rate, the radial balance, and the dependence of the density of the fluid upon the velocity of the flow, a correction for the compressibility is then introduced into the solution. The results of the experimental verification of the method are given. Bibliography: 4 references.

V. D. Sokolov

Card 1/1

DEYCH, Mikhail Yefimovich; SAMOYLOVICH, Georgiy Semenovich; BEKNEV, V.S.,
kand.tekhn.nauk, retsenzent; SHERSTYUK, A.N., kand.tekhn.nauk,
detsent, red.; ZARYANKIN, A.Ye., kand.tekhn.nauk, red.; MODEL',
B.I., tekhn.red.

[Fundamentals in aerodynamics of axial-flow turbomachines]
Osnovy aerodinamiki osevykh turbomashin. Moskva, Gos.nauchno-
tekhn.isd-vo mashinostroit.lit-ry, 1959. 427 p. (MIRA 12:8)
(Turbomachines--Aerodynamics)

AUTHORS: Uvarov, V.V. (Dr.Tech.Sci.), Chernobrovkin, A.P. (Cand. Tech.Sci.). Beknev, V.S. (Cand.Tech.Sci.), Manushin, E.A. (Engineer) and Pankov, O.M. (Engineer)

SOV/96-59-10-2/22

TITLE: The Development of High Output Gas-turbine Sets

PERIODICAL: Teploenergetika, 1959, Nr 10, pp 8-17 (USSR)

ABSTRACT: The availability of gas and oil for power station fuel makes the use of gas turbines economically attractive, yet they are still looked upon as essentially small- or medium-output machines. Although the Khar'kov Turbine Works has designed a gas turbine of 50 MW and the Leningrad Metal Works one of 100 MW, the possibility of designing gas turbines of 300 MW and more has not been fully studied. Theoretical investigations at the Moscow Technical High School have shown that it is quite possible to develop gas turbines with outputs up to 300 MW or more at gas temperatures of 700-750 °C. Output can be raised by a combination of the following factors: increasing the axial velocity at the outlet from the last stages of the turbines and using special diffusers; replacing the regenerator by additional coolers and intermediate combustion chambers, with simultaneous

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increase in pressure to 60-80 atms; and driving the generator from the high- or medium-pressure shaft of the gas turbine. These factors are then considered separately in more detail. Axial outlet velocities are made low to avoid high outlet losses which may, however, be reduced by the use of a diffuser. Diffusers present certain problems. The Moscow Technical High School has investigated a diffuser that is represented diagrammatically in Fig 1. On leaving the blading of the last stages, gas passes through rows of fixed blades in which it is retarded and turned through an angle. Fig 1 shows three rows of blades but it may be necessary to use four to turn the flow through 90 degrees. The overall efficiency of such diffusers should be 75-80%, but this requires experimental proof. In an experimental rig the width of the gas flow was 80 mm at a mean diameter of 240 mm. The Ts-diagram for the diffuser is included in Fig 1 and efficiency formulae are given. The outlet velocity from the Leningrad Metal Works 100-MW gas turbine is about 130 m/sec; in the absence of a diffuser the associated loss is about 2 kcal/kg and with a diffuser it is about 0.6 kcal/kg. If the speed is increased to

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260 m/sec the output is almost doubled and becomes 195 MW; the outlet loss with a diffuser is 2.4 kcal/kg, or without one 8 kcal/kg, which increases the fuel consumption by 9%. The effect of cutting out the regenerator and increasing the pressure is then considered and the design of Brown Boveri turbines at Livorno, Betzau and in Peru are discussed. The general conclusion is that gas turbines with regeneration have considerable aerodynamic loss and it is interesting to note that recent Brown Boveri turbines are made without a regenerator. Efficiency calculations were made on four cycles: cycles I and II have regeneration; cycles III and IV do not, but have an increased number of coolers and intermediate combustion chambers. The optimum value of pressure increase was chosen for each cycle. Ts-diagrams for the various cycles are shown in Fig 2 and the main operating and performance data are given in Table 1. Examination of the data shows that all the cycles have about the same efficiency, but with no regeneration the number of turbine stages increases, for example, from seven stages in cycle I to ten stages in cycle IV. The number of

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compressor stages will also be increased in a similar way. Much greater outputs can be obtained from the cycles without regenerators. A diagram of the turbine and compressor layout for operation on cycle III is given in Fig 3, in which turbine Nr 4 may have either single or double flow. The turbine outlet temperature is 682 °K which is the same as for cycle I but the pressure is 2.66 atm, whilst for cycle I it is 1.04 atm. The output that can be obtained from cycle III is a little over three and a half times that obtainable from cycle I, whilst with cycle II the possible output is appreciably lower than for cycle I. The effect of driving the generator from the high- or medium-pressure turbine shaft is then considered. A somewhat similar arrangement to that shown in Fig 3 was used by Brown Boveri at Betznsu and Peru, but the circuit of Fig 3 offers certain advantages. The governor may control the fuel consumption in the three combustion chambers and can ensure the best load distribution between the various turbines. A number of output and efficiency calculations are then made. Eq (4) gives the output per unit area of flow and Eq (5) the efficiency. Stresses due to centrifugal force are

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The Development of High Output Gas-turbine Sets

proportional to the area of flow and the permissible stress depends on the temperature and the steel. For the purposes of the calculation steel IKh13 was assumed, and calculated values of temperature and efficiency are given in Table 2. Calculated values of output per unit area of flow are given in Table 3 in MW/m². Table 3 shows the extent to which the maximum output is reduced by the use of regeneration; thus with cycle IV the output is over three and a half times that of cycle I for the same efficiency of 37.4%. In the Leningrad Metal Works 100-MW gas turbine the output area from the last stage is about 2.7 m², which with cycle I would give an output of 117.6 MW and with cycle IV 415 MW, if double exhaust were used. Other cycles of somewhat higher efficiency but somewhat lower output are possible. The compressor and turbine efficiency data were assessed on the basis of the comparatively small Brown Boveri turbines; higher efficiency and Reynolds numbers would be obtained for large turbines of 200-400 MW, as indicated in Tables 5 and 6. For a large turbine an overall efficiency of about 40% would be expected. Figs 4, 5 and 6 show the Ts-diagrams for cycle I, cycle IV and the

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cycle of the Leningrad Metal Works 100-MW turbine respectively. Calculated values of efficiency for all three cycles are given in Table 4 in which the turbine output is given in megawatts per square metre of exhaust area. It follows from the data given in Tables 3 and 4 that if the generator turbine has a single exhaust, outputs up to 300 MW can be obtained with an outlet velocity loss of 4% and an outlet area of 2.5-2.7 m². It would be relatively simple to construct a turbine of 200 MW with a single flow, or 400 MW with double flow, and an efficiency of about 40%. Allowing somewhat higher losses it should be possible to build a 600 MW gas turbine with double flow and an efficiency of about 39%. Questions of cooler surface area and quantity of cooling water are then considered and it is shown that the 300 MW gas turbine would only require about one seventh the cooling water of a 300 MW steam turbine. The results of a number of strength calculations are then given, particularly for the blading, and recorded in Tables 5 and 6. It is concluded that it would be quite practicable to build gas turbines of 400 MW or even 600 MW. The weight of a 300 MW turbine using cycle IV and the circuit

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The Development of High Output Gas-turbine Sets

of Fig 3 would be about 1200 tons, excluding the weight of the pipework. A weight of 5-6 kg/kW (excluding the alternator) is to be expected. The calculation of permissible bending stress on the blades is of great interest as it largely governs the amount of metal required in the turbine. The article does not consider the cycle with high-pressure regeneration. This cycle is somewhat more efficient than those considered, but gives rather lower output than cycle IV. Moreover, the design of a high-pressure regenerator presents a number of problems, but before a final choice of cycle is made it will be necessary to consider the cycle with high-pressure regeneration.

Card 7/7 There are 6 figures, 6 tables and 4 references, of which 2 are Soviet and 2 German.

ASSOCIATION: Moskovskoye vyssheye tekhnicheskoye uchilishche
(Moscow School of Higher Technical Education)

30240

S/145/60/000/002/008/020
D221/D302

26.2120

AUTHOR: Beknev, V.S., Candidate of Technical Sciences

TITLE: On the choice of an inlet angle for profiling a stage of axial compressor

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye, no. 2, 1960, 78 - 87

TEXT: Calculations of gas dynamics provide angles for the mean radius of flow (Fig. 1). A profile of each section of blades must ensure the specified deviation of the stream. The section of the compressor stage on a given radius is designed as an elementary stage. Selection of the latter on the basis of theory is cumbersome. Another method is based on experimental data due to flow through flat grids of blades. No clear indication was given there as to the values of inlet angle i^* . Plots quoted assumed no effect of profile curvature angle, θ and introduced the notion of a nominal condition which is quite arbitrary. The author tries to establish the optimum condition of flow in the elementary stage of the

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On the choice of an inlet angle ...

compressor on the basis of experimental data due to laminar diffusers, and thus determine optimum inlet angle i_{opt} . It should be remembered that there is an increase of boundary layer in the flow at the end walls of the tube, and a narrowing of the live section of the channel, i.e. reduction of hydraulic diffusion of blades. Laminar flow can be ensured by suction of the boundary layer from end walls or by channel widening in the meridian plane. Mathematical analysis is given to define maximum coefficient of efficiency for the elementary stage η_{es} , of

$$\eta_{es} = 1 - \frac{c_a}{2u \frac{(\operatorname{tg} \alpha_1 - \operatorname{tg} \alpha_2) \cos^2 \alpha_1}{\Delta p^*}} \quad (1) \quad \checkmark$$

which leads A.P. Komarov to introduce the notion of its maximum η_{max} . The highest quality of the blade K is equal to the ratio of coefficients due to frontal resistance of profile and of the profile lifting force. By differentiating in respect to inlet angle i

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D221/D302

On the choice of an inlet angle ...

the author deduces $\left(\frac{dK}{di}\right)_{i=i_u} > 0$. A condition of smooth through flow is considered, when circular arcs replace actual blades of the same parameters (angle of inclination β , pitch of blades, and angle of bending of the basic line θ). From mathematical analysis, a deduction is made that in the case of dense blades, the angle of lag is practically independent of the inlet angle. The former increases, however, with greater θ or with less dense blades. The inlet angle for minimum losses is determined by equation of A.P. Makarov, $i = (0.07 - 0.3 t/b)$. For nominal conditions, the angle

of profile θ is determined by $\theta = \frac{\varepsilon - i}{1 - m\sqrt{\frac{t}{b}}}$, where $m = 0.23 (2\bar{x}_f)^2$

+ $0.2 \frac{\alpha_2^*}{100}$. In the above, ε is the angle of flow deviation, α_2 angle of exit. Experimental data were scrutinized for tying up θ and b/t with inlet angle i , and tabulated. It allows an equation $\varepsilon^* = 10 + 0.26 b/t$. Angle of inlet for nominal conditions is then $i^* = 10 +$

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D221/D302

On the choice of an inlet angle ...

- $0.26 \theta \frac{b}{t} - \theta (1 - m \sqrt{\frac{t}{b}})$. The results of these calculations were quoted in a table. The considered conditions of flow have practical application in a certain stream distribution in the axial clearance of the stage only. There are 7 figures, 1 table and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: A.R. Howell, 3946, 1942; H.G. Rhoden, Effects of Reynolds number on the flow of air through a cascade of compressor blades, ARC, R and M, no. 2919, 1952. ✓

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

SUBMITTED: December 15, 1959

Card 4/β4

86190
S/096/61/000/001/006/014
E194/E184

26.2120

AUTHOR: Beknev, V.S., Candidate of Technical Sciences
TITLE: An Investigation of Stages of an Axial Compressor
Designed with Allowance for Loss Over the Height of
Blades

PERIODICAL: Teploenergetika, 1961, No. 1, pp. 44-49

TEXT: The flow of gas in an axial compressor stage has a complicated spatial character. If the end sections of the blades are profiled to allow for the boundary layer which forms on the stator and near the shaft the stage characteristics should be improved at low rates of flow. The stage efficiency may be increased by profiling all blade sections appropriately. Working in the California Institute of Technology (USA) during 1959-60 the author designed and tested an axial compressor stage. A diagram of the stage with inlet guide vanes is shown in Fig.1. Eqs.(3) and (6) are derived which may be used to calculate the gas parameters in the axial gaps before and beyond the runner. For the purposes of the calculation it is necessary to know the radial loss distribution over the inlet guide vanes, and in the runner.

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86470

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E194/E184

An Investigation of Stages of an Axial Compressor Designed with Allowance for Loss over the Height of Blades

These may be obtained from Eqs. (7), (8) and (9). The influence of the boundary layers was also assessed. The compressor stage illustrated in Fig.1 was designed. The new stage was designed with the object of comparing the test results with those obtained on a stage designed without allowance for the boundary layer. The main characteristics of the stage are given. The profiling was based on the results of a systematic study of NACA-65 series compressor blades. The conditions of maximum quality were chosen as design conditions. The nomogram of Fig.2 was constructed to determine the blading geometry. The calculated values of the geometrical parameters of the runner and guide blading are given in Table 4. The blades were cast of aluminium alloy and photographs of the rotor and guide blading are given in Fig.3. The tests were carried out at speeds of 750, 1100 and 1500 r.p.m. and at each speed measurements were made before and beyond the runner and beyond the guide vanes for three rates of air flow. Fig.4 shows the radial distribution of measured values for a speed of 1500 r.p.m.

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86L70

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E194/E184

An Investigation of Stages of an Axial Compressor Designed with Allowance for Loss Over the Height of Blades

and it will be seen that there is good agreement between the experimental and calculated values. Fig.5 gives the dimensionless characteristics of the stage at 1500 r.p.m. Fig.6 gives the stage efficiency as function of Reynolds number and Fig.7 the dimensionless characteristic of the stage. It is concluded that the recommended procedure for designing a stage of an axial compressor makes possible an increase in efficiency of 3-4%. However, it is necessary to accumulate further experimental data for the relationship between certain blading characteristics and the Reynolds and Mach numbers. By allowing for the boundary layers in the blading the stage characteristics at low rates of flow may be improved. It is possible to reduce the weight of the blading and to reduce the radial load on the rotor by reducing the number of blades used. There are 7 figures, 4 tables and 6 references: 1 Soviet and 5 non-Soviet.

ASSOCIATION: Moskovskoye vyssheye tekhnicheskoye uchilishche
(Moscow School of Higher Technical Education)

Card 3/3

UVAROV, Vladimir Vasil'yevich; BEKNEV, Viktor Sergeevich; CHYAZNOV,
Nikolay Dmitriyevich; MIKHAL'TSEV, Vsevolod Yevgen'yevich;
MUSATOV, Aleksandr Konstantinovich; PCHELKIN, Yuriy Mikhaylovich;
CHEKNOBROVKIN, Aleksey Petrovich; YUNOSHEV, Viktor Dmitriyevich ;
BARTASH, Ye.T., kand. tekhn.nauk, retsenzent; GALANOVA, M.S., inzh.,
red. izd-va; UVAROVA, A.F., tekhn. red.

[Gas-turbine units for locomotives; design and calculation] Loko-
motivnye gazoturbinnye ustanovki; raschet i proektirovanie. [By]
V.V.Uvarov i dr. Moskva, Mashgiz, 1962. 547 p. (MIRA 15:9)
(Gas-turbine locomotives)

KARSLIN, V.Ya., kand. tekhn. nauk; BAL', B.A., inzh., retsentsent;
BEKNEV, V.S., kand. tekhn.nauk, red.; BYSTRITSKAYA, V.V.,
red. izd-va; UVAROVA, A.F., tekhn.red.

[Cavitation phenomena in centrifugal and axial-flow pumps]
Kavitatsionnye iavlenia v tsentrobeshnykh i osevykh na-
sosakh. Moskva, Mashgiz, 1963. 255 p. (MIRA 16:4)
(Pumping machinery) (Cavitation)

L 13220-63 EPA/EWT(1)/BDS/T-2/ES(v)/ES(w)-2 AEDC/AFFTC/ASD/SSD Paa-h/
ACCESSION NR: AP3000495 Pe-h/Pab-h S/0145/63/000/001/0108/0116

AUTHOR: Beknev, V. S. (Candidate of technical sciences, Docent)

73
72

TITLE: Certain special features of the calculation and design of axial compressors [for operation] at small Reynolds numbers

SOURCE: Izv. VUZ: Mashinostroyeniye, no. 1, 1963, 108-116

TOPIC TAGS: high-altitude aircraft, vacuum pump, axial compressor

ABSTRACT: Means are analyzed for increasing the efficiency of axial compressors or pumps designed for operation at small Re numbers, e.g., in high-altitude aircraft or in vacuum-pump installations. Under these operating conditions Re numbers in the bladed apparatus (Re_b) and in the conduits (Re) differ and have a strong influence on the efficiency and pressure head in the stage. The self-modelling region of Re_b starts only at $Re_b > 3.5 \times 10^5$. It has been found that to improve compressor characteristics it is necessary to design rotor blades and guide vanes with the nonuniformity of axial velocities and nonuniform losses along the blade taken into account. It is suggested that stages designed with these factors considered should be tested at $Re_b \leq 10^5$. Orig. art. has: 8 figures and 5 formulas.

ASSN: MVTU im. N. E. Bauman

Card 1/2/

BEKNEV, V.S., kand. tekhn. nauk, dotsent

Optimum profiling of cascades of subsonic axial-flow compressors, fans, and pumps. Izv. vys. ucheb. zav.; mashinostr. no.9:195-208 '63. (MIRA 17:3)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

DMITRIYEVSKIY, V.I., doktor tekhn. nauk, prof.; ETINGOF, M.N., kand. tekhn. nauk; KUKINOV, A.G., kand. tekhn. nauk; BEKNEV, V.S., kand. tekhn. nauk; SHERSTYUK, A.N., kand. tekhn. nauk

Concerning K.F. Shpital'nik's book "Semigraphical methods for determining the parameters of air in a centrifugal compressor stage." Reviewed by V.I. Dmitrievskii and others.

Teploenergetika 11 no.10:93-95 O '64.

(MIRA 18:3)

1. Tsentral'nyy ordena Lenina nauchno-issledovatel'skiy institut aviatsionnogo motorostroyeniya imeni P.I. Baranova (for Dmitriyevskiy, Etingof). 2. Tsentral'nyy aerogidrodinamicheskiy institut imeni N.Ye. Zhukovskogo (for Kukinov). 3. Moskovskoye vyssheye tekhnicheskoye uchilishche (for Beknev). 4. Moskovskiy ordena Lenina energeticheskiy institut (for Sherstyuk).

L 21684-66

ACC NR: AP601525

SOURCE CODE: UR/0096/65/000/005/0007/0016

AUTHOR: Uvarov, V. V. (Doctor of technical sciences; Professor); Beknev, V. S. (Candidate of technical sciences); Mikhail'tsev, V. Ye. (Candidate of technical sciences); Chernobrovkin, A. P. (Candidate of technical sciences); Lapin, Yu. D. (Engineer); Cherepnin, L. S. (Engineer)

ORG: MVTU im. Bauman

TITLE: High-efficiency 200 megawatt gas-turbine installation

SOURCE: Teploenergetika, no. 5, 1965, 7-16

TOPIC TAGS: gas turbine, electric power plant

ABSTRACT: The advantages of building a high pressure non-regenerative 200 megawatt gas-turbine installation with an approximate weight factor of 3.5 kg/kw are described. This factor is 2.5 times smaller than in steam gas installations and seven times smaller than in steam power installations. Calculations indicate that a gas-turbine installation requires about 50% lower capital investment as compared to a steam power installation, lowers the volume and cost of the main structure three times and the cost per kilowatt-hour not less than 15%. The possibility of building powerful gas-turbine installations with gas temperature of 750-800°C is indicated. Adoption of still higher temperature up to 1200°C, will increase the efficiency to 53-55% and double the power. Orig. art. has: 10 figures and 5 tables. [JPRS]

SUB CODE: 10 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 001

Card 1/1

UDC: 621.438.001.5

BEKNEV, Sergei Aleksandrovich

The minimum technical knowledge of a carpenter-bridge builder. Moskva. *Horizdat*, 1943.
54 p. (49-42524)

TG365.B46

BEKNEVA, L.T., red.

[Screwed on cast-iron casting boxes; their design and specifications] Opoki liteinye svertnye chugunnye; konstruktsiia i ispolnitel'nye razmery (MN 433-59 - MN 468-59). Moskva, Izd-vo standartov, 1964. 141 p. (MIRA 17:8)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut liteynogo mashinostroyeniya i liteynoy tekhnologii.

BEKNEVA, Ye.V., inzh.

Low-temperature freon cascade system refrigerating machinery.
Khol, tekhn. 39 no. 6:9-16 N-D '62. (MIRA 15:12)

1. Tsentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya.
(Refrigeration and refrigerating machinery)

ACCESSION NR: AP4005910

S/0066/63/000/006/0015/0022

AUTHOR: Bekneva, Ye. V. (Engineer); Il'ina, N. I. (Engineer)

TITLE: New temperature and temperature-pressure chambers

SOURCE: Kholodil'naya tekhnika, no. 6, 1963, 15-22

TOPIC TAGS: temperature chamber, pressure chamber, altitude simulation, altitude chamber

ABSTRACT: In the USSR, the temperature and temperature-pressure chambers used extensively in the electronic, aircraft, chemical, pharmaceutical, defense, and other industries, were, until recently, built individually as they were needed for various projects. However, with the development of science and engineering, a demand has been created for mass-produced chambers for use in various tests. To fill this need, a series of temperature and temperature-pressure chambers with capacities up to one cubic meter is being developed by the Tsentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (Central Design Bureau of Refrigeration Machine Building). The series is expected to be completed by 1967. Table 1 of the Enclosure gives the

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ACCESSION NR: AP4005910

characteristics of these new chambers. Work in this field is regulated by GOST 10370-63 ("Temperature Chambers and Temperature Pressure Chambers. Types and Basic Parameters"). In 1963, the bureau tested prototypes of chambers with capacities of 100 and 200 cubic decimeters. Prototypes of box-type chambers with capacities of 60, 150, and 400 cubic decimeters are to be tested in 1964. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Tsentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (Central Design Bureau of Refrigeration Machine Building)

SUBMITTED: 00

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ENCL: 02

SUB CODE: AS

NO REF SOV: 005

OTHER: 000

Card 214

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L 1699-66 FSS-2/EWT(1)/EWT(m)/FS(v)-3/EPP(c)/EEC(k)-2/FGC/EWA(d)/EWP(t)/EWP(b)
ACCESSION NR: AP5022916 IJP(c) JD/TT/GW UR/0362/65/001/009/0897/0903
551.510.53

25
32
B

AUTHOR: Bekoryukov, V. I. 114.55

TITLE: Theory of atmospheric ozone transfer in the presence of long waves

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 9, 1965, 897-905

TOPIC TAGS: atmospheric circulation, ozone distribution, ozone density

ABSTRACT: The author conducts a theoretical investigation of the effect of atmospheric circulation on the distribution of ozone with height. A continuity equation which takes into account photochemical processes is used to determine the effect of long waves on ozone density with height in relation to wave phase. The computations show that long waves increase the amount of ozone in a trough and decrease it at the crest, and that the difference between the two increases with an increase in the relationship $v = a/nb$, where a is the constant which determines the magnitude of the vertical and meridional components of the velocity of flow, n is the number of waves along the latitudinal axis, and b is the zonal velocity constant. The computations also suggest that long waves may be responsible for the "continental effect" (a decrease in the concentration and amount of ozone

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ACCESSION NR: AP5022916

3

toward the interior of a continent) which may be caused by the formation of a standing wave of large amplitude within the general zonal flow. The effect of meridional currents on fluctuations in the density and amount of ozone is computed; it is also shown that an intensification in zonal circulation adversely affects the interlatitudinal transfer of ozone and that meridional currents exert a smoothing effect on the interlatitudinal gradient of ozone. The results obtained agree with observational data. Orig. art. has: 12 formulas and 5 figures. [SP]

ASSOCIATION: Moskovskiy gosudarstvenny universitet (Moscow State University)

SUBMITTED: 04Jan65

ENCL: 00

44.55

SUB CODE: ES

NO REF SOV: 012

OTHER: 001

ATD PRESS: 4095

mlb
Card 2/2

BEKORYUKOU, U.I.

PHASE I BOOK EXPLOITATION

SOV/6277

Karol', I. L., and S. G. Malakhov, Candidates of Physics and Mathematics, eds. . .

Voprosy yadernoy meteorologii; sbornik statey (Problems in Nuclear Meteorology; a Collection of Articles) Moscow, Gosatomizdat, 1962. 271 p. Errata slip inserted. 2600 copies printed.

Ed.: A. I. Zavodchikova; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: The book is intended for meteorologists and physicists specializing in the physics of the atmosphere. It may also be of interest to oceanographers concerned with the contamination of seas and oceans with radioactive waste products.

COVERAGE: This is a collection of 15 articles dealing with various problems of nuclear meteorology. The rapid development of the methods of radiometry opened the possibility of measuring minute particles of radioactive substances

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Problems in Nuclear Meteorology (Cont.)

SOV/6277

with a great degree of accuracy. This again made it possible to use radioactive isotopes in various fields of science, including meteorology. Tests of nuclear arms and the dispersion into the atmosphere of the waste of atomic industry necessitated a thorough investigation of the patterns of the spread of aerosols and gases, sometimes throughout almost the entire atmosphere. Such investigation is connected with the wide use of the newest methods and results of meteorology and the physics of the atmosphere in general. On the other hand, the distribution in the atmosphere of air masses, labeled with radioactive atoms, gives the meteorologists a new method for the study of atmospheric processes. The entire complex of problems related to the study of the distribution of radioactive impurities in the atmosphere and the use of radioactive atoms as labels in air masses or clouds has lately received the name of "nuclear meteorology" and is regarded as a branch of the physics of the atmosphere. The present collection contains some general articles, as well as articles reporting on the results of special investigations of certain problems of nuclear meteorology conducted in 1960-1961. It is divided in three sections, each dealing with a certain type of problem of nuclear meteorology. Bibliographic references are included at the end of individual articles.

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Problems in Nuclear Meteorology (Cont.)

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Bekoryukov, V. I., and L. L. Karol. Theoretical Evaluation of the Effectiveness of Capturing Aerosols With Gummed-Paper Collectors in the Surface Layer of the Atmosphere 221

Bekoryukov, V. I. On the Evaluation of the Effectiveness of Capturing Aerosols With Gummed-Paper Collectors in the Surface Layer of the Atmosphere 249

Makhon'ko, K. P. Daily Variation in the Dust Contamination of the Atmospheric Surface Layer 253

Sereda, G. A. Contamination of Seas and Oceans With Artificial Radioactive Substances 259

AVAILABLE: Library of Congress

SUBJECT: Meteorology

MM/jho/mas
5-7-63

Card 6/6

3/3

L 52186-35 EWO(j)/EWT(1)/EWT(s)/EPP(c)/EAG(v)/TCG/EPR/EEG(t)/EWP(t)/EWP(b)
 ACCESSION NR: AP5014107 Po-h/Pe-5/Pq-h/Pr-h/Ps-h/ JR/0203/65/005/008 465/0470
 Pt-7/Pi-h IJP(c) JD/GW 551.510.4

60
58
B

AUTHOR: Bekoryukov, V. I.

TITLE: On the calculation of the influence of closed air circulation on the equilibrium distribution of ozone in the earth atmosphere

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 3, 1965, 465-470

TOPIC TAGS: earth, ozone, equilibrium condition, diffusion coefficient, photochemical reaction, latitude variation

ABSTRACT: Calculations on the effect of closed air circulation on the equilibrium density of ozone in the earth's atmosphere are presented. The equilibrium distribution is governed by diffusion and photochemical processes. The equilibrium density was assumed to be of the form

$$p_o = 17(H - 10)^3 e^{-0.23H} \begin{cases} (1 + \sin 2\varphi) & \text{npn } \varphi < \pi/4, \\ [1 + (2 - \sin 2\varphi)] & \text{npn } \varphi > \pi/4, \end{cases}$$

where H is the height above the surface of the earth. The solution of the diffusion type of equation for the density was obtained in the form

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$$\rho(r, z) = C \exp \left\{ - \int p(r, c) dr \right\} + \exp \left\{ - \int p(r, c) dr \right\} \times \int f(r, c) \exp \left\{ \int p(r, c) dr \right\} dr.$$

Here r is the distance from the center of the earth and c is a parameter depending on the "height of homogeneity of the earth's atmosphere." Based on the experimental results of A. V. Kondratev (Thesis, Physics Faculty, Moscow State University, 1962), the following relations were obtained for the latitudinal variation of the ozone density at a height of 25 kilometers

$$\rho_1^*(\varphi) = 215(1 + \exp \{-10/|\varphi - 45^\circ|\}),$$

$$\rho_2^*(\varphi) = 215(1 - \exp \{-10/|\varphi - 45^\circ|\}),$$

$$\gamma_0 = 2 \cdot 10^{-7} \text{ км/сек}$$

$$\rho_1^*(\varphi) = 215(1 + \exp \{-5/|\varphi - 45^\circ|\}),$$

$$\rho_2^*(\varphi) = 215(1 - \exp \{-12,5/|\varphi - 45^\circ|\}).$$

Here φ is the complement of the latitude. The author thanks A. Kh. Khrgian for suggesting the problem and for his valuable help. Orig. art. has: 13 equations and 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tet (Moscow State University, Physics Department)

Card 2/3

L 52186-65

ACCESSION NR: AP5014107

SUBMITTED: 14Jul64

ENCL: 00

SUB CODE: ES

NO REF SOV: 004

OTHER: 002

Card 3/3

BEKORYUKOV, V. I.

Theory of atmospheric ozone transfer in the presence of long waves. *Izv. AN SSSR. Fiz. atm. i okeana* 1 no.9:897-905 S '65.
(MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

KOVALEVA, Ye.V.; DRATVINA, T.V.; YARMOLENKO, L.I.; BEKOUSOVA, M.A.

Some immunological indications in children with rheumatic fever
[with summary in English]. *Pediatrics* 37 no.1:43-49 Ja '59.

(MIRA 12:1)

1. Iz kafedry detskikh bolezney (zav. - deystvitel'nyy chlen AMN SSSR
prof. Yu.F. Dombrovskaya) i kafedry mikrobiologii (zav. - prof.
M.N. Lebedeva) I Moskovskogo ordena Lenina meditsinskogo instituta
imeni I.M. Sechenova.

(RHEUMATISM, in inf. & child
immunol. indices (Rus))

BEKOSHIN, V.P., starshiy inzhener-leytenant

From experience of organizing and conducting special
training on ships under construction. Mor. sbor. 46
no.10:46-49 0 '63.

(MIRA 18:12)

BEKOV, A.

Some economic problems in the development of state cotton farms in Kazakhstan (1951-1958). Vest. AN Kazakh.SSR 21 no.10:19-30 0 '65. (MIRA 18:12)

ЕНКОВ, D.B.

Surgical anatomy of the large Galen's vein. Vop.neirokhir, 20 no.4:
6-15 JI-Ag '56. (MLRA 9:11)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(BRAIN, blood supply
internal cerebral veins, surg. anat.)

BEKOV-D.B.

The use of natural and synthetic latexes for injections.
D. B. Bekov and V. I. Shurmilov (S. M. Kirov Military
Acad., Leningrad). *Arkh. Anat., Gistol. i Embriol.* 33,
No. 1, 81-7(1956).—New formulations of colored natural
and synthetic latexes for injection into animal vascular sys-
tems were discussed. Aq. NH, caseinate, with a small
amt. of PhOH as a preservative, was used as an emulsifier
for the natural latexes, while K colophonate was the emulsi-
fier for the synthetics. Mixts. of red lead and TiO₂, cin-
nabar and TiO₂, and white lead and TiO₂, as pigments,
proved to be more opaque to x-rays than BaSO₄. The
techniques of the prepn. and injection of the latex formula-
tions were also discussed. *Il'icomed M. Chern*

Chair of Operational Surgery & Topographic Anatomy.