27846

S/115/61/000/009/005/006
E032/E114

21.6000

AUTHOR: Nazarov, I.M.

TITLE: Statistical control of radiometric apparatus

PERIODICAL: Izmeritel'naya tekhnika, 1961, No.9, pp. 43-45

TEXT: Statistical control of radiometric apparatus is useful in the detection of defects responsible for reduction in accuracy. In addition, it is also convenient because non-steady indications of the instrument cannot always be obtained by ordinary methods. The method considered in the present paper is based on the assumption that the number of pulses from a normally working instrument is distributed in accordance with the Poisson law. The method cannot therefore be used to separate out interference, which is also distributed in accordance with the Poisson law. However, many sources of interference such as ageing of geiger counters, instability of photomultipliers, etc. give rise to distributions which are very different from the Poissonian distribution. The method is based on the estimation of the ratio $f \cdot S^2/\bar{x}$, as found from a series of measurements and defined by:

Card 1/6

$$f \cdot \frac{S^2}{\bar{x}} = \frac{\sum_{1}^{K} (x_i - \bar{x})^2}{\frac{1}{K} \sum_{1}^{K} x_i} \quad (1)$$

The counter is assumed to be working correctly if

$$\frac{\chi^2_{\alpha/2}}{f} < \frac{S^2}{\bar{x}} < \frac{\chi^2_{1-\alpha/2}}{f} \quad (2)$$

(two-level control), or

$$\frac{S^2}{\bar{x}} < \frac{\chi^2_{1-\alpha}}{f} \quad (3)$$

(one-level control). In the above expressions, x is the number of counts, K is the number of measurements, f is the number of degrees of freedom and χ^2 is the sum of the squares of the normalised random quantities distributed in accordance with the normal law.

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If the counter is unsatisfactory, then

$$M(S^2) = \sigma^2 \neq M(\bar{x}) \qquad (4)$$

and the above inequalities are equivalent to

$$\chi^2_{\alpha/2}\,\frac{\bar{x}}{\sigma^2} < \chi^2 = f\,\frac{S^2}{\sigma^2} < \chi^2_{1-\alpha/2}\,\frac{\bar{x}}{\sigma^2}\,,\quad \chi^2 = f\,\frac{S^2}{\sigma^2} < \chi^2_{1-\alpha}\,\frac{\bar{x}}{\sigma^2} \qquad (5)$$

where σ^2 represents the variance of the readings of the counter, the variance of the interference being neglected.
It follows from Eq.(5) that the probability that the interference will be detected is:

$$p_1 = p\left[\chi^2 < \chi^2_{\alpha/2}\,\frac{\bar{x}}{\sigma^2}\right] + p\left[\chi^2 > \chi^2_{1-\alpha/2}\,\frac{\bar{x}}{\sigma^2}\right] \qquad (6)$$

or

$$p_2 = p\left[\chi^2 > \chi^2_{1-\alpha/2}\,\frac{\bar{x}}{\sigma^2}\right] \qquad (7)$$

Figs. 1 and 2 give families of curves for the number of degrees

Card 3/6

of freedom as a function of $y = \sigma^2/\bar{x}$ for different values of p_1 and p_2 with $\alpha = 0.05$. The curves can be used to find the number of degrees of freedom $f = K - 1$, i.e. the necessary number of measurements for a given y and p_1 or p_2. The paper is concluded with the following two special cases:
1) n is a random quantity independent of n_o (n is the mathematical expectation of the number of pulses per unit time due to instrumental interference, and n_o is the mathematical expectation of the number of pulses per unit time for pulses distributed in accordance with the Poisson law); and
2) the sensitivity of the apparatus varies in accordance with the linear law.
There are 2 figures and 8 references: 4 Soviet and 4 English.
The English language references read as follows:
Ref.3: Iarret, A.A. Statistical Methods used in the Measurement of Radioactivity. USAEC, 1946.
Ref.4: H.H. Seliger. Res. of NBS, 1950, 45, 496.
Ref.5: I. Cook, I. Duncan. Modern Radiochemical Practice, Oxford, 1952.
Ref.8: P.V. Sukhatme. Suppl. I. Roy.Stat.Soc., 1938, 5,75.
Card 4/6

NAZAROV, I. M.

S/089/61/010/006/007/011
B136/B201

AUTHORS: Balyasnyy, N. D., Boltneva, L. I., Dmitriyev, A. V., Ionov, V. A., and Nazarov, I. M.

TITLE: Determination of the content of radium, thorium, and potassium in rocks from an aircraft

PERIODICAL: Atomnaya energiya, v. 10, no. 6, 1961, 626-629

TEXT: A three-channel analyzer allowing measurements to be made in three energy ranges with automatic subtraction of the background has been used for effecting spectroscopic gamma measurements. The integral sensitivity was 350 pulses/sec per microroentgen/hour. The channels worked (1) in integral operation with a cut-off of 0.5 Mev to eliminate the effect of the soft scattered gamma radiation; (2) in the 1.6-1.9 Mev energy range; (3) in the 1.9-2.7 Mev energy range. The contents of the individual elements were determined by equations

$$n_1 b(h) = n_{11}Ra + n_{12}Th + n_{13}K$$

$$n_2 b(h) = n_{12}Ra + n_{22}Th$$

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S/089/61/010/006/007/011
B136/B201

Determination of the content of ...

$$n_{3i}\varphi(h) = n_{3i}Ra + n_{i2}Th$$

Here, Th and K denote the percentual thorium and potassium contents, Ra the percentual radium content of equilibrated uranium, $n_{1,2,3}$ the counting rates, $\varphi(h)$ the reference coefficient to the earth's surface; $n_{11} = 8 \cdot 10^5$, $n_{12} = 3.6 \cdot 10^5$, $n_{13} = 1.6 \cdot 10^2$, $n_{21} = 4.8 \cdot 10^4$, $n_{22} = 2.6 \cdot 10^4$, $n_{31} = 2.7 \cdot 10^4$, $n_{32} = 4.6 \cdot 10^4$. $\varphi(h)$ is independent of the content of elements, and for altitudes of 10, 25, and 50 m equal to 1.08, 1.24, and 1.55. The coefficients n_{ij} were determined by a direct method which, however, proved not to be very accurate. Since the spectra of the standard specimens and of the semi-space differ, the standard spectra were taken without and with a 25-cm water screening. The root-mean-square error in the determination of the elements was calculated after the fourth control flight and was found to amount to 25 %. The flightscovered an area of $5.5 \cdot 10$ km

Card 2/4

Determination of the content of ...

at intervals of 100 m at an altitude of 25 m. A clear relationship was found between the radium and thorium contents and the geological structure. The highest radium and thorium contents ($7 \cdot 10^{-4}$%, and $11 \cdot 10^{-4}$%, respectively) calculated according to aerial survey results are found in such regions where effusive rocks of a medium composition appear in granite outcrops on the surface; the lowest, on the other hand ($1.5 \cdot 10^{-4}$% for radium and $4.0 \cdot 10^{-4}$% for thorium) are found where effusive rocks of a basic composition appear. The radium content determined from the aircraft is, on the average, by 20%, and the thorium content by 21%, less than the contents determined by radiochemical analysis. The introduction of a correction factor K=1.1 in n_3 improves results considerably. As, however, the number of analyses performed is small, their accuracy is insufficient. The conclusion is drawn that errors caused by tolerances in prematurely introduced coefficients can be eliminated by this correction. The potassium content in effusive-sedimentary rocks fluctuated between 1 and 2% and attained 2.5% in granite, which agrees with data available in the literature. V. N. Vasilenko, Z.V. Kuznetsova and I. V. Yagodovskiy

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S/089/61/010/006/007/011
B136/B201

Determination of the content of ...

are thanked for having supplied geological material. There are 2 figures, 1 table, and 3 Soviet-bloc references.

SUBMITTED: July 14, 1960

Card 4/4

S/874/62/000/002/002/019
D218/D308

AUTHORS: Belyasnyy, N.D., Dmitriyev, A.V., Ionov, V.A. and Nazarov, I.M.

TITLE: Spectrometric studies of natural emitters using large-volume scintillators

SOURCE: Akademiya nauk SSSR. Ural'skiy filial. Institut geofiziki. Trudy. no. 2, 1962. Geofizicheskiy sbornik, no. 3, 57-62

TEXT: A determination is reported of the ratio of the amounts of thorium and uranium in natural rocks. The apparatus employed incorporated a cylindrical plastic scintillator with a ФЭУ-24 (FEU-24) photomultiplier at each end. The plastic phosphor (20 cm diameter, 40 cm long) consisted of two equal parts in optical contact with each other. It was surrounded by a cotton wool reflector in order to improve light collection. The outputs of the two photomultipliers were added together which ensured that the pulse amplitude was independent of the position of the scintillation within the phos-

Card 1/2

Spectrometric studies ...

phor. The resolution of the Cs^{137} photopeak was found to be 22%. The scintillation pulses were examined with a fixed channel covering a pulse-height range corresponding to 2 - 2.6 MeV and a further channel which corresponded to one of the following four possible energy regions: 0.3 - 2.6, 1.0 - 1.5, 1.0 - 2.0 and 1.5 - 2.0 MeV. Analysis of the results obtained with these channels showed that the error in determination of the Th/U ratio from the counting rate ratio for the two channels is a minimum when channel No. 2 covers the range 2.0 - 2.6 MeV. There are 3 figures and 1 table.

Card 2/2

BOLTNEVA, L.I.; VASILENKO, V.N.; DMITRIYEV, A.V.; IONOV, V.A.; NAZAROV, I.M.; YAGODOVSKIY, I.V.

Experimental determination of radium, thorium, and potassium in rocks from an airplane by means of a NaJ(Tl) crystal pickup. Atom. energ. 13 no.3:280-282 S '62. (MIRA 15:9)
(Gamma-ray spectrometry) (Radioactivation analysis)

S/020/62/147/005/002/032
B172/B112

AUTHORS: Berlyand, O. S., Nazarov, I. M., Pressman, A. Ya.

TITLE: An i^nerfc - or complex Gauss - Poisson distribution

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1005-1007

TEXT: n events are considered obeying a Poisson law the parameter of which is a random quantity which corresponds to a standard division N(x,a,o) the intersection point of which has an abscissa equal to zero:

$$P(n) = \frac{2}{1+\operatorname{erf}\frac{a}{\sigma\sqrt{2}}} \quad \frac{1}{\sqrt{2\pi}\,\sigma\, n!} \int_0^\infty x^n\, e^{-x-(a-x)^2/2\sigma^2}\, dx$$

$$= \frac{e^{y^2/4-a}}{1+\operatorname{erf}\frac{a}{\sigma}} \quad \frac{1}{\sqrt{2\pi}\,\sigma\, n!} \int_0^\infty x^n\, e^{-x-(a-x)^2/2\sigma^2}\, dx \qquad (y = \sigma\sqrt{2}).$$

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S/020/62/147/005/002/032
B172/B112

An i^nerfc - or complex Gauss - ...

The probability distribution for such events is called an i^nerfc distribution. The mathematical expectation and the dispersion of such distributions are calculated.

ASSOCIATION: Institut prikladnoy geofiziki, Akademii nauk SSSR (Institute of Applied Geophysics of the Academy of Sciences USSR)

PRESENTED: June 25, 1962, by N. N. Bogolyubov, Academician

SUBMITTED: June 20, 1962

Card 2/2

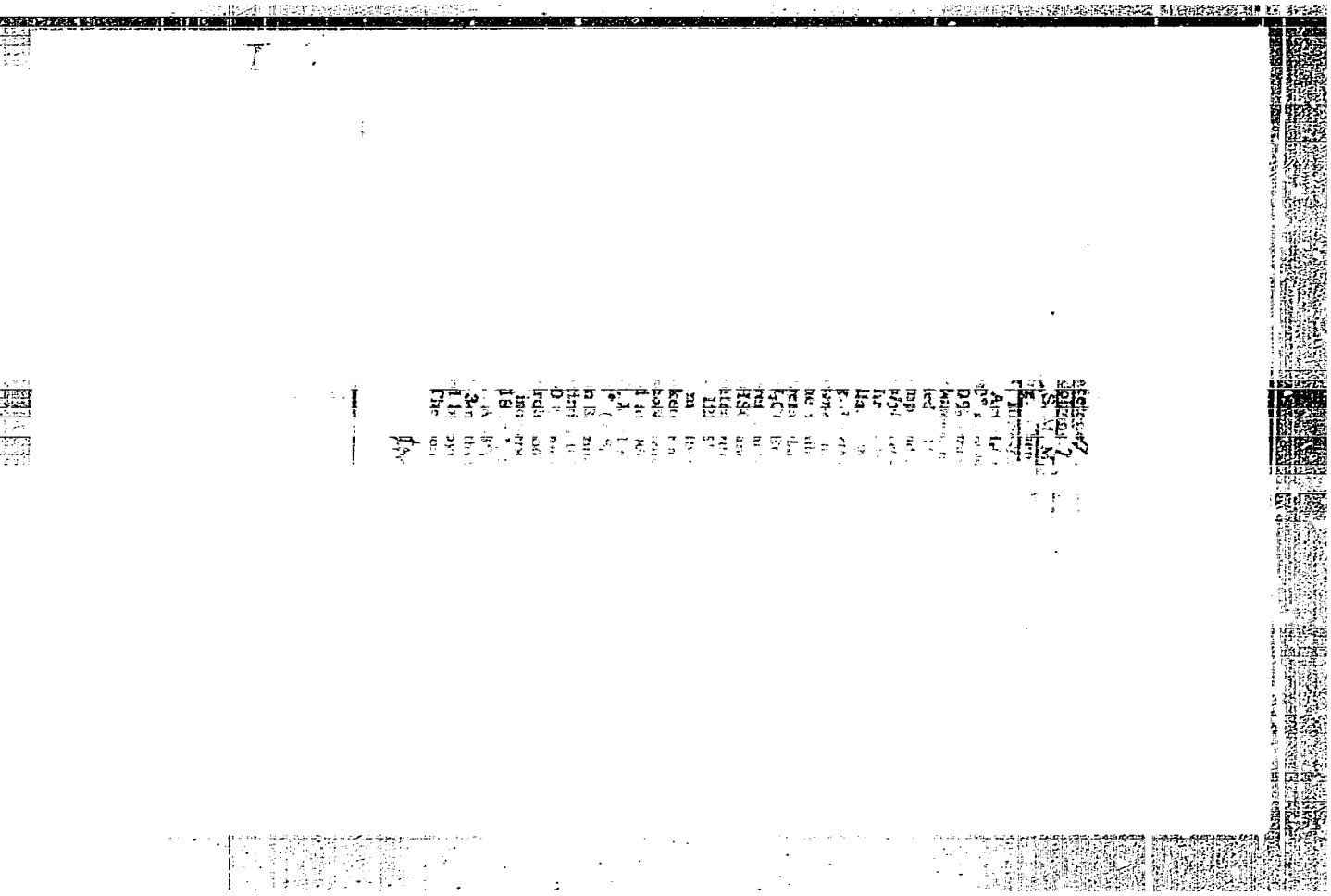
VASILENKO, V.N.; DMITRIYEV, A.V.; IONOV, V.A.; KOGAN, R.M.; NAZAROV, I.M.; FRIDMAN, Sh.D.

Using the gamma-ray spectrum surveying method in geology. Sov. geol. 6 no.10:47-62 O '63. (MIRA 17:1)

1. Institut prikladnoy geofiziki AN SSSR.

BARANOV, V.I.; SERDYUKOVA, A.S.; GORBUSHINA, L.V.; NAZAROV, I.M.; YEFIMKINA, Z.N.; PANASENKOVA, Ye.I., red.

[Laboratory work and problems in radiometry] Laboratornye raboty i zadachi po radiometrii. Moskva, Atomizdat, 1964. 307 p. (MIRA 17:5)



NAZAROV, I.N.

Treatment of vessels contaminated by radioactive substances.
Gig. i san. 25 no. 6:98-99 Je '60. (MIRA 14:2)

1. Iz sanitarno-epidemiologicheskoy stantsii Vasileostrovskogo rayona Leningrada.
(RADIOACTIVITY--SAFETY MEASURES)

NAZAROV, Igor' Nikolayevich; UL'YANOVA, N., red.; YEROSHKINA, L., mladshiy red.; ULANOVA, L., tekhn. red.

[Production experiment and its role in knowledge]Proizvodstvennyi eksperiment i ego rol' v poznanii. Moskva, Sotsekgiz, 1962. 132 p. (MIRA 16:3)
(Research, Industrial)

BERDICHEVSKIY, M.Ya., kand. med. nauk; NAZAROV, I.P.

Treatment of lumbosacral radiculitis with epidural injection of vitamin B$_{12}$ and novocaine. Klin. med. 41 no.9:142-144 S'63 (MIRA 17:3)

NAZAROV, I. S. DECEASED 1963/1

c. 1962

METALLURGY

See ILC

NAZAROV, I.V.

Safety rotary drilling. Neft. khoz. 40 no.8:1-5 Ag '62.
(MIRA 17:2)

L 04280-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6013249 SOURCE CODE: UR/0413/66/000/008/0038/0038

AUTHORS: Lopukhin, V. A.; Nazarov, I. V. 32 B

ORG: none

TITLE: Apparatus for controlling the thickness of a metallized coating. Class 21, No. 180658

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 38

TOPIC TAGS: metal coating, specialized coating, METALWORKING MACHINERY

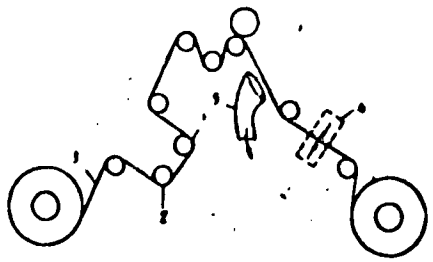
ABSTRACT: This Author Certificate presents an apparatus for controlling the thickness of a metallized coating (such as that on a condenser paper) according to the magnitude of its ohmic resistance. The apparatus contains a contacting mechanism connected to the measuring block. To automate the controlling of the metallic coating thickness on the condenser paper in the course of cutting such paper, the contacting mechanism is made in the form of two rollers between which the paper is pulled. The measuring block is connected through a timing device to a cutoff mechanism (see Fig. 1). An air suction arrangement, placed between the contacting mechanism and the cutoff mechanism, serves to remove the cull portions of the condenser paper.

Card 1/2 UDC: 621.317.73:621.319.4.002.5

L 04280-67

ACC NR: AP6013249

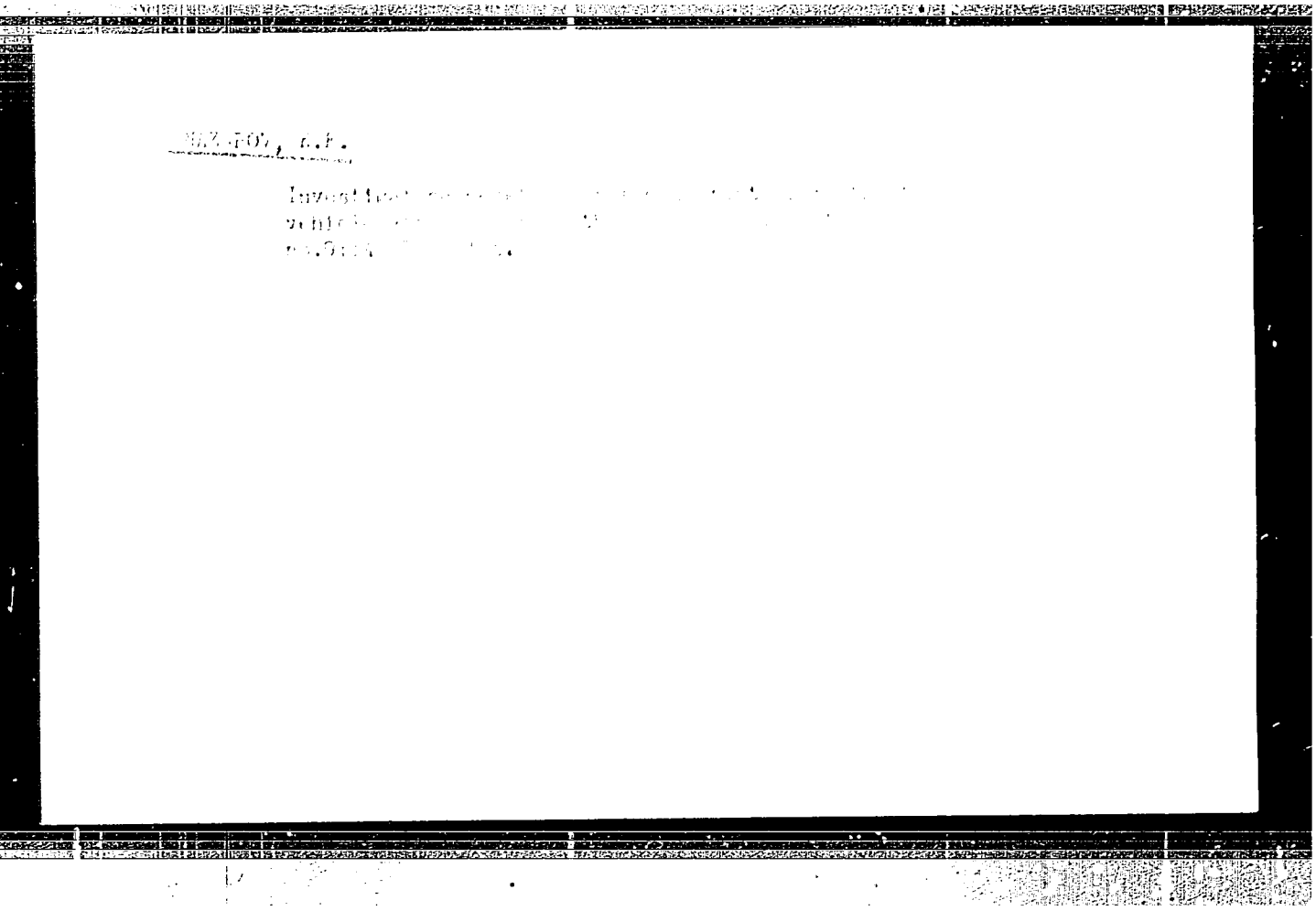
Fig. 1. 1 and 2 - contact rollers; 3 - condenser paper; 4 - cutoff mechanism; 5 - air suction arrangement



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 19Apr65

Card 2/2



NAZAROV, K.F.

Classification of automobile and tractor air filters. Avt.i trakt. prom. no.4:13-14 Ap '56. (MLRA 9:8)

(Air filters)

SHIL'DYAYEV, P.S.; NAZAROV, K.I.

Experience gained in departmental testing laboratories. Izm.tekh. no.6:69-73 N-D '56. (MLRA 10:1)
(Testing laboratories)

SAPRON, A.E., starshiy elektromekhanik; MOGILA, A.F.; NAZAROV, K.I. elektromekhanik

Device for transmitting a selective call from an automatic telephone exchange. Avtom., telem.i sviaz' 4 no.6:28-33 Je '60. (MIRA 13:7)

1. Groznenskaya distantsiya signalizatsii i svyazi Severo-Kavkazskoy dorogi (for Sapron). 2. Barnaul'skaya distantsiya signalizatsii i svyazi Tomskoy dorogi (for Mogila).
(Telephone, Automatic)

85742

S/115/60/000/011/009/013
B019/B058

9.2583

AUTHOR: Nazarov, K. I.

TITLE: Portable Highly Stable Generator With Fixed Frequencies Made of Semiconductors

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 11, pp. 45 - 47

TEXT: The generator described here was developed by the author jointly with B. A. Kazantsev and V. F. Vashchenko. It is of small dimensions and its error does not exceed $\pm 1 \cdot 10^{-6}$. The generator is intended for calibrating electronic installations and has decadically fixed frequencies of high stability in the frequency range of from 10 cycles to 1 megacycle. Temperature-sensitive parts of the generator are in a thermostat. This permits keeping the temperature constant under conditions where the ambient temperature differs by $\pm 25^{\circ}$C. A multivibrator was used for the frequency division. The block scheme shows the following blocks: supply block, temperature controller, thermostat, 100 kilocycles quartz generator, two simulators, three frequency dividers made

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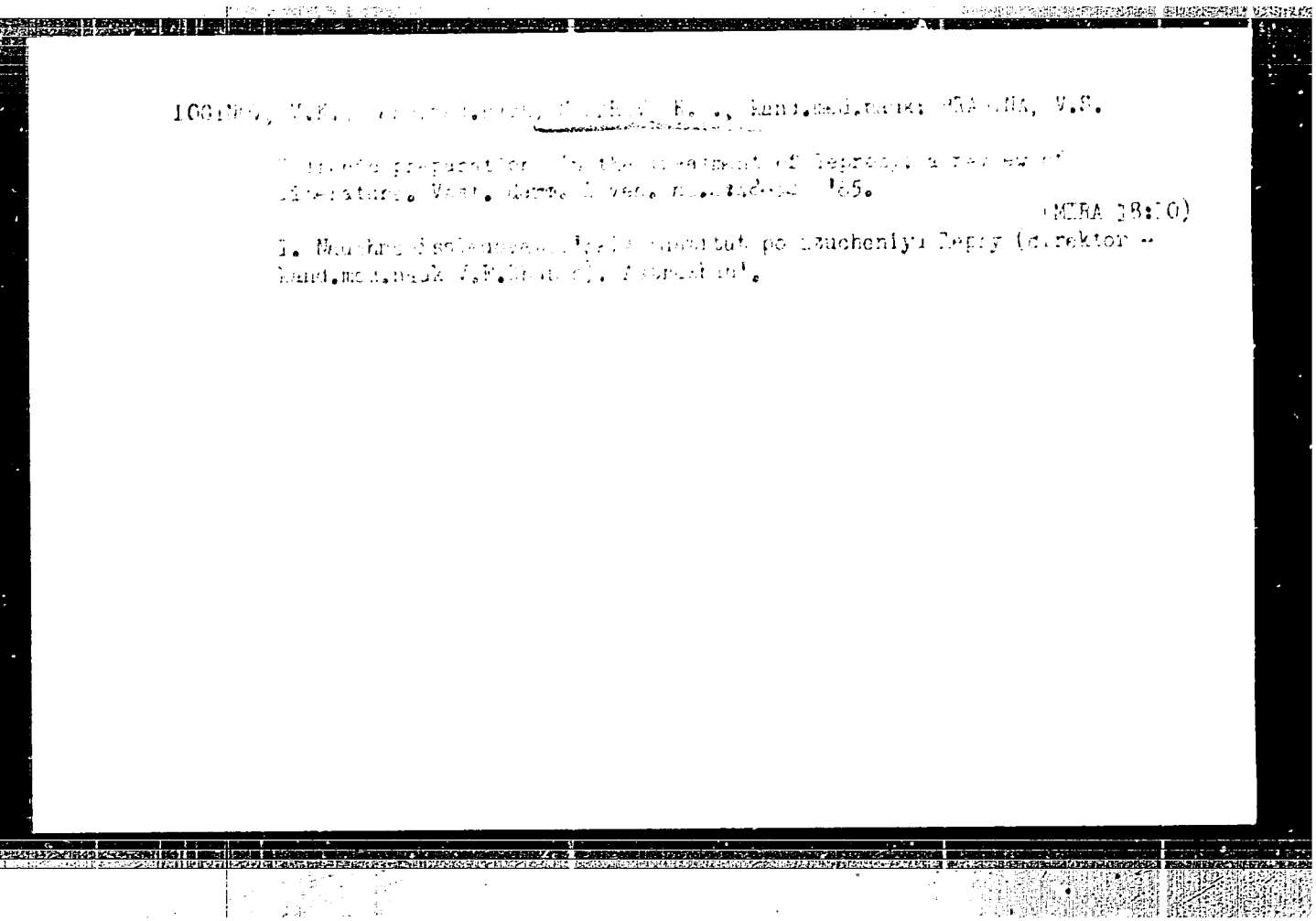
Portable Highly Stable Generator With Fixed Frequencies Made of Semiconductors

S/115/60/000/011/009/013
B019/B058

of junction-type triodes, a junction-type triode multiplier and a voltmeter. The multiplier is developed as resonance amplifier, moreover the voltage is stabilized. The design of the generator is described in detail. An experimental checkup at a working temperature of 20°C and a deviation of the ambient temperature by ±20°C showed that the frequency changes by less than $\pm 1 \cdot 10^{-6}$ within 60 minutes. There are 2 figures, 1 table, and 3 Soviet references.

Card 2/2



NAZAROV, K.F.

Portative high-stability frequency calibrator. Izm.tekh. no.6:69-70 Je '65. (MIRA 18:8)

NAZAROV, K. K.

Nazarov, K. K. - "Local plant resources for national technology", Section 1, "Local oil plants and methods of obtaining oil from them for national technology", Uchen. zapisli Leninab. gos. ped. in-ta im. Kirova, Issue 1, 1948, p. 117-35, (Resume in Tadzhik).

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

NAZAROV, K.K., starshiy prepodavatel'

Grain and its processing by local facilities in northern Tajikistan.
Uch. zap. LGPI no.6:33-53 '58. (MIRA 13:9)
(Tajikistan--Grain)

KAYZERMAN, M.M., mayor meditsinskoy sluzhby; ZAVRAZHIN, M.K., podpolkovnik meditsinskoy sluzhby; KNYAZEV, S.V., podpolkovnik meditsinskoy sluzhby; KOBYAKOV, N.I., podpolkovnik meditsinskoy sluzhby; DOKUCHAYEV, G.M., podpolkovnik meditsinskoy sluzhby; PLETNEV, N.N., polkovnik meditsinskoy sluzhby; KHOROSHCHEV, V.D., podpolkovnik meditsinskoy sluzhby; GORBACHIK, Ye.D., podpolkovnik meditsinskoy sluzhby; DRUKER, Yu.S.; NAZAROV, K.M.; KOMOGOROV, P.R., polkovnik meditsinskoy sluzhby; KLIMENKO, A.V., podpolkovnik meditsinskoy sluzhby; RYAKHOVSKIY, I.Ye., podpolkovnik meditsinskoy sluzhby; IVAN'KOVICH, F.A.; GUBIN, S.V., kapitan meditsinskoy sluzhby; ZOTOV, I.G., kapitan meditsinskoy sluzhby; LEONOVA, Ye.I.; BUNTOVSKIY, P.A., mayor meditsinskoy sluzhby; GERASIMOV, A.N., podpolkovnik meditsinskoy sluzhby; GUR'YEV, I.A., kapitan meditsinskoy sluzhby; KOLDOBSKIY, S.Z., mayor meditsinskoy sluzhby

Abstracts. Voen. med. zhur. no.10:74-79 O '65.
(MIRA 18:11)

T

Country : USSR
Category: Human and Animal Physiology. Nervous System. Higher Nervous Activity. Behavior.

Abs Jour: RZhBiol., No 19, 1958, 89252

Author : Semenov, S.F.; Nazarov, K.N.
Inst : Crimean Medical Institute.
Title : On the Pathogenesis of Speech Disorders in Patients with Schizophrenia.

Orig Pub: Tr. Krymsk. med. in-t, 1957, 17, 470-474

Abstract: A recording of speech motions with the aid of a laryngophone and electrocardiograph disclosed that the intensity, rhythm, and rate of speech reactions (SR) changed under the effect of rhythmical cutaneous, luminous and particularly sound and kinesthetic stimulants. In schizophrenia with Clerambault-Kandinsky

Card : 1/2

T-115

NAZAROV, K.N.

Specific cerebral antigens and autosensitization against them in a series of mental diseases. Zhur.nevr.i psikh. 62 no.8:1211-1218 Ag '62. (MIRA 15:12)

1. 1-ye klinicheskoye otdeleniye (zav. - prof. S.F.Semenov) TSentral'nogo nauchno-issledovatel'skogo instituta sudebnoy psikhiatrii imeni Serbskogo (dir. - dotsent G.V.Morozov), Moskva.

(MENTAL ILLNESS) (BRAIN)
(ANTIGENS AND ANTIBODIES)

NAZAROV, V.N.

Autosensitization to antibodies of the brain in schizophrenia and in a number of other mental diseases. Probl. sud. psikh. no.13:30-44 '62. (MIRA 18:9)

NAZAROV, K.N.

Frequency of metal disorders in children born from an immunologically incompatible pregnancy (ABO factors). Zhur. nevr. i psikh. 65 no.7: 1086-1089 '65. (MIRA 18:7)

1. Moskovskiy detskiy psikhonevrologicheskiy dispanser so statsionarom (glavnyy vrach - kand. med. nauk K.N.Nazarov, nauchnyy rukovoditel' - prof. G.Ye.Sukhareva).

NAZAROV, Kh.N.

Hydrogeological characteristics of the Babatag Range. Trudy AN Tadzh. SSR 118:191-206 '59. (MIRA 13:10)
(Babatag Range--Water, Underground)

15(2)

AUTHORS: Bron, V. A., Dikshteyn, Ye. I., Medyakova, SOV/131-58-12-4/10
M. V., Nazarov, K. S., Rigmant, N. M.

TITLE: Increase in Stability and Operation Efficiency of the Regenerative Checker Chambers of 400 Ton Martin Furnaces (Povysheniye stoykosti i effektivnosti raboty nasadok regeneratorov 400-T martenovskikh pechey)

PERIODICAL: Ogneupory, 1958, Nr 12, pp 545 - 551 (USSR)

ABSTRACT: The 400 ton Martin furnaces possess small specific volumes of the slag containers and checker chambers (Table 1), which results in an intense impurification by melting dust and a rapid wear of the checker chambers. Chromo-aluminous refractories of the Semilukskiy works were tested (see paper by V. A. Bron, I. V. Savkevich, R. S. Mil'shenko, Ref 1) in order to increase the stability of the checker chambers. Figure 1 presents the temperature changes of chamotte, forsterite and chromo-aluminous bricks when the butterfly valves are tilted over. The temperatures were measured by M. G. Kozhanov, V. G. Beloshapkin under the supervision of A. M. Kulakov (Ref 2). Figures 2,3,4, and 5 present

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the state of the checker bricks after 213 meltings. The bricks are covered with melting dust which sometimes is caked together with them. The chemical composition of the melting dust shows (Table 2) that an enrichment of the dust with alumina is effected at the places of contact with chromo-aluminous bricks, which is connected with an increase in refractoriness, as confirmed by the petrographical investigation (carried out by T. F. Raychenko, Ref 3). Table 3 gives the characteristics of chromo- aluminous bricks after operation in the top-most unit of the checker chambers of the air and gas generators. Figure 6 shows the microstructure of the slag cover of a chromo-aluminous brick after working in the top-most unit of the checker chambers of the air generator. Table 4 presents the operation values of the checker chambers of 400 ton Martin furnaces produced from various refractory bricks, as well as the repairs carried out. The thermal conductivity of refractory bricks before and after working in the regenerative checker is demonstrated in figure 7 for chromo-aluminous, dinas, chamotte and forsterite bricks.

Chromo-aluminous bricks yielded the best results. The use of these bricks under simultaneous washing of the checker chambers promotes the reduction of the melting duration and fuel consumption (Fig 8). Conclusions: The use of chromo-aluminous bricks with an alumina content of 78-80% and a chromium oxide content of 9-11% in the upper 8-12 units of the checker chambers increases, in connection with their washing, the stability of the checkers and the efficiency of furnace operation. It is regarded as necessary to improve the methods of washing the checkers and test other highly refractory products in the checkers of the 400 ton Martin furnaces. There are 8 figures, 4 tables and 1 Soviet reference.

PESINA, N. M.; Prinimali uchastiye: RATSUL, P.P.; NAZAROV, K.S.; PONOMAREVA, T.V.

Developing a procedure for the manufacture of basic brick from treated Chekmakul' kaolin and Buskul' clay. Trudy Vost. inst. ogneup. no.2:189-196 '60. (MIRA 16:1)

(Firebrick)
(Chekmakul' region--Kaolin)
(Buskul' region--Fireclay)

S/130/60/000/011/005/011
A006/A001

AUTHORS: Deyneko, D. I., Nechkin, M. G., Nazarov, K. S.

TITLE: Fettling of New Bottoms on Large-Capacity Open Hearth Furnaces

PERIODICAL: Metallurg, 1960, No. 11, pp. 20-23

TEXT: In the repair of open hearth furnaces high-speed fettling has been developed by increasing the thickness of the fettled layers from 20 - 25 to up to 100 mm. On the basis of experimental investigations, high-speed fettling of new bottoms of large-capacity furnaces A and B was carried out by shop Senior Master M. G. Nechkin of the Magnitogorsk Metallurgical Combine. "Ekstra" magnesite powder, roasted dolomite, mill scale and open-hearth furnace slag were the materials used. The heat load of furnace B was by 3 million kcal/hour higher than that of furnace A, and the bottom of furnace A was fettled in five layers whereas that of furnace B was fettled in six layers. On the basis of the experiment performed the following recommendations are given: The initial and final layer should be fettled with pure magnesite powder and the intermediate layers with a mixture of magnesite powder, scale and open hearth furnace slag. The latter may be substituted by roasted dolomite which requires a higher amount of

Card 1/3

Fettling of New Bottoms on Large-Capacity Open Hearth Furnaces

scale. Scorification of the bottom masonry must be made with scale which penetrates, due to its greater fluidity, into the profound layers of the masonry and fills in all the pores and seams preventing the penetration of cast iron or metal. Only after the masonry has been completely saturated with liquid scale, scorification of its surface with open hearth slag may be started. The final thick layer of magnesite powder (100 mm) is gradually penetrated during the first melts after fettling. To preserve this layer, it is necessary to fettle on it a thin layer of roasted dolomite which when connected to the upper portion of the magnesite layer produces a strong external crust which protects the thick layer from rupture and floating-up. The fettled layer should be scorified only with scale since the upper layer becomes porous when scorified with slag. The heat load during the fettling process should not be too high. The increase in the thickness of the layer attained (100 mm) is not an extremal value. The investigation of a further increase in thickness of fettled layers is imperative as well as the reduction of the total amount of layers. The experiments performed showed that the use of the high-speed fettling method reduced the duration of

S/130/60/000/011/005/011
A006/A001

Fettling of New Bottoms on Large-Capacity Open Hearth Furnaces

fettling by 3 to 4 times producing high durability. There are 2 figures.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 3/3

S/133/60/000/012/003/015
A054/A027

AUTHORS: Bas'yas, I.P., Vyaznikova, T.A., Koksharov, V.D., Dikshteyn, Ye. I., Selivanov, I.A., Makarychev, A.R., and Nazarov, K.S.

TITLE: Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

PERIODICAL: Stal', 1960, No. 12, pp. 1086-1092

TEXT: In order to investigate the factors influencing the useful life of magnesite-chromite bricks used for open-hearth furnace roofs tests were carried out in the Magnitogorsk Metallurgical Combine (1957-1959) with furnaces fired a) with masut only, ("masut type furnace"); b) with blast-furnace coke and an addition of 30 kg/hour of tar ("gas-type" furnace); c) with blast-furnace coke and an addition of 500-700 kg/hour of coal tar, ("mixed-type" furnace). The tests served to determine the temperature of the magnesite-chromite bricks at various distances from the working surface of the roof, the composition of the atmosphere under the roof, the quantity and composition of dust and the rate of the decomposition in bricks. For these purposes the following devices were employed: ФЭП (FEP) type photoelectric pyrometer, platinum-rhodium and platinum thermocouples, mounted in a 75 x 75 x

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460 mm magnesite-chromite rod, the hot junctions of the thermocouples being at 0, 10, 15 and 30 mm distance from the working surface. Where the hot junction was placed immediately on the surface, it was protected by a silicium-rich cap, with a wall 0.8 mm thick; a single-point potentiometer with a disc scale rotating at 0.5 rph; for gas analysis ГХП (GKhP-3) type and for random tests ВТИ-2 (VTI-2) type analyzers were used. The melting dust under the roof was collected by a water cooled detachable brass tube connected in series with water filters, gasmeters and ejectors. For introducing the apparatus in the under-roof area 7 openings, (80 x 80 mm) were made in the roof. In the tests the relationship between the character of temperature change of the working roof surface and the duration of break in firing, the opening of the charging doors, the time during which cold materials are in the furnace, the duration of various processes and repairs were investigated for all three types of furnaces. It was found that the useful life of the roof in the first place depended on the kind of fuel used, on the place where fuel was fed in the furnace and on thermal loads. The shortest useful life was observed for masut-fired furnaces, working under unfavorable atmospheric conditions: CO was frequently, carbohydrates were occasionally found in the roof zone. Even when

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part of the gas fuel was replaced by a liquid (max. 500-700 kg/hour) the useful life of the roof was shortened, mainly when charging masut or tar through tuyères mounted at the external sides of the fuel tanks. Hydrocarbons are harmful because the ceramic surface of the bricks acts as a catalyst and promotes their decomposition during heating and thereby also the activation of oxidation-reduction processes which deteriorate the iron-rich zones of the refractory bricks. When firing with partly liquid or all-liquid fuel the temperature conditions are also adversely affected because the velocity of temperature changes on the working surface increases during reversing (up to 300°C/min), the temperature drop can attain 200°C and more in this interval; the cooling time of the roof increases during charging while the temperature can decrease to 1,300°C and lower. When cooling below 1,500-1,450°C, the refractory bricks deteriorate considerably under the effect of temperature change, because the working zones of refractory material pass from a semi-plastic heat-resistant condition into a brittle, non-heat-resistant state. As, however, in some cases cooling even below 1,000°C (for instance, during repair) does not increase deterioration of the bricks, it can be assumed that actually not cooling itself, but its accompanying phenomena, such as speed

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S/133/60/000/012/003/015
A054/A027

Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

and frequency of heat changes during the non-heat-resistant period of the working zones in refractory bricks are the causes of their decomposition. The heat of operation conditions of the roof is, when it is not cooled below 1,500°C. However, with the present methods of charging high-capacity furnaces this can be obtained only by extending the charging time or by intensifying the combustion of fuel. When having to cool the roof under 1,450-1,550°C during charging, the number of reversals should preferably be reduced by intensifying combustion as much as possible, and by increasing the intervals between reversings. In the changes in the composition of atmosphere under the roof occurring for 7-9 minutes, also add to the decomposition of the refractory bricks, care should be taken to prevent any reducing medium from entering this area, not even for a short time. Refractory bricks deteriorate more quickly in the first phase of the furnace campaign than in the subsequent phase. This shows that decomposition takes place quickly when there are refractory bricks with a high content of iron oxides in the working area. There are 6 figures, 6 tables and 3 Soviet references.

ASSOCIATION: Vostochnyy institut ogneuporov (Eastern Institute of Refractory Material), Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 4/4

NAZAROV, K.S.

Testing of magnesite-chromite products in the arches of open-hearth furnaces. Ogneupory 28 no.3:119-125 '63. (MIRA 16:2)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Firebrick—Testing) (Open-hearth furnaces—Maintenance and repair)

IGNATOVA, T.S.; FLYAGIN, V.G.; POPOV, A.D.; CHUKREYEVA, Ye.I.; DIKSHTEYN, Ye.I.; NAZAROV, K.S.; MAKARYCHEV, A.R.

Manufacture and testing of highly resistant ladle firebrick. Ogneupory 29 no.11:489-495 '64. (MIRA 18:1)

1. Vostochnyy institut ogneuporov (for Ignatova, Flyagin, Popov, Chukreyeva). 2. Magnitogorskiy metallurgicheskiy kombinat (for Dikshteyn, Nazarov, Makarychev).

SIMONOV, K.V.; NAZAROV, K.S.

Calcining dolomite from the Lisya Mountain deposit in a rotary kiln. Ogneupory 30 no.3:24 '65. (MIRA 18:5)

1. Vostochnyy institut ogneuporov (for Simonov). 2. Magnitorskiy metallurgicheskiy kombinat (for Nazarov).

IL'YUCHENIK, R.Yu.; NAZAROV, L.A.

Correlation between serotonin and the central adrenoresponsive and cholinoresponsive systems in the mechanism of electroencephalogram activation. Dokl. AN SSSR 146 no.5:1237-1240 O '62. (MIRA 15:10)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR i Institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom A.V.Palladinym.
(INDOLOL) (ELECTROENCEPHALOGRAPHY)

IL'YUCHENOK, R.Yu.; NAZAROV, L.A.

Mechanism of the effect of serotonin on the central nervous system.
Dokl. AN SSSR 149 no.5:1217-1220 Ap '63. (MIRA 16:5)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom V.N.Chernigovskim.
(SEROTONIN) (ELECTROENCEPHALOGRAPHY)

L 11161-66 EWT(d)

ACC NR: AP6015384 (N) SOURCE CODE: UR/0410/65/000/004/0049/0054

AUTHOR: Nazarov, L. A. (Novosibirsk); Umantsev, G. D. (Novosibirsk)

ORG: none

37 B

TITLE: Signal transformation in the peripheral sections of biological analyzers

SOURCE: Avtometriya, no. 4, 1965, 49-54

TOPIC TAGS: neuron, bionics, biosensor, electronic switch

ABSTRACT: In order to construct a switching device for a multipoint measuring system utilizing the organizational principles of biological receptor fields, the article analyzes some known data on the structure and operation of the peripheral sections of biological analyzers (receptors and sensors). The character of the potential processes occurring in the sensory receptor cells is described, and formulas are given to describe some of the more important aspects of neuron stimulation potential mechanisms. Certain properties specific to all the receptors (visual, tactile, olfactory, etc.) are considered, and a comparison is made between the properties of these sense organ cells, considered separately and in the aggregate, and the analogous properties of mechanical sensors. By way of example, the feasibility of employing the property of mutual inhibition for single-output sensor switching is analyzed. Orig. art.

Card 1/2 UDC: 621.395.659+612.84/88

L 41161-66

ACC NR: AP6015864

O

has: 5 figures and 5 formulas.

SUB CODE: 06,09/ SUBM DATE: 23Mar65/ ORIG REF: 008/ OTH REF: 013

Card 2/2 hs

NAZAROV, M.

For further improvement of work with river transportation employees. Rech. transp. 19 no. 6:5-8 Je '60. (MIRA 14:2)

1. Zamestitel' ministra rechnogo flota.
(Inland water transportation—Employees)

NAZAROV, M.; KALININ, B.

New wage system for river fleet workers. Rech. transp. 19 no.10: 1-5 O '60. (MIRA 13:11)

1. Zamestitel' ministra rechnogo flota (for Nazarov). 2. Nachal'nik Otdela organizatsii truda i zarabotnoy platy Ministerstva rechnogo flota (for Kalinin).
(Inland water transportation--Employees) (Wages)

NAZAROV, M., inzh.; SIDOROV, F., inzh.

River transportation in the German Federal Republic. Rech. transp. 20 no.9:50-54 S '61. (MIRA 14:9)
(Germany, West--Inland water transportation)

NAZAROV, M.

Labor productivity is the most important, the main objective.
Rech. transp. 22 no.2:1-3 F '63. (MIRA 16:5)

1. Zamestitel' ministra rechnogo flota.
(Inland water transportation--Labor productivity)

GROMOV, A.; deputat V[illegible] SSSR, laureat Leninskoy premii; KRECHETNIKOV, N.; [illegible], S.; NAZAROV, M.; PLAKHOTNYY, G.

At our factory. [illegible] 40 no.9:16-19 [illegible]

(MIRA 17:12)

1. Direktor Pervogo [illegible]dar[illegible]stvennogo podshipnikovogo zavoda (for [illegible]). 2. Na[illegible] [illegible] grazhdanskoy [illegible] Pervogo [illegible]darstvennogo podshipnikovogo zavoda (for Krechetnikov). 3. Sekretar' partiynogo komiteta Pervogo gosudarstvennogo podshipnikovogo zavoda (for Zhelnin). 4. Sekretar' zavodskogo komiteta Vsesoyuznogo [illegible] Kommunisticheskogo soyuza molodezhi Pervogo gosudarstvennogo podshipnikovogo zavoda (for Plakhotnyy).

NAZAROV, M.

Raise the level of operational work in river transportation.
Rech. transp. 24 no.[illegible]5 '65. (MIRA 18:5)

1. Zamestitel' Ministra rechnogo flota RSFSR.

KOSHELEV, V., podpolkovnik; NAZAROV, M., podpolkovnik

A lecture group at work. Komm. Vooruzh. Sil 46 no.12:82-83 Je '65.
(MIRA 18:10)

NAZAROV, Mikhail Dmitriyevich; TERESHCHENKO, N.I., redaktor; SOKOLOVA, N.N., tekhnicheskiy redaktor

[The "Liubomirovka" state farm] Sovkhoz "Liubomirovka." Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 119 p. (MLRA 9:10)
(State farms)

NAZAROV, M.F. (Orenburgskaya obl.)

Theorem of three perpendiculars. Mat.v shkole no.4:71 Jl-Ag '60. (MIRA 13:9)

(Geometry, Plane)

AMBROK, S.A., kand.sel'skokhozyaystvennykh nauk; NAZAROV, M.F.

Make better use of land in Orenburg Province. Zemledelie 24 no.3:30-34 Mr '62. (MIRA 15:3)

1. Orenburgskiy sel'skokhozyaystvennyy institut (for Nazarov).
(Orenburg Province--Agriculture)

NAZAROV, M.F.

Teaching astronomy in rural schools. Fiz.v shkole 23 no.1:65-74 Ja-F '63. (MIRA 16:4)

1. Ozerskaya srednyaya shkola Aleksandrovskogo rayona Orenburgskoy oblasti.
(Astronomy--Study and teaching)

Country : USSR
Category : Diseases of Farm Animals. R
Diseases Caused by Bacteria and Fungi.
Abs. Jour : Ref Zhur-Biol., No 21, 1956, 96959

Author : Zhalobovskiy, I. L.; Nazarov, N. G.
Institut. : Institute of Veterinary Sciences, Kazakh*
Title : Materials on the Epizootology of Diarrhea at Stud Farms of the South-East Zone of Kazakhstan.
Orig. Pub. : Tr. In-ta vet. Kazakhsk. fil. VASKhNIL, 1957, 8, 194-200
Abstract : No abstract.

Card: 1/1

*Affiliate of the All-Union ordena Lenin Academy of Agricultural Sciences imeni V. I. Lenin.

NAZAROV, M.G., kand. ekonom. nauk

The principal and most important matter; experience in the increase of labor productivity in the Cotton Combine in Kurovskoye. Tekst. prom. 25 no.9:12-15 S '65.
(MTRA 18:10)

NAZAROV, M.I. [deceased]; KOTOV, M.I.; GERZHEDOVICH, P.I.; BRADIS, E.M.

Willow family (Salicaceae Lindl.). Flora URSR 4:17-66 '52.
(Ukraine--Willows) (KLRA 7:12)

NAZAROV, M. I., CAND MED SCI, "~~DISPENSARY~~ Out-patient OBSERVATION OF HYPERTENSION PATIENTS UNDER ~~THE~~ CONDITIONS OF THE HOT CLIMATE OF TASHKENT. (~~BASED ON MATERIAL ASSOCIATED~~ According to polyclinic data in conjunction WITH TASHKENT MED INST ~~POLYCLINIC~~)." FRUNZE, 1961. (MIN OF HEALTH KISSR. KIRGIZ STATE MED INST). (KL-DV, 11-61, 229).

KAZAKOV, M.I.

Velocity profile and roughness factor in paved canals. Trudy Inst.vod.khoz.i energ.AN Kir.SSSR no.3:79-95 '56. (MLRA 9:11)
(Kirghizistan--Canals) (Hydraulics)

SOV/124-58-8-8764

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 61 (USSR)

AUTHOR: Nazarov, M.I.

TITLE: Erosive and Tolerable Nonerosive Flow Velocities in Paved Channels (Razmyvayushchiye i dopuskayemyye skorosti potoka dlya moshchenykh kanalov)

PERIODICAL: Tr. In-ta vodn. kh-va i energ. AN KirgSSR, 1957, Nr 4 (7), pp 65-83

ABSTRACT: Results are given of a full-scale experimental investigation made of the flow velocities that produce erosion in paved channels. The author undertook the investigation at the request of the Institut vodnogo khozyaystva i energetiki AN Kirgizskoy SSR (Institute of Water Economy and Power, Academy of Sciences, Kirghiz SSR). He recommends that the profile of the flow velocities under the conditions studied, wherein h/Δ is extremely small (Δ being the vertical dimension of the zone of the influence exerted by the protuberances constituting the wall and bottom roughness) be determined with a power relationship, the exponent involved equalling 1/3 ---in contrast to the formulae usually used (those of Manning, Pavlovskiy, and

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SOV/124-58-8-8764

Erosive and Tolerable Nonerosive Flow Velocities in Paved Channels

others). h/Δ is found to fluctuate within the range 0.4-8. An expression is proposed for the magnitude of Δ as a function of the mean vertical dimension (Δ_{mean}) of the protuberances constituting the roughness. On the basis of observational data the author obtains the formula (valid for cobblestone paving)

$$v_p = 3.22 \left(\frac{R}{\Delta_{mean}}\right)^{2/3} \sqrt{d} \quad [m/sec]$$

wherein d is measured in meters. Bibliography: 8 references.

I.I. Levi

Card 2/2

NAZAROV, M.I.; PATRUSHEV, M.F., inz., retsenzent; LEGOSTAYEV, A.M., retsenzent; KAMAZA, V.F., retsenzent; VALENTINI, L.A., kand.tekhn.nauk, retsenzent; KABAKOV, M.M., red.; ANOKHINA, M.G., tekhn.red.

[Paved canals] Moshchenye kanaly. Frunze, Akad.nauk Kirgizskoi SSR, 1958. 104 p. (MIRA 12:3)
(Irrigation canals and flumes)

NAZAROV, M.I.

NAZAROV, M.I., Cand Tech Sci — (diss) "Paving of canals as a method of controling erosions and losses of water in canals and of the reorganization of irrigation systems." Frunze, 1958. 25 pp with ill (Acad Sci Kirgiz SSR. Inst of Power Engineering and Water Resources) 120 copies (KL,20-58,97)

KABAKOV, M.M., kand. tekhn. nauk; NAZAROV, M.I., kand. tekhn. nauk; ZHARKOVA, K.A., nauchnyy sotr.; KAPLINSKIY, M.I., kand. tekhn. nauk; ARTAMONOV, K.F., kand. tekhn.nauk; RAMAZAN, M.S., kand. tekhn. nauk; KOSTYUCHENKO, E.V., kand. tekhn. nauk; TESLENKO, V.G., nauchnyy sotr.; TERESHCHENKO, V.S., nauch.sotr.; TAIMAZA, V.F.; LEVITUS, B.I., red. izd-va; ANOKHINA, M.G., tekhn. red.

[Field investigation of irrigation systems] Proizvodstvennye issledovaniia na orositel'nykh sistemakh. Frunze, Izd-vo AN Kirgizskoi SSR, 1961. 302 p. (MIRA 15:9)

1. Akademiya nauk Kirgizskoy SSR, Frunze. Institut energetiki i vodnogo khozyaystva.

(Kirghizistan---Irrigation)

NAZAROV, M. I.

Some hydraulic problems with regard to the DDU-48 wide-range sprinkler. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 4 no.1: 109-120 '62. (MIRA 15:10)

1. Laboratoriya novykh metodov orosheniya AN Kirgizskoy SSR (rukovoditel' kand. tekhn. nauk M. M. Babakov).

(Sprinklers)

NAZAROV, M.I.

Effect of irrigation by the mineralized water from Lake Issyk-Kul' on the yield of farm crops. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 4 no.10:69-77 '62.

Uniformity of the distribution of irrigation water and the effect of wind on the size of the area covered by long-range sprinklers. Ibid.:79-85 (MIRA 16:11)

1. Laboratoriya novykh metodov orosheniya (rukovoditel'-kand. tekhn. nauk M.M. Kabakov) AN Kirgizskoy SSR.

RYZHAKOV, Vasiliy Nikolayevich; NARSKIY, Sergey Aleksandrovich; VYDRIN, Lev Borisovich; NAZAROV, M.I., red.

[Using gases as acetylene substitutes in welding] Primenenie gazov-zamenitelei atsetilena v svarochnom proizvodstve. Leningrad, 1963. 21 p. (Leningradskii dom nauchno-tekhn. propagandy. Obmen peredovym opytom. Seriia: Svarka, rezka i paika metallov, no.4) (MIRA 18:1)

NAZAROV, Mikhail Ignat'yevich; MIRKOV, M.M., otv. red.

[Sprinkler irrigation of farm crops and the outlook for its use in Kirghizistan] Dozhdevanie sel'skokhoziaistvennykh kul'tur i perspektivy ego primeneniia v Kirgizii. Frunze, Izd-vo AN Kirgiz.SSR, 1964. 98 p. (MIRA 17:4)

NAZAROV, M.M.
Min Higher Education. Moscow Inst. of the Mechanization and Electrification of Agriculture imeni V.M. Molotov.

NAZAROV, M.J. "Investigation of type P locomobiles for the complex power supply of animal-husbandry farms." Min Higher Education. Moscow Inst of the Mechanization and Electrification of Agriculture imeni V.M. Molotov. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

UR'YASH, F.V., inzh.; NAZAROV, M.M., inzh.

Effect of edge hardening of stamped plates on the properties of magnetic circuits. Vest. elektroprom. 32 no.5:62-64 My '61. (MIRA 15:5)

(Magnetic circuits) (Cores (Electricity))

UR'YASH, F.V., inzh.; NAZAROV, N.M., inzh.

An accelerated method for thermal treatment of magnetic circuits from cold-rolled electrical steel. Vest. elektroprom. 33 no.10:61-64 O '62. (MIRA 15:9)
(Steel)
(Magnetic circuits) (Cores (Electricity))

L 22752-66 EWT(d)/EWT(l)/EWT(m)/EWP(t)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l) WW/JW
ACC NR: AP6009918 (A) SOURCE CODE: UR/0413/66/009/004/0115/0115

AUTHOR: Zinov'yev, I. V.; Nazarov, M. M.; Savel'yev, V. M.

ORG: none

TITLE: Device for adjusting the lifting height of an intake valve in an internal combustion engine. Class 46, No. 179119

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no.4, 1966, 115

TOPIC TAGS: internal combustion engine, valve intake, valve, piston, engine, engine piston

ABSTRACT: An Author Certificate has been issued for a device in the form of hydraulic link in the drive-system for changing the lifting height of an intake valve in an internal combustion engine. To increase the performance economy of the engine for partial loads, the hydraulic link is built as a housing with an intermediate sleeve having a bypass opening and equipped with a gear rack which interacts with the mechanical-drive gear wheel; the sleeve has two plungers in a coaxial position, one linked with the distributor shaft cam, and the other is linked with the push rod, which is connected with a double-arm lever, which, in turn operates the valve. (See Fig. 1). Orig. art. has 1 figure. [LL]

Card 1/2 UDC: 621.43-381.2

L 22757-66
ACC NR: AP6009918

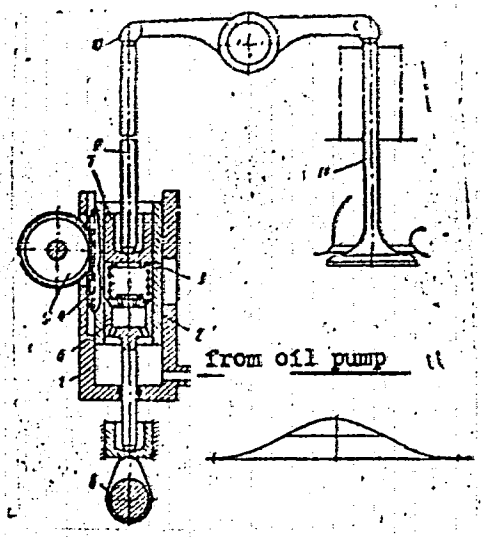

Fig. 1. Hydraulic link. 1 - housing; 2 - intermediate sleeve; 3 - bypass opening; 4 - gear rack; 5 - drive-mechanism gear wheel; 6 - pressure plunger; 7 - operating plunger; 8 - shaft cam; 9 - rod; 10 - double-arm lever; 11 - valve

SUB CODE: 21 SUBM DATE: 21Feb64

Card 2/2

ACC NR: AP6019928 (A) SOURCE CODE: UR/0122/66/000/006/0038/0040

AUTHOR: Voinov, A. N. (Doctor of technical sciences, Professor); Rumyantsev, I. F. (Engineer); Nazarov, M. M. (Engineer); Nechayev, S. G. (Engineer)

ORG: None

TITLE: Gasoline engine rumble and preignition

SOURCE: Vestnik mashinostroyeniya, no. 6, 1966, 38-40

TOPIC TAGS: internal combustion engine, combustion instability, combustion chamber temperature, combustion pressure effect, carbon, oscillograph, GASOLINE ENGINE

ABSTRACT: Data are given from a study carried out at the Moscow Automobile and Highway Institute on the disturbance of combustion related to preignition caused by carbon. One cylinder of the GAZ-21 engine with variable compression was used for the test. A-95 gasoline was used with 1.1 gram of tetraethyl lead per kg of gasoline at 2000 rpm. Carbon formation was simulated artificially. Powdered carbon was introduced into the engine through the intake. The carbon particles had been graded for size. These were passed through a screen with square openings of 0.5, 0.3, 0.15 and 0.1 mm. Oscillograms were made for running cycles without carbon, during carbon injection and after the introduction of carbon. Three parameters were used in oscillogram analysis: maximum combustion pressure p_z, maximum pressure increase $dp/d\phi$ and angle of crankshaft deflection ϕ_z with respect to pressure p_z. A graph is given showing variation of these parameters with respect to the cycles resulting from the introduction of carbon parti-

Card 1/2

UDC: 621.434.019.4

ACC NR: AP6019928

cles. The results show that both particle size and amount affect rumble intensity. Both rumble and preignition increase as the concentration and size of the carbon particles are increased. 0.5 mm particles could not be used in the experiment since they caused improper exhaust valve seating. The following changes in parameters were observed as the quantity of carbon was increased: a significant increase in p_a and $dp/d\phi$; a reduction in ϕ_z; rumble intensity is finally retarded. Figures are given showing the effect of engine operation and other factors on rumble intensity. Increased compression and transition to full throttle increases preignition. It is assumed that this is due to additional flame fronts caused by glowing carbon particles. This phenomenon can be explained in the following manner for engines operating under ordinary conditions. As the engine is accelerated to full throttle, carbon particles break loose from the combustion chamber and piston walls as a result of increased turbulence in the air charge. These particles are then suspended inside the chamber and are heated to the combustion point causing preignition. This is the main cause of rumble. The results of this study agree with other studies on engines operating under normal conditions with normal carbon accumulation. Artificially induced rumble by means of carbon particle injection is an efficient way of saving valuable test time in evaluating the relative tendency of fuels toward this phenomenon. Orig. art. has: 7 figures.

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 005

Card 2/2 MLP

ACC NR: AP6019928 (A) SOURCE CODE: UR/0122/66/000/006/0038/0040

AUTHOR: Voinov, A. N. (Doctor of technical sciences, Professor); Rumyantsev, I. F. (Engineer); Nazarov, M. M. (Engineer); Nechayev, S. G. (Engineer)

ORG: None

TITLE: Gasoline engine rumble and preignition

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TOPIC TAGS: internal combustion engine, combustion instability, combustion chamber temperature, combustion pressure effect, carbon, oscillograph, GASOLINE ENGINE

ABSTRACT: Data are given from a study carried out at the Moscow Automobile and Highway Institute on the disturbance of combustion related to preignition caused by carbon. One cylinder of the GAZ-21 engine with variable compression was used for the test. A-95 gasoline was used with 1.1 gram of tetraethyl lead per kg of gasoline at 2000 rpm. Carbon formation was simulated artificially. Powdered carbon was introduced into the engine through the intake. The carbon particles had been graded for size. These were passed through a screen with square openings of 0.5, 0.3, 0.15 and 0.1 mm. Oscillograms were made for running cycles without carbon, during carbon injection and after the introduction of carbon. Three parameters were used in oscillogram analysis: maximum combustion pressure p_z, maximum pressure increase $dp/d\phi$ and angle of crankshaft deflection ϕ_z with respect to pressure p_z. A graph is given showing variation of these parameters with respect to the cycles resulting from the introduction of carbon parti-

Card 1/2 UDC: 621.434.019.4

Card 2/2 MLP

L 10199-63 EWP(r)/EWT(m)/BDS--AFFTC--EM

ACCESSION NR: AP3000453 S/0198/63/009/003/0249/0258

AUTHOR: Nazarov, M. O. (Leningrad) 53 52

TITLE: On free vibrations of a circular cylindrical shell and of shallow shells reinforced by a grating of ribs

SOURCE: Prykladna mekhanika, v. 9, no. 3, 1963, 249-258

TOPIC TAGS: free shell vibration, plain cylindrical shell, reinforced cylindrical shell, natural shell frequency, cylindrical shell, shallow shell

ABSTRACT: Free vibration of a thin elastic shallow shell of a given plan form is analyzed first. The shell is stiffened by orthogonally arranged stringers and transverse ribs, whose tangential rigidity and torsion are neglected. The effect of the stiffeners is assumed to take place in the middle surface of the shell, and the rigid joining of the stiffeners and shell allows the consideration of the strain-compatibility conditions for the whole system. The Ostrogradskiy-Hamilton variational principle is applied to the kinetic and potential energies (expressed in delta functions) of this elastic system, and a set of three differential free-vibration equations in displacements is derived from which a system of linear homogeneous algebraic equations with an infinite number of unknowns is obtained

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by using the Bubnov-Galerkin method. By setting the determinant of this system equal to zero, a condition for a nontrivial solution is created, and an equation for determining the natural frequency of the shell is derived. The free vibration of a thin circular cylindrical shell stiffened by stringers and frames is analyzed in the same manner. Formulas derived for natural vibrations show that in certain cases there is a piecewise-continuous spectrum of natural frequencies, which means that the resonance occurs there in certain ranges of frequencies of the exciting force. Results of numerical calculations of natural frequencies of a plain (nonstiffened) circular cylindrical shell and of such shells with 4, 6, 10, and 15 stringers are given in tables. The effect of frames, stringers, and of some parameters on the rigidity of the shell is discussed. Orig. art. has: 2 figures, 5 tables, and 15 formulas.

ASSOCIATION: Leningradsky*y tekhnologichny*y insty*tut (Leningrad Technological Institute)

SUBMITTED: 25Aug62 DATE ACQ: 19Jun63 ENCL: 00

SUB CODE: AP NO REF SOV: 004 OTHER: 000

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NAZAROV, M. P.

Nazarov, M. P. - "The power characteristics for nominal loads for deep-well oil pumping equipment", Izvestiya Akad. nauk Azerbaydzh. SSR, 1949, No. 2, p. 46-49, (Resume in Azerbaijani).

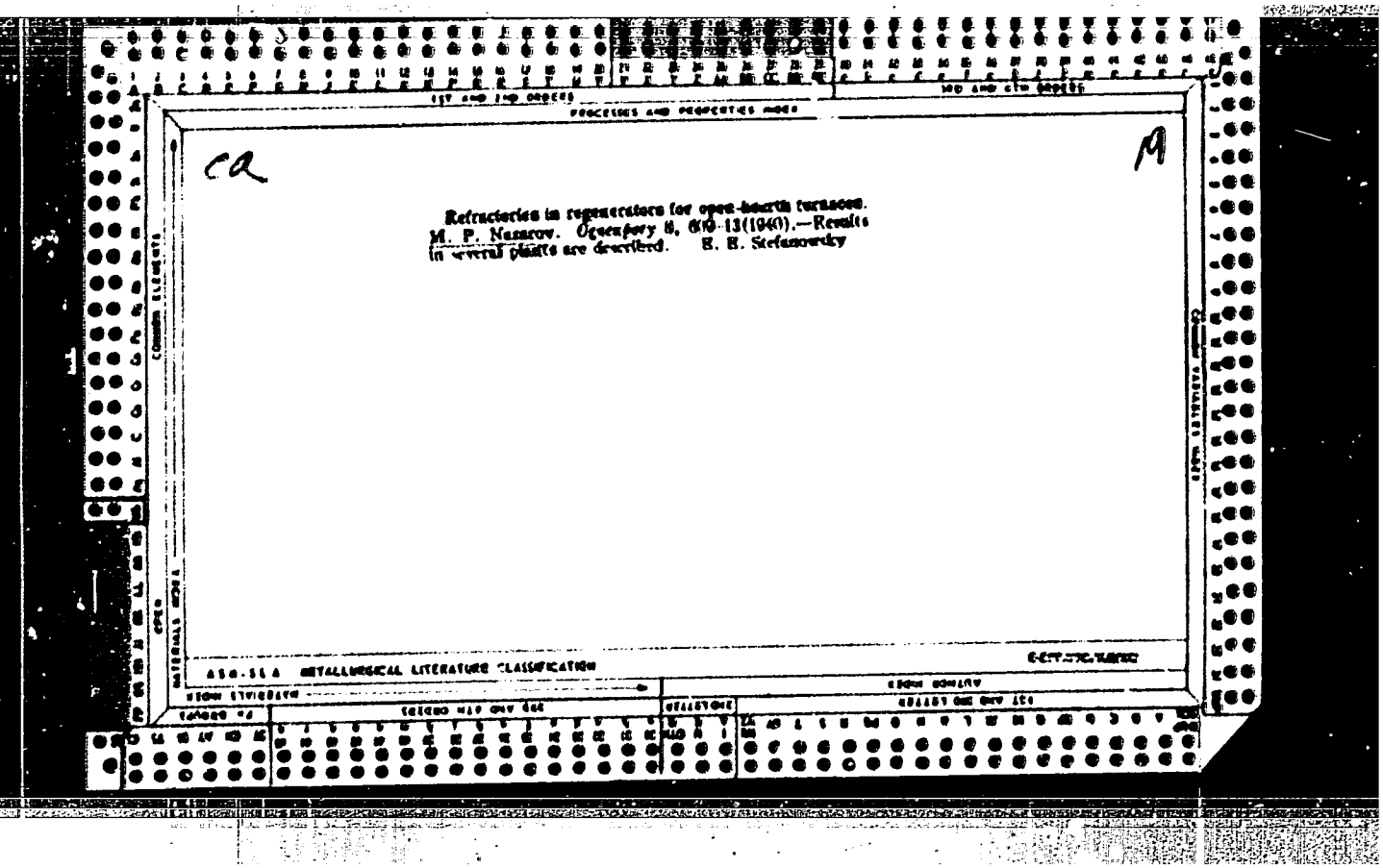
SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

KULIZADE, K. N.; NAZAROV, M. P.; KADYMOV, YA. B., SARKISOV, G. A.

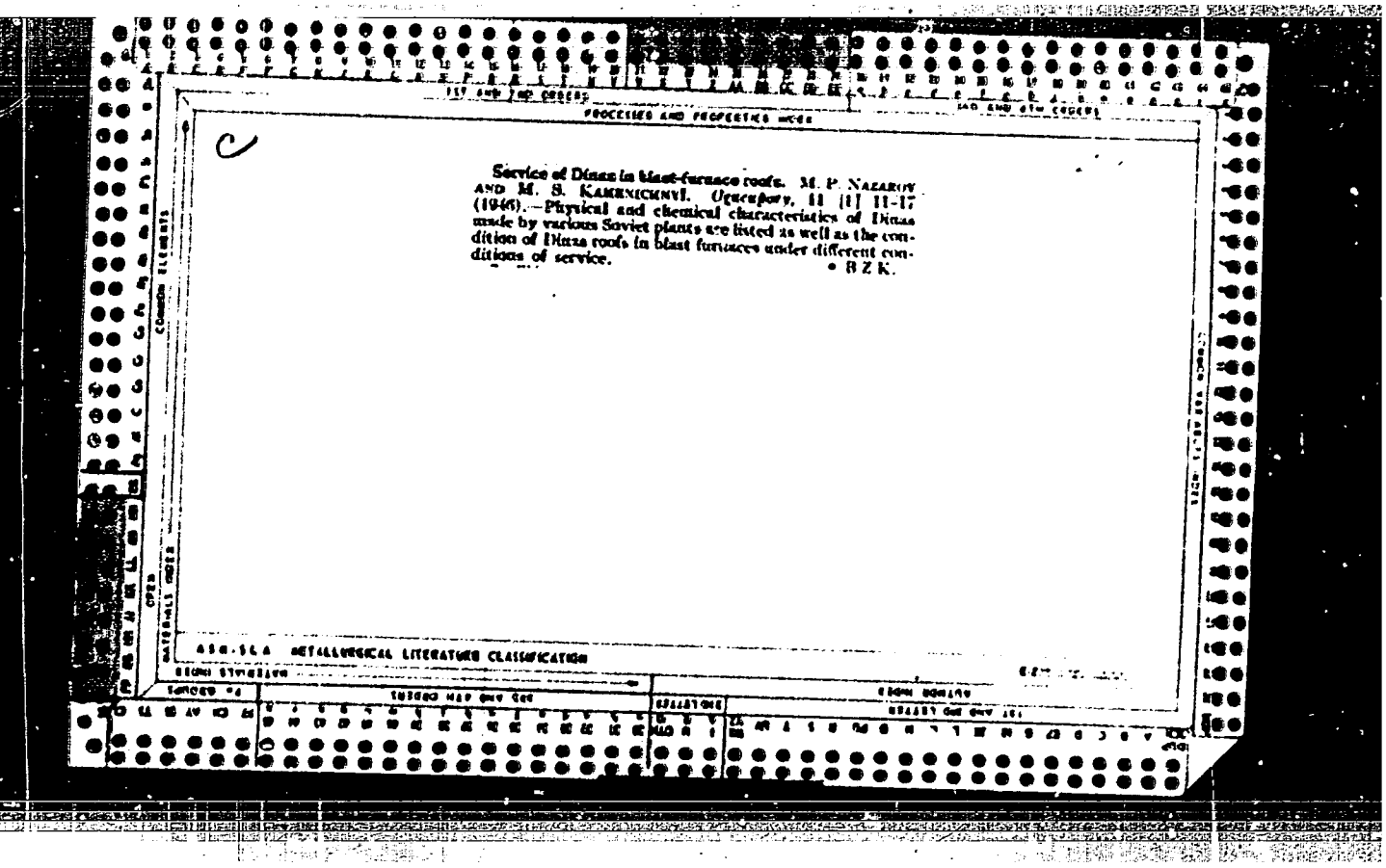
Petroleum

Power characteristics of petroleum refining installations and their application in standardizing specific electric energy consumption. Trudy. Energ. inst. AN Azer. SSR no. 10, 1951.

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

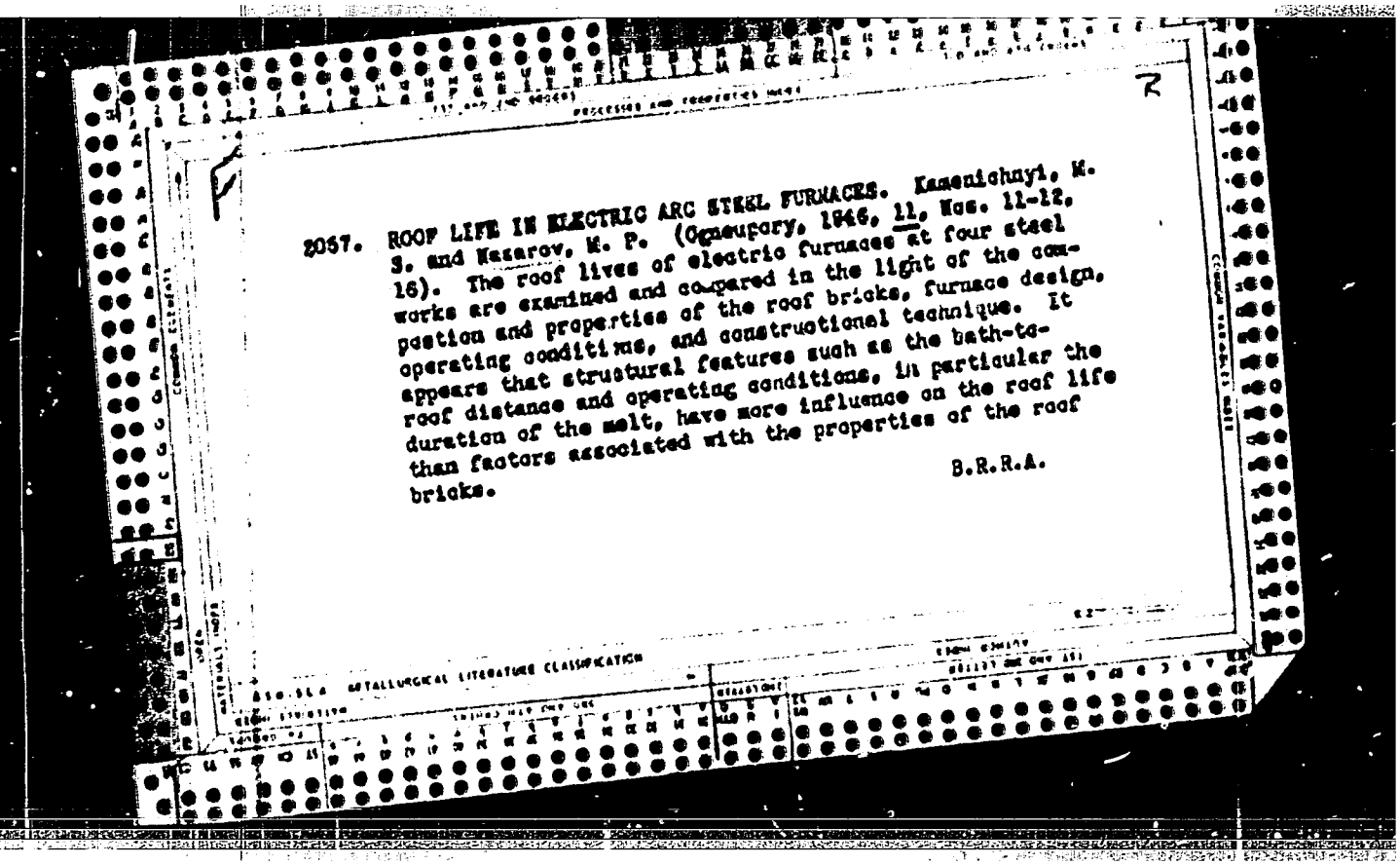


Refractories in regenerators for open-hearth furnaces.
M. P. Nazarov. *Ogneupory* 8, 610-13(1940).—Results in several plants are described. B. B. Stefanovsky



Service of Dinas in blast-furnace roofs. M. P. NAZARIN AND M. S. KARENICHNYI. *Ogneupory*, 11 [1] 11-17 (1946).—Physical and chemical characteristics of Dinas made by various Soviet plants are listed as well as the condition of Dinas roofs in blast furnaces under different conditions of service.

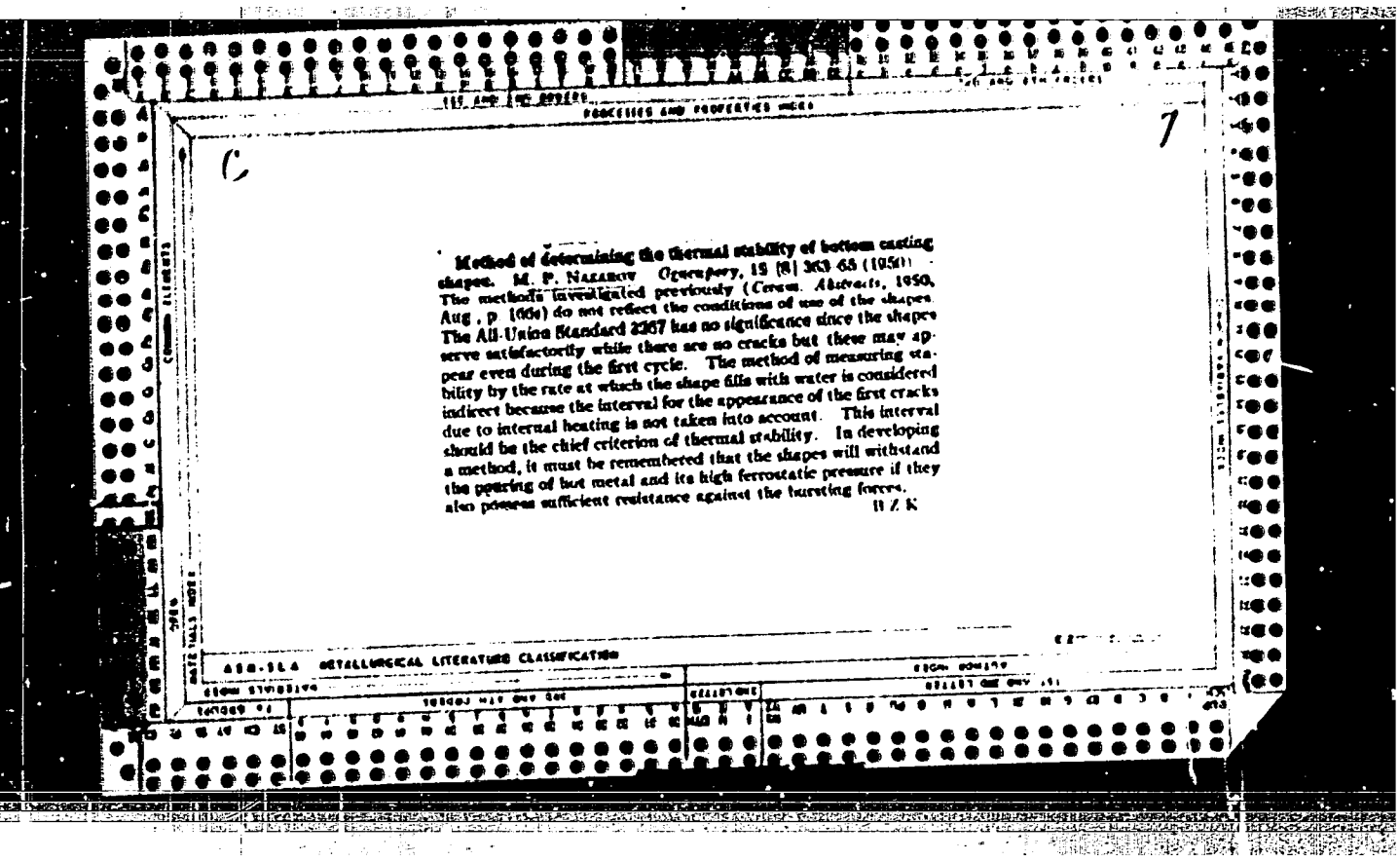
• B Z K.



2057. ROOF LIFE IN ELECTRIC ARC STEEL FURNACES. Kamenichnyi, M. S. and Nazarov, M. P. (Ogneupory, 1946, 11, Nos. 11-12, 16). The roof lives of electric furnaces at four steel works are examined and compared in the light of the composition and properties of the roof bricks, furnace design, operating conditions, and constructional technique. It appears that structural features such as the bath-to-roof distance and operating conditions, in particular the duration of the melt, have more influence on the roof life than factors associated with the properties of the roof bricks.

B.R.R.A.

METALLURGICAL LITERATURE CLASSIFICATION



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Method of determining the thermal stability of bottom casting shapes. M. P. NAZAROV *Ogneupory*, 15 [8] 363-65 (1950). The methods investigated previously (*Ceram. Abstracts*, 1950, Aug., p 166e) do not reflect the conditions of use of the shapes. The All-Union Standard 2387 has no significance since the shapes serve satisfactorily while there are no cracks but these may appear even during the first cycle. The method of measuring stability by the rate at which the shape fills with water is considered indirect because the interval for the appearance of the first cracks due to internal heating is not taken into account. This interval should be the chief criterion of thermal stability. In developing a method, it must be remembered that the shapes will withstand the pouring of hot metal and its high ferrostatic pressure if they also possess sufficient resistance against the bursting forces.
U Z K

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MARKOV, M. [illegible]

USSR/Metallurgy - Refractories, Slag Erosion [illegible] Sept 5[illegible]

"On the Laboratory Methods for Determining Slag Erosion of Refractories," I. Ya. Zalkind, Cand Tech Sci; and Engrs M. B. Kamenichnyy, M. I. Nazarov, T. V. Yurkina

"Ogneupory" No 9, pp 414-420

Briefly reviews existing methods for determining resistance of refractories to erosion by slag and describes method developed by ORMETS for determination of slag resistance using small specimens which may be prepared disregarding configuration of initial refractory products. Testing equipment consists of kryptol furnace with devices for temperature regulation.

PA 239T69

KAMENICHNYI, M.S.; NAZAROV, M.P.; ZALKIND, I.Ya.; BURSIAN, T.V.

Laboratory method of determining slag corrosion of refractories. Ogneupory 17, 414-20 '52. (MLRA 5:10)
(CA 47 no.20:10819 '53)

137-58-6-11717

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 71 (USSR)

AUTHOR: Nazarov, M.P

TITLE: Refractory Service Life in Open-hearth Production (Sluzhba ogneuporov v martenovskom proizvodstve)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1957, Vol 18, pp 497-514

ABSTRACT: An analysis is made of refractory service life in open-hearth furnace operation at various plants in the USSR. To increase the yield of steel, the task has been set of re-equipping all open-hearth furnaces with magnesite-chromite roofs. To raise the service life of ladle linings it is necessary to standardize and increase the ladle volume, increase the production of molded grades of brick for ladles of various capacities, employ combined milling of clay and fireclay in manufacturing ladle brick, and increase the unit pressures used in pressing, and also to raise the heat stability of dense ladle brick, convert ladle-brick manufacture from plastic forming to semidry pressing from high-duty fireclay, reduce ladle-brick breakage and improve the quality of ladle brickwork. To improve

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137-58-6-11717

Refractory Service Life in Open-hearth Production

pouring-pit-refractory service life it is necessary to convert production of stopper rods and heads to high-duty fireclay worked by semidry pressing; high-silica is to be used when vacuum-melted steel is poured. The production of runner brick by the semidry method has to be expanded. The precision with which casting pits are assembled and carriages for tundish pouring are put together must be improved. To reduce the amount of refractories employed it is necessary to finish refractory brickwork more completely, to increase re-use of brick, and reuce refractory scrap.

I.B.

1. Refractory materials--Life expectancy 2.Open hearth furnaces--Materials
3. Clays--Applications

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