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shown in Fig 5. The stored information is not lost even if the power is disconnected, but additional circuits are required if the stored data must be read off.
There are 5 figures and 4 references, all of which are English.

Card 2/2
SUBMITTED: February 26, 1958

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KUROCHKIN, S.S., kand. tekhn. nauk, red.; MATVEYEV, V.V., kand. fiz.-mat. nauk, red.; ZHERNOV, V.S., red.; KUZNETSOV, K.F., red.; LAZAREV, A.F., red.; MAMIKONYAN, S.V., glav. red.; NEMIROVSKIY, B.V., red.; POLIKARPOV, V.I., red.; KHAZANOV, B.I., red.; ERGLIS, K.E., zam. glav. red.; SHIRSHOV, D.P., red.; ANDREYENKO, Z.D., red.; VLASOVA, N.A., tekhn. red.

[Apparatus for nuclear spectrometry; collection of scientific and technical articles] Apparatura dlia iadernoi spektrometrii; nauchno-tekhnicheskii sbornik. Moskva, Gos. izd-vo lit-ry v oblasti atomnoi nauki i tekhniki. No.1. 1960. 131 p. (MIRA 14:7)
(Spectrometry) (Nuclear research)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

29092
S/597/60/000/001/002/005
B102/B138

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Khazanov, B. I.

The possibilities of gamma proportional counters in radiochemical analysis

PERIODICAL: Apparatura dlya yadernoy spektrometrii, no. 1, 1960, 41 - 58

TEXT: The article reviews construction and use of proportional counters for detection of soft gamma radiation. These counters consist of a gas-filled metal tube with a central metal thread and are equiped with a window. Beryllium was found to be the best window material and aluminum the best material for the body of the counter. The filler gas includes CH_4 for stabilization of amplification stabilization and CO_2 to increase the drift rate. The main characteristic of a detector is its efficiency. Comparison of experimental data show that argon-filled counters may be used for recording soft-radiation and Kr and Xe counters for hard. The filler gas determines not only the recording efficiency but also the character of the spectrograms. Results are best when the whole energy of the incident photon

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The possibilities of gamma...

is transferred to the counter gas. The main role in quantum absorption is played by the photoeffect in the gas (emission of photoelectrons of Auger electrons. The character of the spectrum is also affected by fluorescence; this effect increases with the atomic weight of the gas. The photoelectron ranges increase rapidly with increasing energy and, especially in argon-filled counters, the ranges become such that most of the electron energy is transferred to the counter walls. This "wall effect" becomes a main problem for electron energies above 100 kev. A counter 5 cm in diameter records only 10% of electrons if their range is 1.25 cm. A counter with good electrical characteristics must first display good linearity. Undistorted reproduction of the spectra depends on the gas amplification factor and on the pulse frequency. The energy resolution depends on noise level, voltage supply, and on constructional details of the counter. The diameter of the counter thread is most critical and should be as constant as possible. For gas amplification factors between 10 and 50,000 the pulse amplitude $u = e^{0.01U}$, and a voltage change of 1v causes an amplitude change of 1%. Since Ar counters work at 1000 and Xe counters at 2000 v, voltage has to be constant to 0.1 and 0.05% respectively. Besides external fluctuations, there are internal ones which also have an effect, e.g. fluctuations in

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KHAZANOV, B.I.

Precision mean counting-rate meter. App.dlia iad. spek. no.1:77-83 '60. (MIRA 14:8)
(Radiation—Measurement)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; IVANOV, I.D.; KHAZANOV, B.I.

Characteristics of a precision single-channel amplitude analyzer. App.dlia iad. spek. no.1:93-108 '60. (MIRA 14:8)

(Spectrometer)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; IVANOV, I.D.; KHAZANOV, B.I.

Automation of measurements of amplitude distribution.
App.dlia iad. spek. no.1:109-115 '60. (MIRA 14:8)
(Spectrometer)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

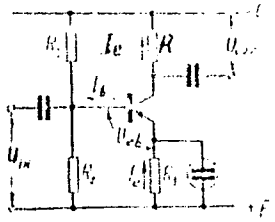
SOV/108-15-3-5/17

AUTHOR: Nosov, Yu. P., Khrustov, E. I.

TITLE: Equation of Thermal Stability of Various Types of Transistor Voltage Amplifiers

PERIODICAL: Radiotekhnika, 1960, Vol 15, Nr 3, pp 38-44 (USSR)

ABSTRACT: The paper derives the equation of thermal stability for a transistor voltage amplifier whose circuit diagram is shown in Fig. 1.



Card 1/4

Fig. 1.

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Under the assumption that $R_1 \ll r_c$ within the entire interval of possible temperature changes, it is shown that the condition for thermal stability of the above amplifier may be written as:

$$\frac{\Delta I_c}{I_c} \leq \frac{\Delta T}{T}(1+\gamma\varkappa) - \frac{\Delta\beta}{\beta}\left(\frac{1+\varkappa}{\beta}+\varkappa\right). \qquad (9)$$

where γ is a coefficient depending on the transistor type, and is related to the mobility μ of the charge carriers in the manner:

$$\mu \sim T^{-\gamma}, \qquad (5)$$

In Eq. (9), $\varkappa = r^1_{bo}/r_c$, where

$$r_e = \frac{nkT}{qI_e}; \quad r'_{bo} = r_{bo}(1-\alpha).$$

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Here, r_{bo} is the part of base resistance which does not depend on emitter current I_e. It is stated that in most practical problems the term with $\Delta\beta$ may be neglected. However, in the case of a silicon transistor this term must be taken into account. Based on Eq. (9), the cases $\varkappa \ll 1$ and $\varkappa \gg 1$ are discussed. An equation of thermal stability for computation purposes is obtained for germanium transistors and may be applied to various types of Soviet transistors. From the obtained results, the following conclusions are drawn: (1) In the case of small emitter currents, thermal stability is assured by changes in emitter currents, these being related to temperature in a simple manner. (2) In the case of large emitter currents, thermal stabilization is possible only for high values of α and for small r_b. (3) In the case of silicon transistors, there is a lower limit for permissible I_e values. (4) Thermal stabilization at a constant I_e is possible

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Equation of Thermal Stability of Various Types of Transistor Voltage Amplifiers

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only in the case of silicon transistors. Thus a d-c voltage amplifier may be designed using silicon transistors only. There are 2 figures; 2 tables; and 6 references, 1 Soviet, 5 U.S. The U.S. references are: M. Lin, E. Crosby, IRE Nat. Conv. Rec., Nr 3, 22, 1957; M. Tanenbaum, D. E. Thomas, BSTJ, XXXV, 1, 1956; Chin-Tang Sah, R. Noyce, W. Shockley, PIRE, 45, 1228, 1957; F. I. Morin, I. P. Maita, Phys. Rev., 96, 29, 1954; M. Prince, Phys. Rev., 92, 681, 1953.

SUBMITTED: April 3, 1959

Card 4/4

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KHAZANOV, B.I.; PCHELINTSEVA, G.M., red.; VLASOVA, N.A., tekhn. red.

[Transistors in radio measurement equipment] Tranzistory v radiometricheskoi apparature. Moskva, Gos.izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 170 p. (MIRA 14:12)
(Transistors) (Radio measurements)

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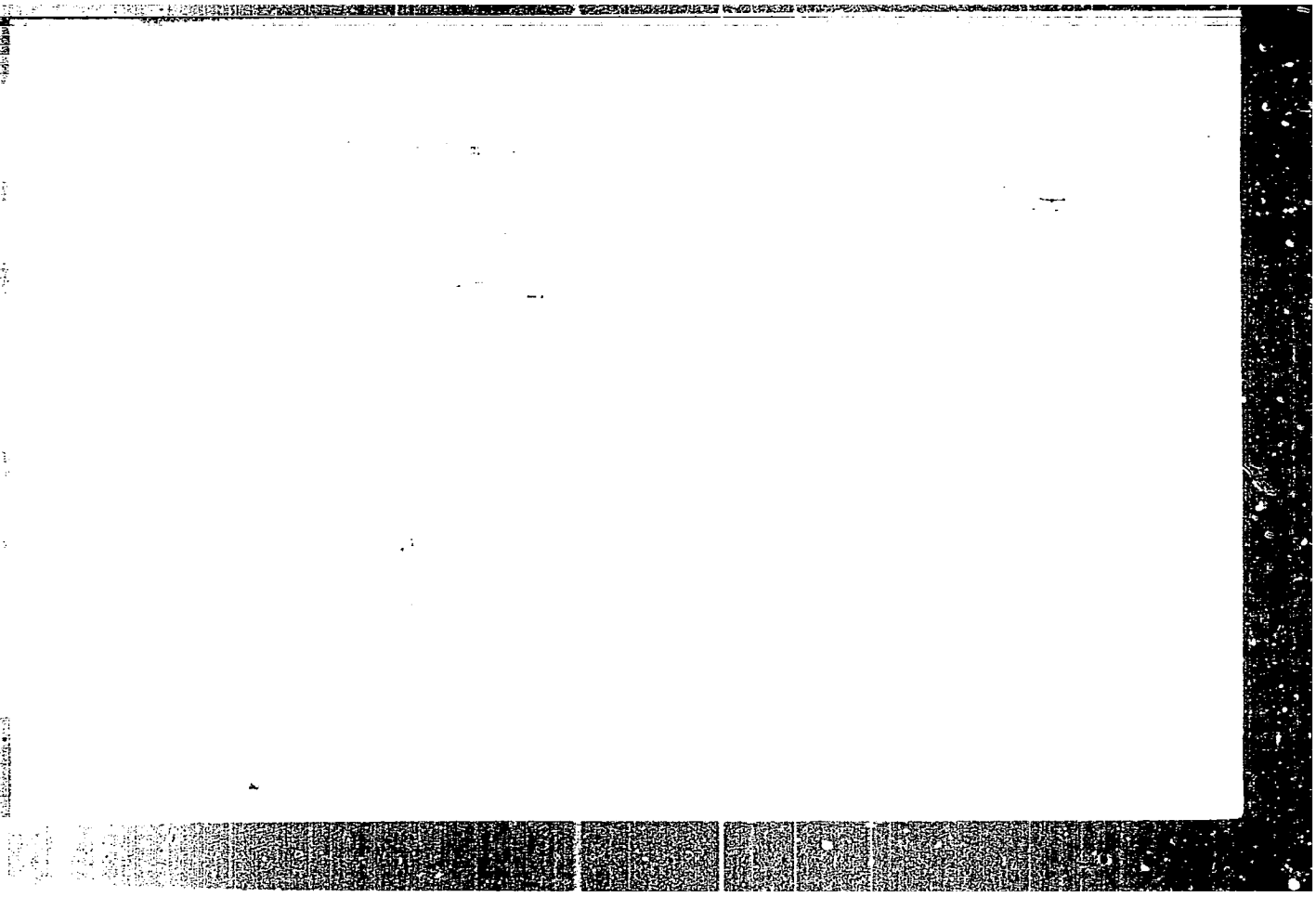

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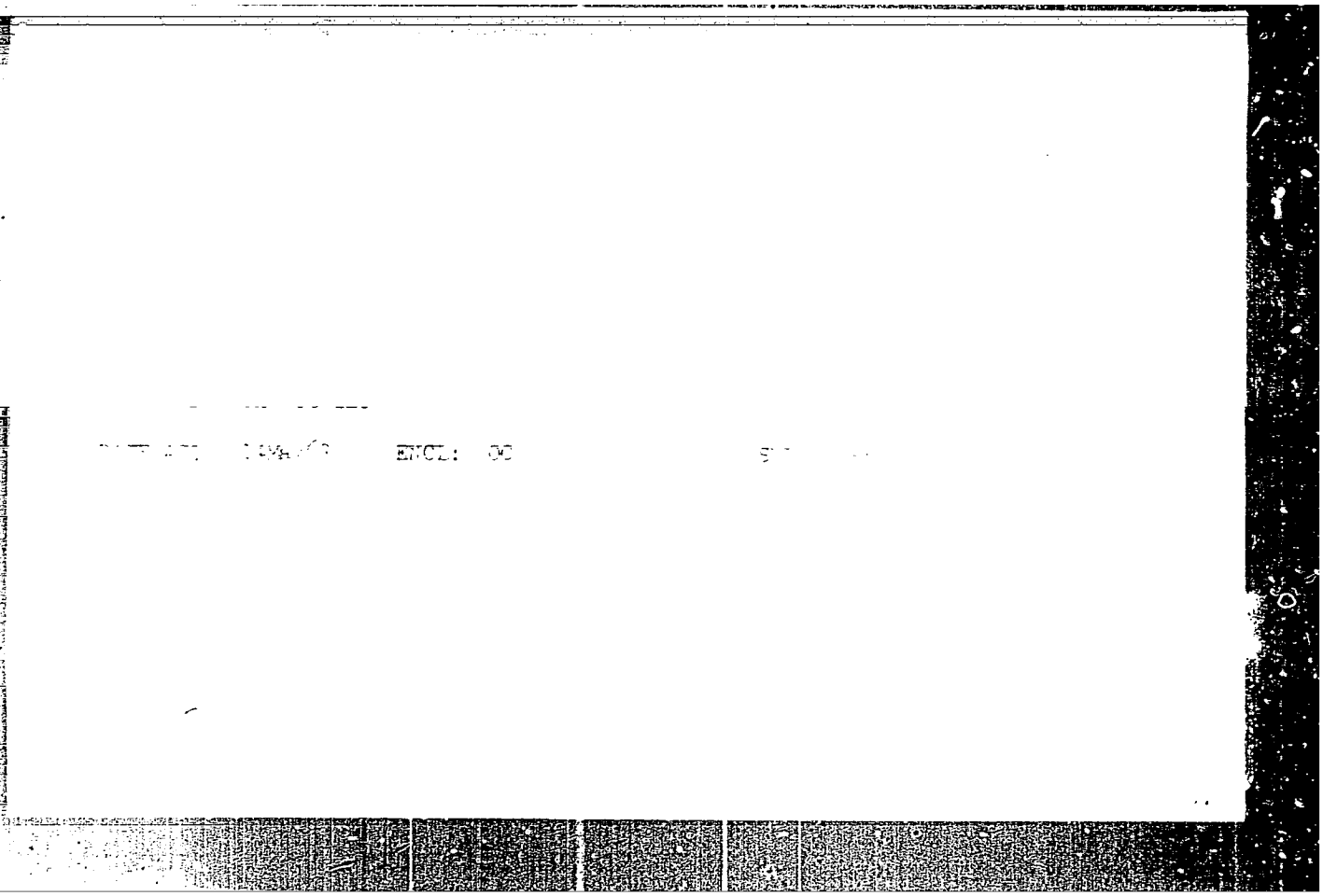

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20693

9.4310 (1141, 1150, 1154, 1155) S/120/61/000/001/031/062
E194/E184

AUTHORS: Gorn, L.S., and Khazanov, B.I.

TITLE: A Reversible Coding Circuit Based on Ferrite-Transistor Cells

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, pp.102-103

TEXT: Ferrite-transistor cells are used to measure the difference between the number of impulses received from two detectors in solving problems associated with the recording of radioactive radiations. This article briefly describes a ferrite-transistor difference reversible coding circuit, the circuit diagram of which is given in Fig.1. For simplicity this shows only two binary cells. The binary cell consists of two blocking generators between which the coupling transformers are based on ferrites with square hysteresis loops. The nominal direction of magnetisation of the ferrite in the circuit coincides with the direction of flow of current in the windings. Each of the transformers has five windings, of which numbers 1 and 2 are base and collector windings of the blocking generator of the cell, 3 and 4 are starter windings and 5 is a coupling winding with the

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E194/E184

A Reversible Coding Circuit Based on Ferrite-Transistor Cells

selector circuit of the second cell of the trigger. A current impulse applied to the starter circuit displaces the operating point on the magnetic characteristic of the core. For core T_{p2} the point is on the horizontal section of the characteristic and regeneration is impossible. For the core T_{p1} the working point is rapidly displaced to the bend in the magnetic characteristic after which the blocking process occurs. During the process of regeneration of the impulse the current of the triode T_1 acts through the coupling winding on the core T_{p2} to reverse its condition. An impulse of positive voltage is developed in the collector triode T_1. As the next current impulse is applied to the starter circuit the core again alters its direction of magnetisation and returns to the initial condition. This is accompanied by the development of positive voltage impulse in the collector triode T_2. The binary triggers are connected in series through diodes with series resistances which govern the amplitude of the starting current impulse. In the initial condition when there is no signal the cells take no current.

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E194/E184

A Reversible Coding Circuit Based on Ferrite-Transistor Cells

The starting windings are connected to the outputs of the repeater emitters T_5 and T_6 which are normally closed. Simultaneously with the application of starting signals to input I (subtraction) formed impulses are applied to the repeater emitter T_5. The output impedance of the open emitter repeater is low and the triode T_5 which had previously kept open the coupling circuit between the triggers now closes. On application of the input signal II (addition) a similar impulse is applied to the emitter of repeater T_6. The duration of control signals is made somewhat greater than the possible delay time of operation of the last trigger relative to the input signal. The actual system consists of a diode-triode coincidence circuit where the current resulting in the presence of coincidence is used to start a ferrite-transistor cascade. This is a simple circuit with few parts. The semiconductor triodes act as keys so that the demands made on them are not stringent and the circuit is not critical to change of parts or to variations in supply voltage. Moreover, the coupling transformers reduce to a minimum the influence of

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A Reversible Coding Circuit Based on .. E194/E184

out-of-balance current and the temperature limits of operation of the circuit are determined only by changes in the coercive force of the magnetic cores.

There are 1 figure and 1 Soviet reference.

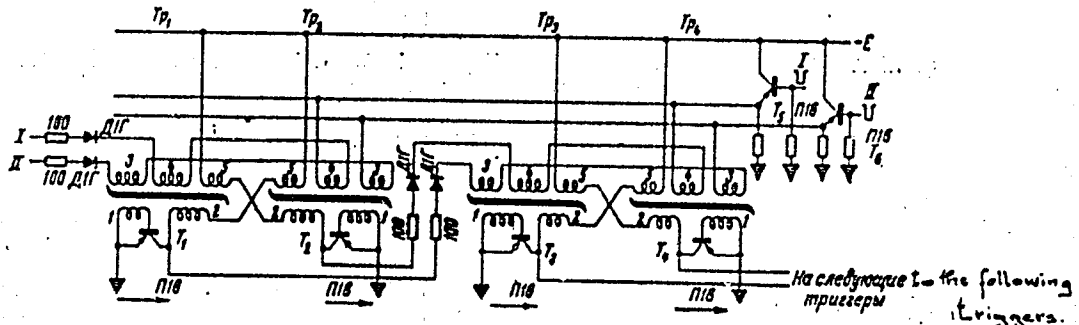

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Fig.

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E192/E382

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AUTHORS: Gorn, L.S., Ol'dekop, L.G. and Khazanov, B.I.

TITLE: A Reversible Dekatron Counter

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 2, pp. 83 - 85

TEXT: A counter circuit capable of registering directly the difference in the counting speeds of two channels is very useful in evaluating the background radiation, determining the difference in the amplitude-distribution spectra and other measurements. The reversible counters based on vacuum tubes are known (Ref. 1) but they are not entirely satisfactory due to their complexity. The two-pulse dekatrons type OG-5 (OG-5), can be used in the reversible counters in view of their symmetrical construction. The resulting circuits are comparatively simple. Constructionally, a dekatron is provided with a cylindrical anode which is surrounded by a set of 30 rods playing the part of sub-cathodes (for transferring the glow discharge) and cathodes (Ref. 2). There are various possibilities of arranging the drive circuits for the dekatrons

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A Reversible Dekatron ....

and the system adopted by the authors is illustrated in the figure. In this the triggering of the dekatrons is performed by amplifying stages. The principle of operation of the counter given in the diagram is as follows. The triggering circuit is based on a double triode $Л_1$ (= L_1), which drives the dekatron L_2. Two RC networks are connected between the anode resistors of this amplifying stage; these provide a different sequence of the output pulses, depending on whether the input signal is applied to the righthand or lefthand half of the tube. The signals applied to the righthand-side triode are taken from the adding input stage and produce a negative pulse at the anode load. This pulse is differentiated by one of the networks and integrated by the other network; a time shift between the two pulses is thus produced. The differentiated pulse is applied to the first sub-cathode of the dekatron and the integrated signal (delayed in time) to the second sub-cathode. In this way the information applied to the dekatron "moves" clockwise. The signals from the

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E192/E382

A Reversible Dekatron ....

subtraction input stage (see the figure) are applied to the lefthand-side triode; the signal produced across the anode load is again differentiated and integrated but the rôle played by the two networks is now reversed. Thus, the differentiated signal is applied to the second sub-cathode, while the integrated pulse is fed to the first sub-cathode. Consequently, the discharge in the dekatron "moves" anti-clockwise. When several reversible dekatron stages are to be connected, it is necessary to obtain two signals at its output: one of these corresponds to the transition of the dekatron through zero, while the information is added, and the second signal corresponds to the transition from zero during sub-traction. Consequently, each stage of the counter (except the first) is provided with a thyratron relaxation pulser (based on L_4) and a limiter amplifier T_7 based on a transistor, type П 11 (P11). A positive pulse is produced across the cathode load of the thyratron when the dekatron reaches its zero state. This signal is differentiated and applied to the grid of the righthand-side triode L_3 (addition). As regards the

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A Reversible Dekatron ....

transistor T_7 , its collector load is chosen so that it operates under saturation conditions when the dekatron is in its zero state. The transition of the cathode from the zero state results in the elimination of the saturation current and a positive pulse is produced at the collector of T_7 ; this is then applied to the lefthand-side grid of the double triode L_3 (subtraction). The subtraction signal will be obtained every time the dekatron undergoes transition from its zero state into the position "9" as well as into the position "1". The thyratron L_4 operates in a similar way so that the output signals are ambiguous. The situation is rectified by introducing a coincidence circuit. Thus, normalising univibrators are provided at the inputs of the two channels; T_1 and T_2 at the input of the adding channel and T_4 and T_5 at the subtraction input. The signals produced by these univibrators are amplified by emitter followers T_3 and T_6

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A Reversible Dekatron ....

from where the positive pulses are applied to diode coincidence circuits. In the addition channel, this circuit is based on diodes $Д_5$ (= D_5) and D_6. In the subtraction channel, the circuit is based on D_3 and D_4 and this permits the transmission of the signal to the next stage only in the case when the dekatron undergoes a transition from the zero state to the position 9. A counter capable of registering 100 000, based on 5 dekatrons type ОВ-5, 5 triodes, type 6Н6П (6N6P) and 10 transistors as well as 4 thyratrons, was built on the basis of the above circuit. The equipment was stable in operation when the supply voltage was varied by ± 10%. There are 1 figure and 3 references: 1 Soviet and 2 non-Soviet.

SUBMITTED: February 26, 1960

Card 5/6

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

BOGDANOV, A.A.; GORN, L.S.; KHAZANOV, B.I.

Ferrite-transistor decade of higher resolution. Prib. i tekh. eksp. 6 no.2:87-88 Mr-Ap '61. (MIRA 14:9)
(Nuclear counters)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; ZHURINA, L.S.; KHAZANOV, B.I.

Spectrometric amplifier with semiconductor triodes. Prib. i tekh. eksp. 6 no.2:89-90 Mr-Ap '61. (MIRA 14:9)
(Amplifiers (Electronics))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KHAZANOV, B.I.

Use of an emitter follower for the conversion of the current pulse of a photoelectron multiplier to a voltage pulse. Radiotekh.i elektron. no.6:1010-1014 '61. (MIRA 14:6)
(Cathode followers) (Electric current converters)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

9.5000

S/120/62/000/006/012/029
E140/E435

AUTHOR: Khazanov, B.I.

TITLE: Vacuum-tube-transistor circuits in economical radiometric devices

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 70-74

TEXT: The input impedances of transistors are not satisfactory for a number of instrument applications. The author describes a number of circuits combining direct-heated vacuum tubes with transistors to obtain desired characteristics of low consumption and satisfactory performance in radiometric devices. The following circuits are described: d-c amplifier, intensimeter for low counting rates, stabilized high-voltage source, trigger circuit and pulse counter based on capacitive storage of normalized impulses. There are 5 figures.

SUBJECT: January 26, 1962

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

BABICHENKO, S.I.; BOGDANOV, A.A.; GORN, L.S.; KAGAN, M.L.; KRYLOV, L.N.; OL'DEKOP, L.G.; KHAZANOV, B.I.; MELESHKO, V.K., red.; DRUZHININA, L.V., tekhn. red.; POPOVA, S.M., tekhn. red.

[Radiometric process instrumentation] Kontrol'no-izmeritel'naia radiometricheskaia apparatura. [By] S.I.Babichenko i dr. Moskva, Gosatomizdat, 1963. 148 p. (MIRA 16:12)
(Radiometry)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KRASHENINNIKOV, I.S.; KHAZANOV, B.I.; MELESHKO, V.K., red.; VLASOVA, N.A., tekhn. red.

[Electronics in nuclear spectrometry]Elektronika v spektrometrii iadernykh izluchenii. [By]L.S.Gorn, I.S.Krasheninnikov, B.I. Khazanov. Moskva, Gosatomizdat, 1963. 291 p. (MIRA 16:3)
(Nuclear counters) (Spectrometry)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

ACCESSION NR: AT3012186 S/2963/63/000/005/0063/0079

AUTHORS: Gorn, L. S.; Khazanov, B. I.

TITLE: Transistorized amplitude time converter for multichannel analyzers

SOURCE: Mnogokanal'ny*ye izmeritel'ny*ye sistemy* v yadernoy fizike. Nauchno-tekhnicheskiy sbornik. Moscow, no. 5, 1963, 63-79

TOPIC TAGS: multichannel analyzer, transistorized multichannel analyzer, amplitude time conversion, transistorized input unit, temperature dependence

ABSTRACT: It is pointed out that the multichannel-analyzer elements most difficult to transistorize are the measuring units, since the temperature dependence of the transistor parameters, the fact that the input circuit of the conducting transistor draws current, and the fact that an uncontrolled collector current flows all great-

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ACCESSION NR: AT3012186

ly influence the accuracy of the measurements. Consequently different circuits are considered for transistorized multichannel-analyzer input units, in which measures are taken to ensure that the accuracy is not worse than that of vacuum tube units. Since most multichannel analyzers use input units that convert the amplitudes of the incoming signals into time intervals by charging and discharging a capacitor, these operations are considered in greatest detail. An amplitude-time converter circuit with transistors is described and its errors analyzed. Orig. art. has: 5 figures and 20 formulas.

ASSOCIATION: None

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SUB CODE: NS, SD	NO REF SOV: 002	OTHER: 002

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

ACCESSION NR: AR4022430 S/0056/64/000/001/A027/A027

SOURCE: RZh. Fizika, Abs. 1A256

AUTHOR: Gorn, L. S.; Ivanov, I. D.; Khazanov, B. I.

TITLE: Single channel amplitude-time transistorized analyzer

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektronike. T. 2. Ch. 1. M., Gosatomizdat, 1963, 107-113

TOPIC TAGS: amplitude time analyzer, transistorized analyzer, single channel analyzer, two dimensional analyzer, anticoincidence circuit, differential discriminator

TRANSLATION: A single-channel amplitude-time transistorized analyzer, which is the simplest variant of a two-dimensional analyzer, is described. The analyzer has two inputs, one for the investigated pulses from the pickup and the other for the starting signal. The

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ACCESSION NR: AR4022430

signals from the pickup are selected by a single-channel differential discriminator which turns on the amplifier, the upper and lower level discriminators, and the anticoincidence selection circuit. The starting signal triggers in succession two stages that generate signals of fixed duration; one sets the delay of the time interval relative to the starting signal and the other sets the magnitude of this interval. The pulse from the timing channel opens a gating unit whose pulses are fed to the recorder. The latter fixes the number of pulses corresponding to a definite radiation energy and lying within a definite time interval, which can be shifted relative to the starting signal. The operation of individual analyzer elements and units is examined in detail. L. I.

DATE ACQ: 03Mar64 SUB CODE: PH ENCL: 00

Card 2/2

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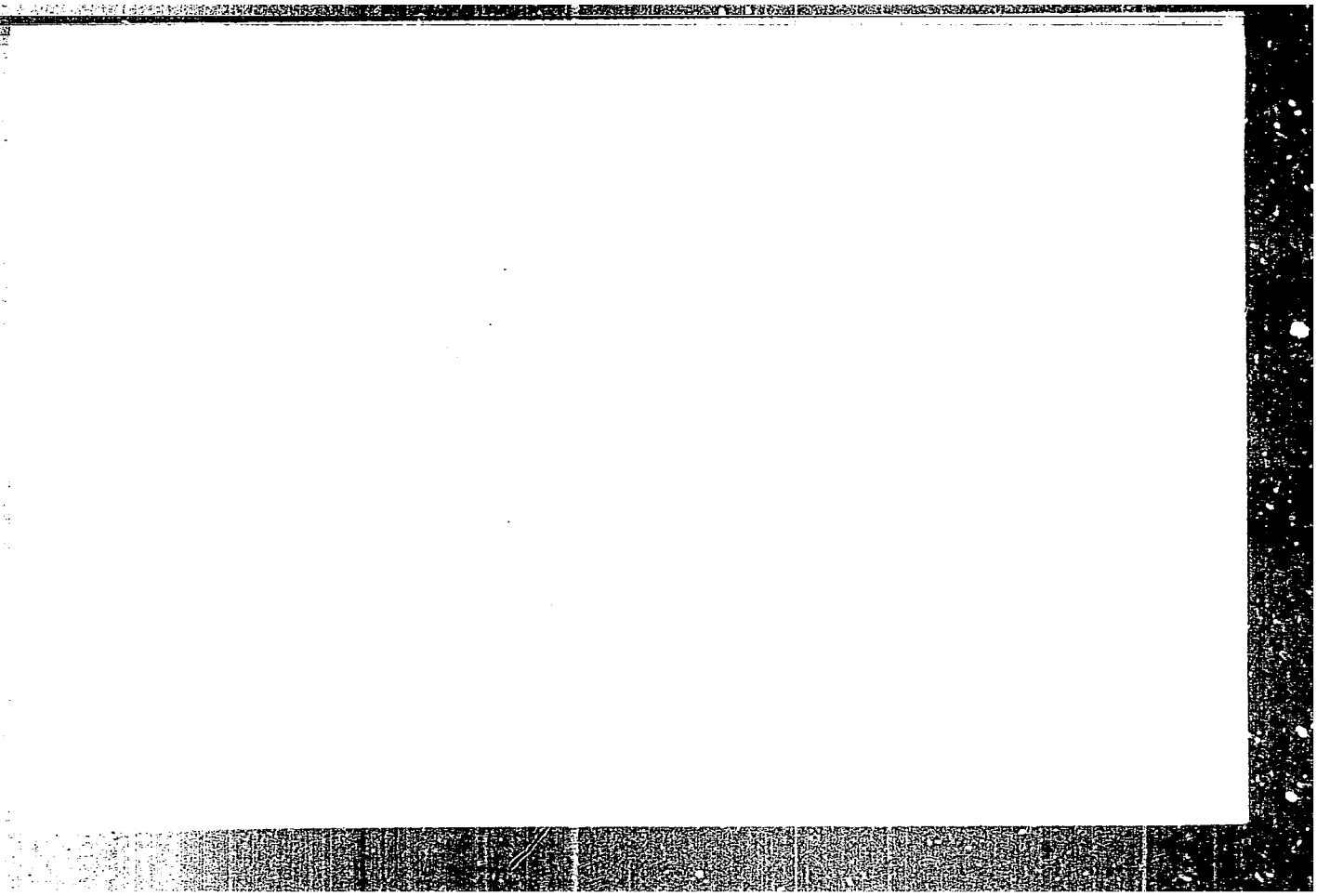
"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1



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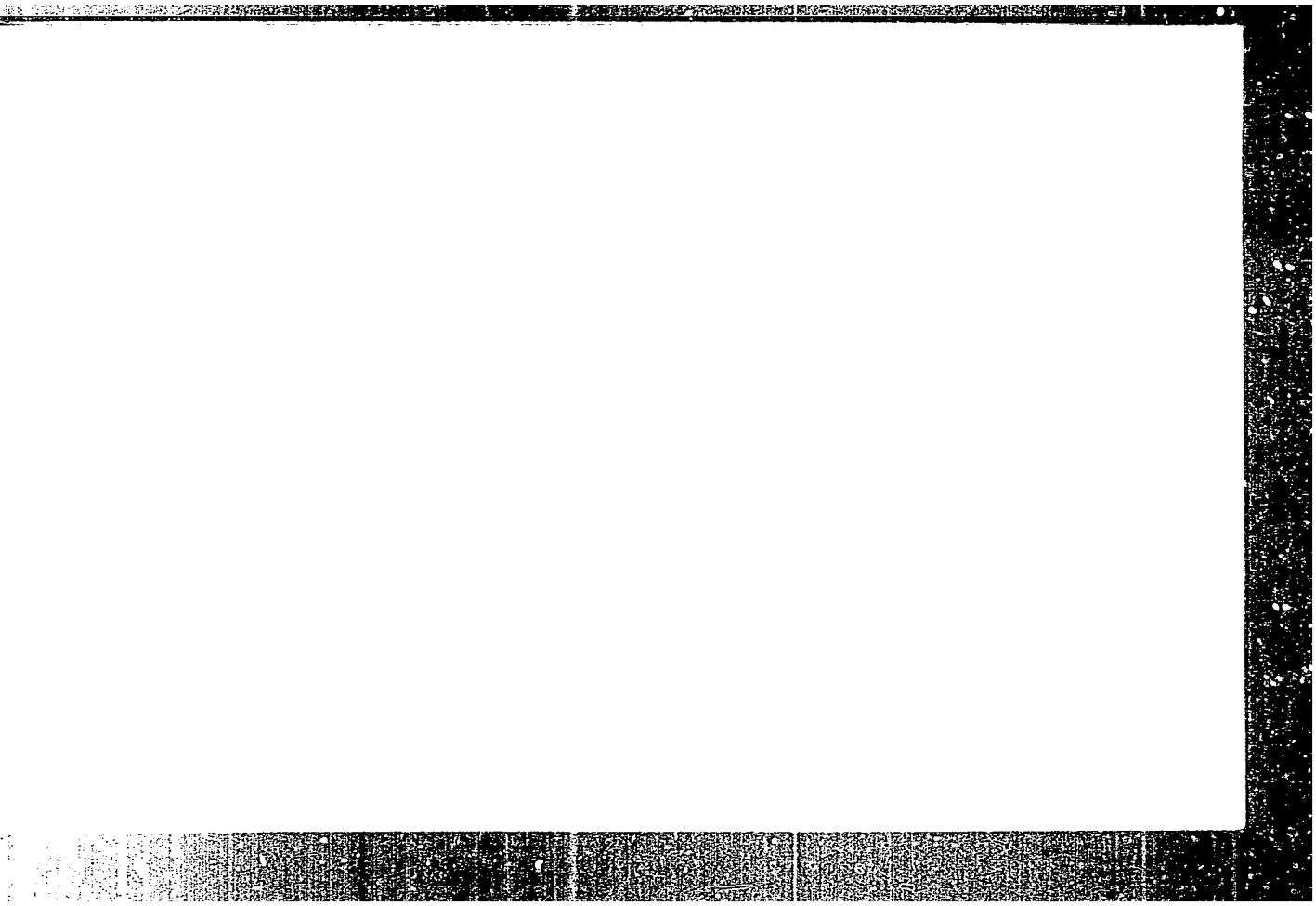

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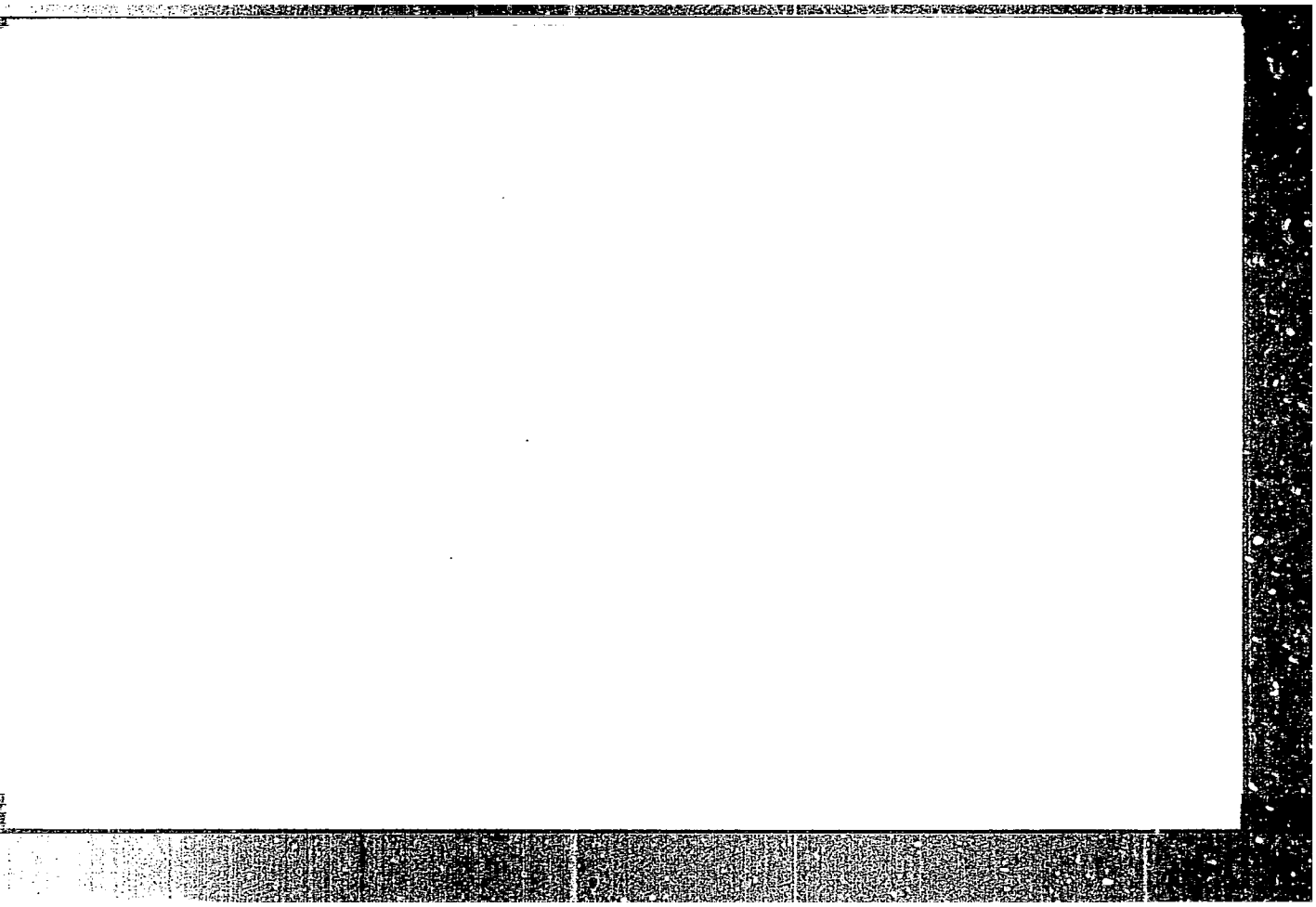

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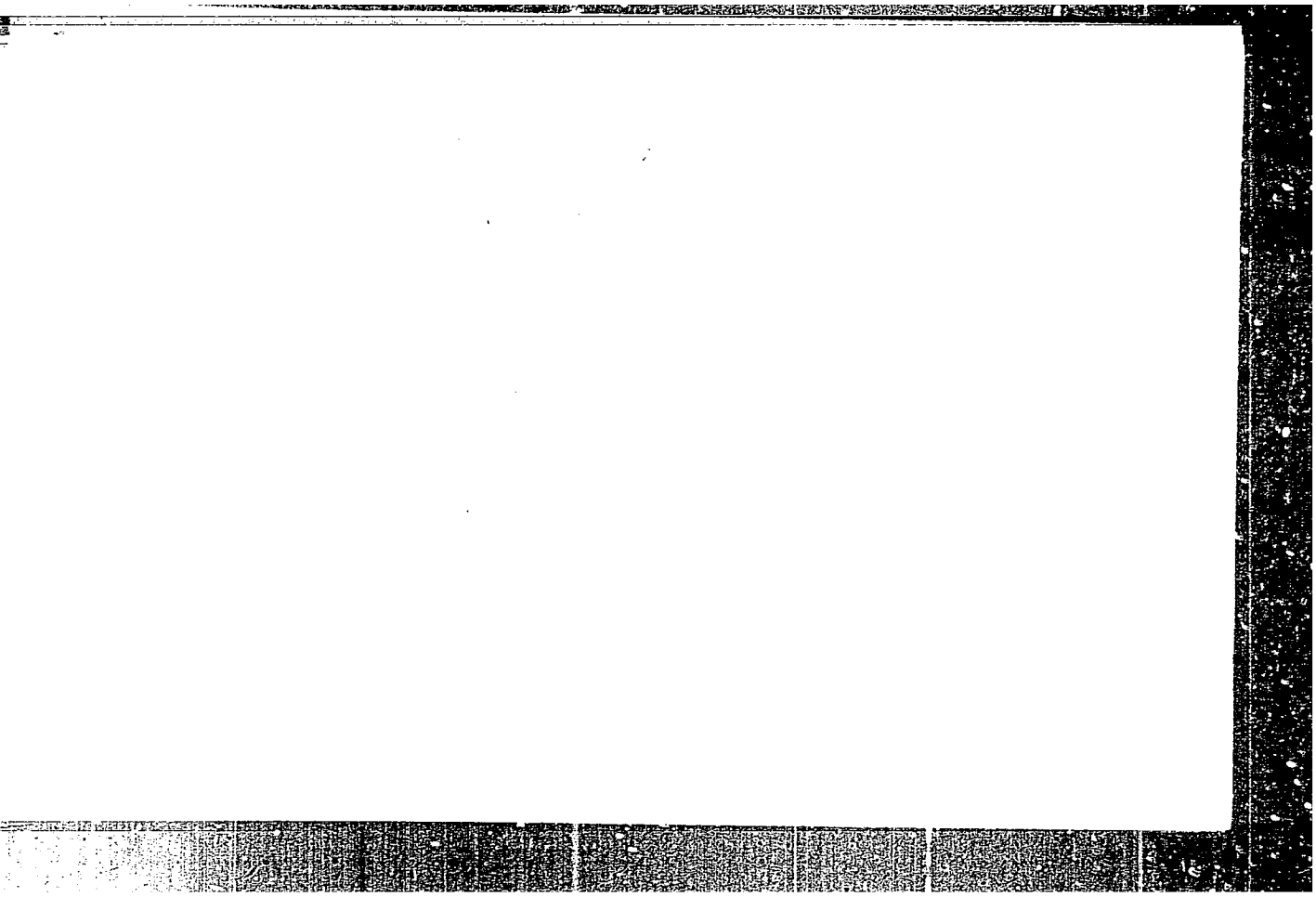

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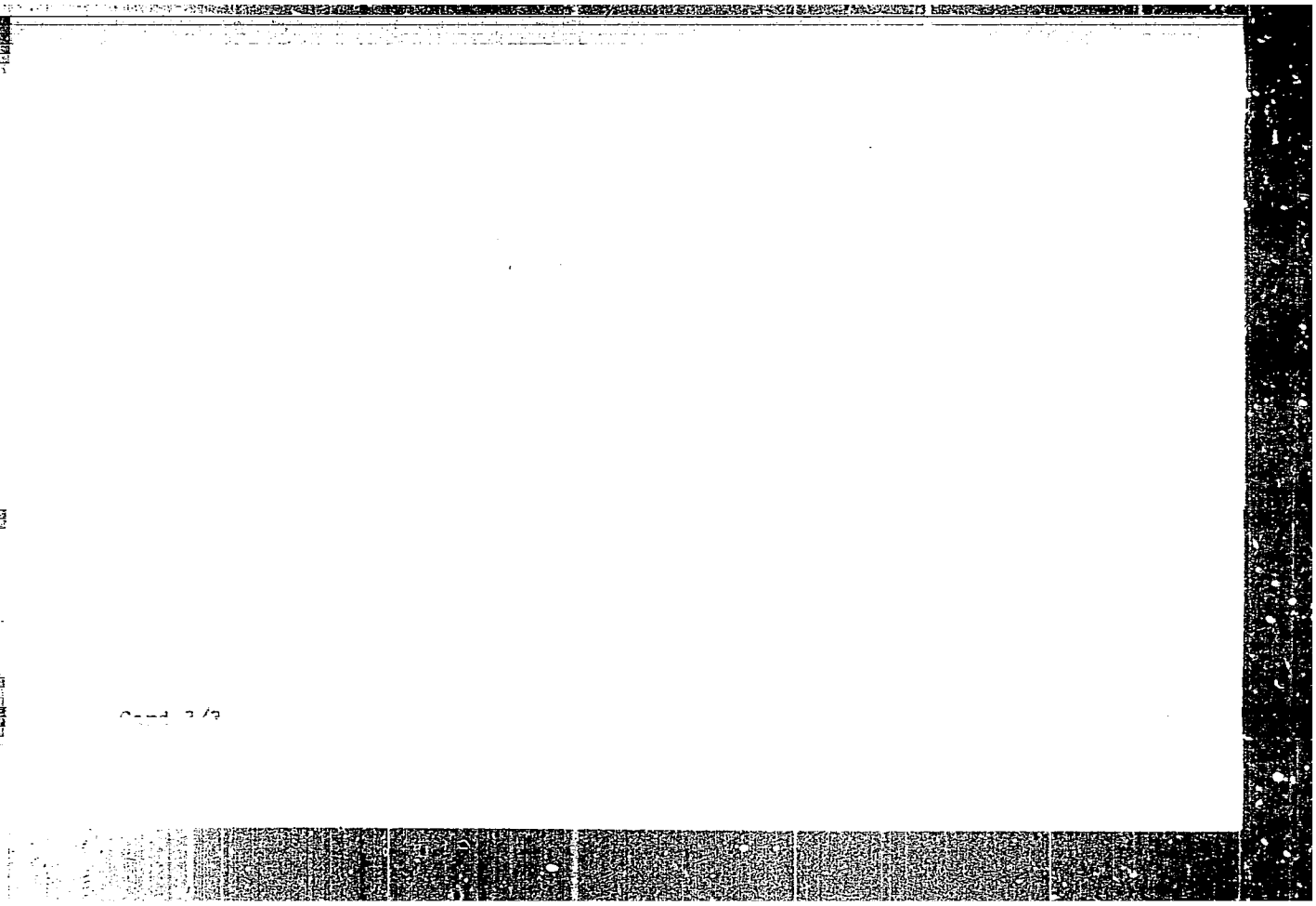

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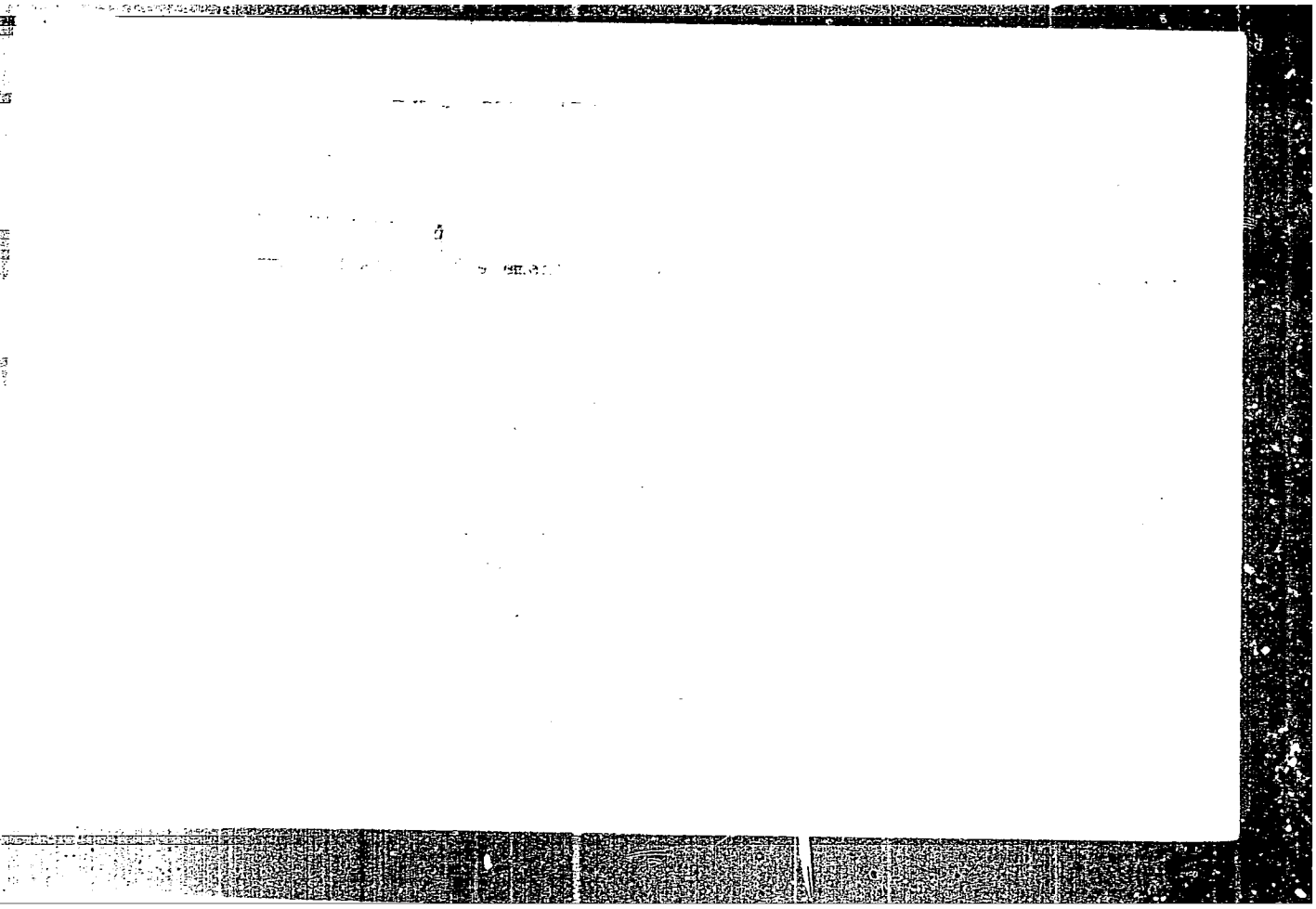

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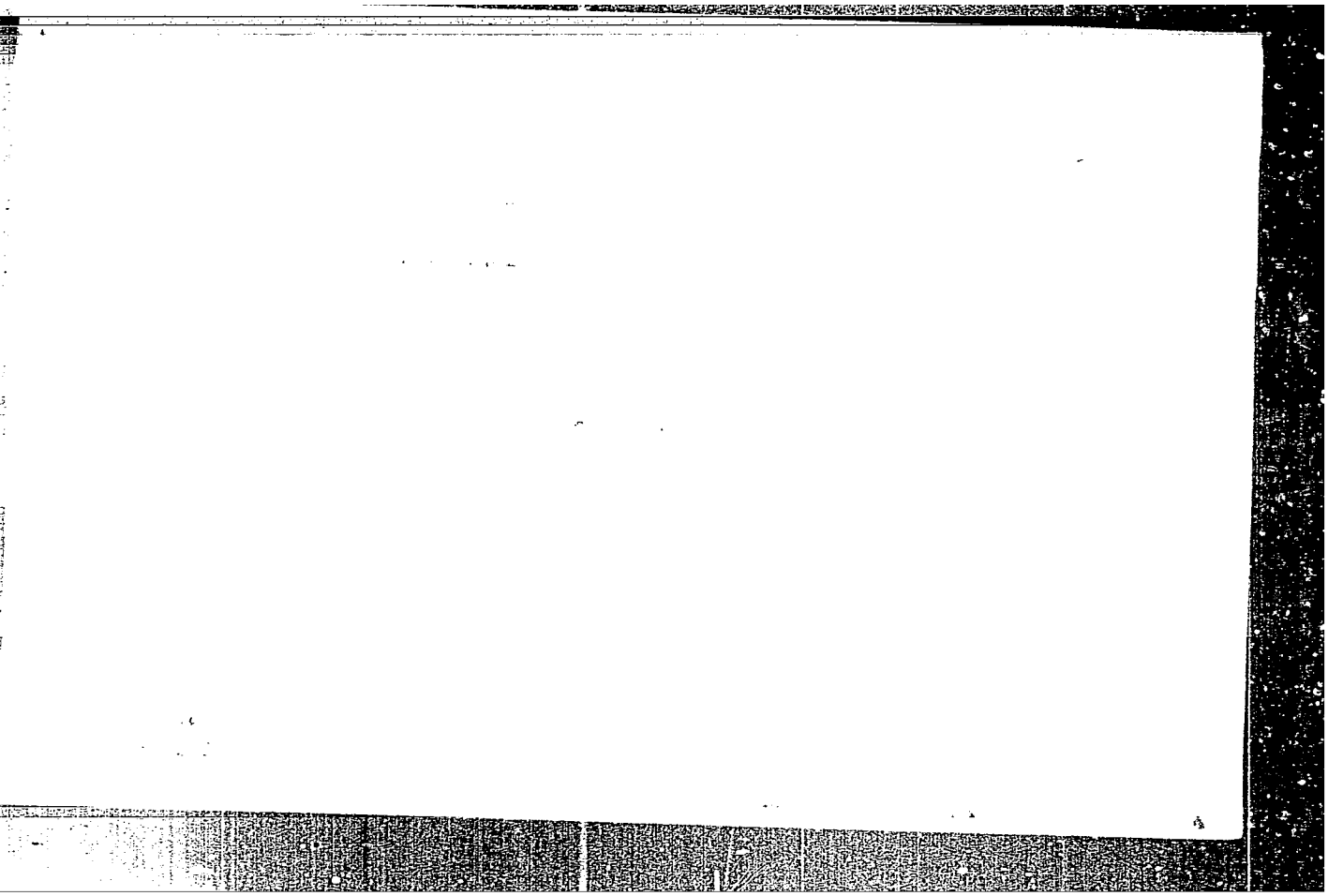

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

ACCESSION NR: AP4012267 S/0089/64/016/001/0058/0060

AUTHORS: Gorn, L. S.; Khazanov, B. I.

TITLE: On the instrumental error in determining the intensity of overlapping spectral lines.

SOURCE: Atomnaya energiya, v. 16, no. 1, 1964, 58-60

TOPIC TAGS: energy resolution, spectral lines, emitter, spectrogram, instrument drift, energy scale, discriminator, Gauss curve, spectrometer. spectrometer channel, detector

ABSTRACT: Whenever the energy resolution of a detector is inadequate, and two closely arranged spectral lines with a certain energy are combined, the relative content of emitters in a preparation can be determined by the difference method. A similar method can be used to determine the intensity of the emitters producing closely arranged lines on a spectrogram; but the required accuracy involves some practical limitations. The use of the difference method increases considerably the statistical error in the determinations, which calls for a longer measuring time. Another important factor in this con-

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

ACCESSION NR: AP4012267

nection is the instrumental error. The drift of the instrument occasioned by the changing energy scale (the changing amplification factor and discrimination threshhold), as well as the changing channel width, produces a difference between the initial and real coefficients. The test results show that the error may amount to dozens of percents, particularly in the case of a narrow channel width and the measurement of a faint line against the background of a more intensive line. Thus the instrumental error may be found to be comparable to the methodical or statistical error, and should be taken into account. By determining the maximum permissible instrumental error it is possible to estimate the instrument stability required for particular measurements. Orig. art. has: 2 Figures, 4 Formulas and 1 Table.

ASSOCIATION: None

SUBMITTED: 18Apr63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: SD, PH NR REF SOV: 003 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KHAZANOV, B.I.

Optimum thickness of an alpha-emitter in the spectrometric analysis of specimens of low-level radioactivity. Atom. energ. 16 no. 5:447-449 My '64. (MIRA 17:5)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

B[illegible]K EXPLOITATION

621.317.7.087.6:621.384

[illegible], L. S., and B. I. Khazanov

[illegible] intensity recorders (Registratory intensivnosti izlucheniy). [illegible], Atomizdat, 1965, 214 p. illus., [illegible]. Errata slip in-[illegible] 3[illegible] copies printed.

[illegible] TAGS: radiometry, radiation intensity, radiation intensity recorder

[illegible] AND COVERAGE: This book is intended for engineers and tech- [illegible] designing or using radi[illegible] [illegible] [illegible] [illegible] [illegible] be [illegible] engineering [illegible] [illegible] The book [illegible] [illegible] structures and [illegible] [illegible] alterable [illegible] [illegible] tubes, magnet[illegible] [illegible]

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[illegible] in the acceptance of reduced performance characteristics [illegible] recording accuracy [illegible] [illegible] thank [illegible] Karpinsky, [illegible] Krasheninnikov, A. F. Ioffe, and I. D. Murin.

[illegible]NTENTS

Card 2/3

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

GORN, L.S.; KHAZANOV, B.I.; MELESHKO, V.K., red.

[Radiation intensity recorders] Registratory intensivnosti izluchenii. Moskva, Atomizdat, 1965. 301 p.
(MIRA 18:4)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

YEGOROV, I.M.; ZHERNOV, V.S.; LAZAREV, A.F.; PEROV, N.L.; TIMOFEYEV, A.A.; MATVEYEV, V.V., doktor tekhn. nauk, red.; KHAZANOV, B.I., kand. tekhn. nauk, red.; MELESHKO, V.K., red.

[Apparatus for recording and studying ionizing radiations; reference book] Apparatura dlia registratsii i issledovaniia ioniziruiushchikh izluchenii; spravochnik. Moskva, Atomizdat, 1965. 429 p. (MIRA 18:7)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

L 34796-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AR6017203 SOURCE CODE: UR/0058/65/000/012/A035/A035

AUTHOR: Ivanov, I. D.; Khazanov, B. I. 54 B

TITLE: Economical transistor flip-flop with additional symmetry

SOURCE: Ref. zh. Fizika, Abs. 12A328 16

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat , 1964, 119-126

TOPIC TAGS: transistorized circuit, flip flop circuit, silicon transistor, silicon diode

ABSTRACT: The power consumed by scaler devices can be reduced by replacing the classical symmetrical flip-flop with a silicon-transistor filp-flop circuit having additional symmetry. In such a circuit, which contains two transistors of different conductivity types and five silicon semiconductor diodes, both transistors are cut-off or conducting simultaneously, and in the conducting state the current consumed can amount to ~175 μa at 6 volts. The flip flops operate well in cascade or ring circuits and make it easy to obtain an analog indication of state. A decade cell is also described, whose operating reliability is not lower than that of a binary counter, owing to application of an operational signal to the flip flops, which do not change their state at the given instant under the influence of the input signal. V. P. [Translation of abstract]

SUB CODE: 09

Card 1/1 90

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

L 35366-66

ACC NR: AR6017803 SOURCE CODE: UR/0058/66/000/001/A061/A061

38
B

AUTHOR: Tikhonyuk, A. I.; Khazanov, B. I.

TITLE: Apparatus for registration of minimum rise over the background intensity level

SOURCE: Ref. zh. Fizika, Abs. 1A521

REF SOURCE: Tr. Soyuzn. n.-i. in-ta priborostr. vyp. 2, 1965, 70-76

TOPIC TAGS: radiation dosimetry, pulse counting, digital computer, computer component

ABSTRACT: The authors consider the principal construction of electronic apparatus intended for registration of the minimum rise above the background level during the course of dosimetric control. The described apparatus is based on the principle of discrete counting, since it is used to register small intensity levels. Signals from the detector, following a normalization stage and gating equipment, are fed simultaneously to the inputs of the recording circuit and the system for extraction of the square root of the number of pulses. The square root extraction operation is realized during the course of a time specified by a timer device. The common timer device triggers the programmer of the summation circuit, which contains a program unit, the memory register, the transfer gates, and the pulse-count register. The operating principle of the apparatus is explained with the aid of block diagrams and electronic schematic diagrams of individual units of the instrument. A. Lebedev. [Translation of abstract]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

L 34786-66 EWT(m)

ACC NR: AR6017216 SOURCE CODE: UR/0058/65/000/012/A062/A062

AUTHORS: Ivanov, I. D.; Khazanov, B. I. 53 B

TITLE: Broadband recorder with detector switching

SOURCE: Ref. zh. Fizika, Abs. 12A532

REF SOURCE: Tr. Soyuzn. n.-i. in-ta priborostr., vyp. 2, 1965, 57-60

TOPIC TAGS: radioactive source, radioactivity measurement, radiation counter, recording equipment, RADIATION DETECTOR

ABSTRACT: A broadband recorder for radioactive radiation 19 of the discrete type is described, in which two detectors are used, one permanently connected to the input of the counting circuit, and the other switched over in accordance with the radiation level. In such a system, recording up to a definite intensity takes place with counters C_1 and C_2 operating in parallel. When the intensity rises, counter C_1 is disconnected and only counter C_2 is used for the recording. With decreasing intensity the counter C_1 is again switched in. N. Zevina [Translation of abstract]

SUB CODE: 18/

Card 1/1 FV

conductivity, and 3 silicon semiconductor diodes, semiconductor triodes are closed or open simultaneously. In the open mode, the operating current is approximately 175 μa with a potential of 6 volts. The flip-flops operate in a cascade or ring hookup, and permit easy analog indication of the state. A decade cell is also described in which--owing to the transmission of the OS signal to the flip-flops which do not change their state at a given time under the influence of the input signal--it is possible to obtain the performance reliability no less than that of a binary counter. 5 references. V. P.

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SUB CODE: 09

Card 1/1 egh UDC: 621.373.545

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

ACC NR: AT7004418 SOURCE CODE: UR/0000/66/000/000/0099/0102

AUTHOR: Osipov, V. G.; Drobysheva, Ye. K.; Khazanov, B. I.

ORG: none

TITLE: Device for observing plastic deformation and fracture under a microscope

SOURCE: AN SSSR. Institut metallurgii. Napryazhennoye sostoyaniye i plastichnost' pri deformirovanii metallov (Stress condition and plasticity during metal deformation). Moscow, Izd-vo Nauka, 1966, 99-102

TOPIC TAGS: metallographic microscope, metallurgic ~~research~~ analysis, metallographic examination, plastic deformation, material fracture/ MIM-8M metallographic microscope

ABSTRACT: The authors developed an elementary device (Fig. 1) for scrutinizing the microstructure of specimens that are tensile-tested at room temperature by stretching with the aid of a worm gear drive (manually or by means of an electric motor). The device consists of frame 1 attached to the microscope mount. Slider 4 moves along the rectangular window of the frame. Rotation of worm wheel-nut 14 causes translational motion of the screw pulling the slider. The worm wheel-nut is carried by bearings 9 and rotated by worm 8 one end of which is linked by coupling 7 to electric motor 6 and the other end, to lever 10. Since in the existing metallographic microscopes the free distance of the lens at considerable magnification amounts to tenths of a milli-

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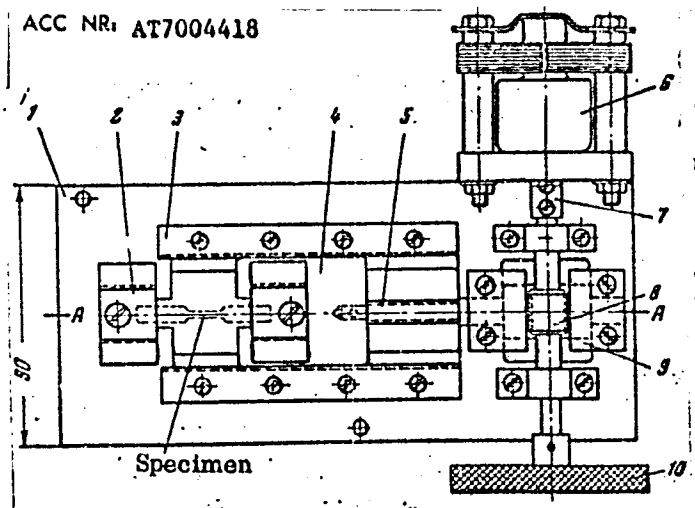
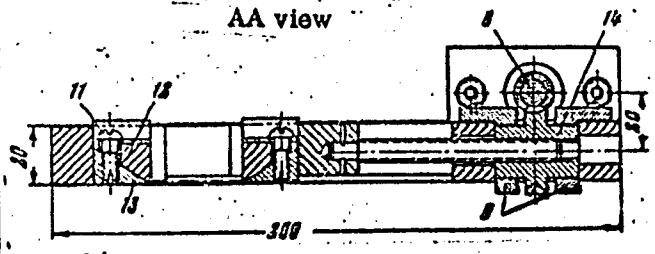


AA view



Card 2/2

Fig. 1. Microscope attachment for observing the stretching of specimens

meter, the device is equipped with clamps for moving the plane of the specimen closer to the lens. Each clamp consists of upper wedge 12 and lower wedge 13, tightened by screw 11 and held together by plate 2. The edge of the upper wedge, adjoining the head of the specimen, is rounded so as to reduce stresses at the site of flexure of the specimen. The use of clamps of this kind admits the observation of the microstructure of specimens during deformation and fracture at a maximum magnification of 1350 times. Orig. art. has: 4 figures.

SUB CODE: 20/13/ SUBM DATE: 27Sep66

ORIG REF: 005/ OTH REF: 001

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, B.N.

10 июня

(с 18 до 22 часов)

В. Н. Соколов

Тепловые режимы полупроводниковых приборов.

В. Н. Вертоградов

Исследование и расчет температурной зависимости параметров полупроводниковых триодов дрейфового типа.

Ю. Р. Носов,
Б. Н. Хазанов

Осуществление температурной стабилизации усилителя напряжения на полупроводниковых триодах различных типов.

М. А. Абдюканов

О зависимости параметров сплавных полупроводниковых триодов от тока эмиттера.

В. П. Никонов

Шумы в полупроводниковых усилителях.

11 июня

(с 10 до 16 часов)

К.

Г. Н. Берестовский

Статические характеристики и переходные процессы в полупроводниковых триодах при больших сигналах.

Т. М. Ястребова,
В. Н. Кудрявцев

Исследование особенностей работы спусковой схемы на плоскостных полупроводниковых триодах при ... запуске в зависимости от параметров триодов.

А. Ю. Гордонов

Расчет усилительного каскада на транзисторах.

В. А. Кузьмин

О влиянии режима насыщения в полупроводниковых триодах на работу импульсных схем.

11 июня

(с 18 до 22 часов)

Ю. М. Альтман,
К. Я. Сенаторов,
С. М. Чудинов

Об объемном заряде и электрическом поле в базовой области сплавного триода.

К. С. Ржевкин

Влияние модуляции толщины базы на характеристики сплавного триода.

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow, 8-12 June, 1959

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV B Ye.

USHAKOV, V.A., kandidat tekhnicheskikh nauk; KARAGODIN, V.A., inzhener; MORO, A.I., inzhener; KHAZANOV, B.E., inzhener; FEDOROV, B.S., inzhener; MALITSKIY, S.I., inzhener

Design and building of large size storm sewers. Gor.khoz. Mosk. 27 no.6: 26-30 Je '53. (MLRA 6:6)

(Moscow--Drainage)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, B.Ye.

Meteorological observations during the solar eclipse of February 25, 1952. Biul.VAGO no.14:31-36 '53. (MLRA 6:11)

1. Moskovskoye otdeleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva. (Atmosphere) (Eclipses, Solar--1952)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D. B.

SMOLENSKAYA, R. M. Arkh. i KHAZANOV, D. B., Kand. Arkh.

Nauchno-issledovatel'skiy institut arkhitektury i promyshlennykh sooruzheniy akademii arkhitektury SSSR

Osnovnyye Polozheniya po razmeshcheniyu detskikh uchrezhdeniy v mnogoetazhnykh Zhilykh Domakh Moskvy Page 75

SO: Collections of Annotations of Scientific Research Work on Construction, completed in 1950.
Moscow, 1951

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D. B.

FEL'ZER, YU, S. Inzh. i KHAZANOV, D. B. Kand. Arkh.

Nauchno-issledovatel'skiy institut arkhitektury obshchestvennykh i promyshlennykh sooruzheniy Akademii arkhitekhtury SSSR

Osnovnyye polozheniya po proektirovaniyu garazhnykh stoyanok, Vstroyennykh v mnogoetazhnyye zhilyye doma moskvy Page 76

SO: Collection of Annotations of Scientific Research Work on Construction, completed in 1950, Moscow, 1951

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D. B.

Obshchestvennyye i obsluzhivayushchiye uchrezhdeniya v mnogoetazhnykh zhilykh domakh (Common and service facilities in many storied dwellings, by) D. B. Khazanov, R. M. Smolenskaya, Yu. S. Fel'zer (i dr.) Moskva, Gos. Izd-vo Literatury po Stroitel'stvu i Arkhitekture, 1953.
v. (v.-p.) illus., diagrs., tables.
At head of title: Akademiya Arkhitektury SSSR, Moscow.
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PLESSEYN, B.; SHERENTSIS, A. pri uchastii: BAYAR, O.; BUKHAROV, A.; KOREN'KOV, V.; LEVANTIN, M.; MAKOTINSKIY, M.; ROZANOV, N.; KHAZANOV, D. FRIDBERG, G.V., red.izd-va; TOKER, A.M., tekhn.red.

[Problems of unification and a unified catalog of construction elements for apartment houses and public buildings; a report] Voprosy unifikatsii i edinyi katalog stroitel'nykh izdelii dlia zhilishchnogo i kul'turno-bytovogo stroitel'stva; soobshchenie... [Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1955] 24 p. [Bound with Voronkov,A. Industrializatsiia otdelochnykh rabot. Moskva, 1955] (MIRA 11:6)

(Building) (Standards, Engineering)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KOREN'KOV, V.Ye.; KHAZANOV, D.R.; SHERENTSIS, A.A.; KUZNETSOV, G.F., redaktor; DMITRIYEVA, N.L., redaktor izdatel'stva; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Unification of three-dimensional planning units and construction elements of mass-produced apartment houses and public buildings] Unifikatsiia ob"emno-planirovochnykh i konstruktivnykh elementov zhilykh i obshchestvennykh zdanii massovogo stroitel'stva. Pod obshchei red. G.F.Kuznetsova. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 140 p. (MLRA 9:9)

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Kuznetsov) (Building) (Architecture--Designs and plans)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D.E., kand. arkhitektury; FRIDBERG, G.V., red. izd-va; MAGISHKIN, T.M., tekhn. red.

[Standardized parameters of spatial-design elements for public buildings; heights of stories, spans, steps] Unifitsirovannye parametry ob"emno-planirovochnykh elementov obshchestvennykh zdanii (vysota, etazhei, prolety, shagi). Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1957. 37 p. (MIRA 11:7)
(Building)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

AUTHOR: Khazanov, D. B., Candidate Architect SOV/28-59-1-5-/29

TITLE: The Development of the Modular Coordination in Industrial Construction (Razvitiye modul'noy koordinatsii v usloviyakh industrial'nogo stroitel'stva)

PERIODICAL: Standartizatsiya 1959, Nr 1, pp 18 - 24 (USSR)

ABSTRACT: The present modulation system for designing industrial assembly structures and prefabricated parts is here analyzed. A module of 60 cm is proposed by the author as allowing the transition to a single measuring system in building construction. The transition to the 60 cm modulus preserves the basis of whole present system of designing living, industrial and rural structures. Table 2 illustrates the proposed system of modular dimensions recommended for designing the acsembly structures. There are 3 diagrams, 2 tables, 1 graph and 7 Soviet references.

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SOV/28-59-1-5/59

The Development of the Modular Coordination in Industrial Construction

ASSOCIATION: Akademiya stroitel'stva i arkhitektury SSSR (Academy of Construction and Architecture, USSR)

Card 2/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D.B., kand.arkhitektury

Derivative modules for buildings for different purposes. Izv. ASiA no.4:31-45 '60. (MIRA 14:4)
(Buildings, Prefabricated)
(Modular coordination (Architecture))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, D.B., kand. arkh.; MAGIDIN, I.N., kand. arkh., nauchnyy red.; SHERSTNEVA, N.V., tekhn. red.

[Standardization of elements for buildings for various purposes] Unifikatsiia elementov zdanii razlichnogo naznacheniia; sbornik materialov. Pod red. D.B.Khazanova. Moskva, Gosstroiizdat, 1962. 173 p. (MIRA 15:12)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut obshchestvennykh zdaniy i sooruzheniy.
(Standards, Engineering)
(Modular coordination (Architecture))

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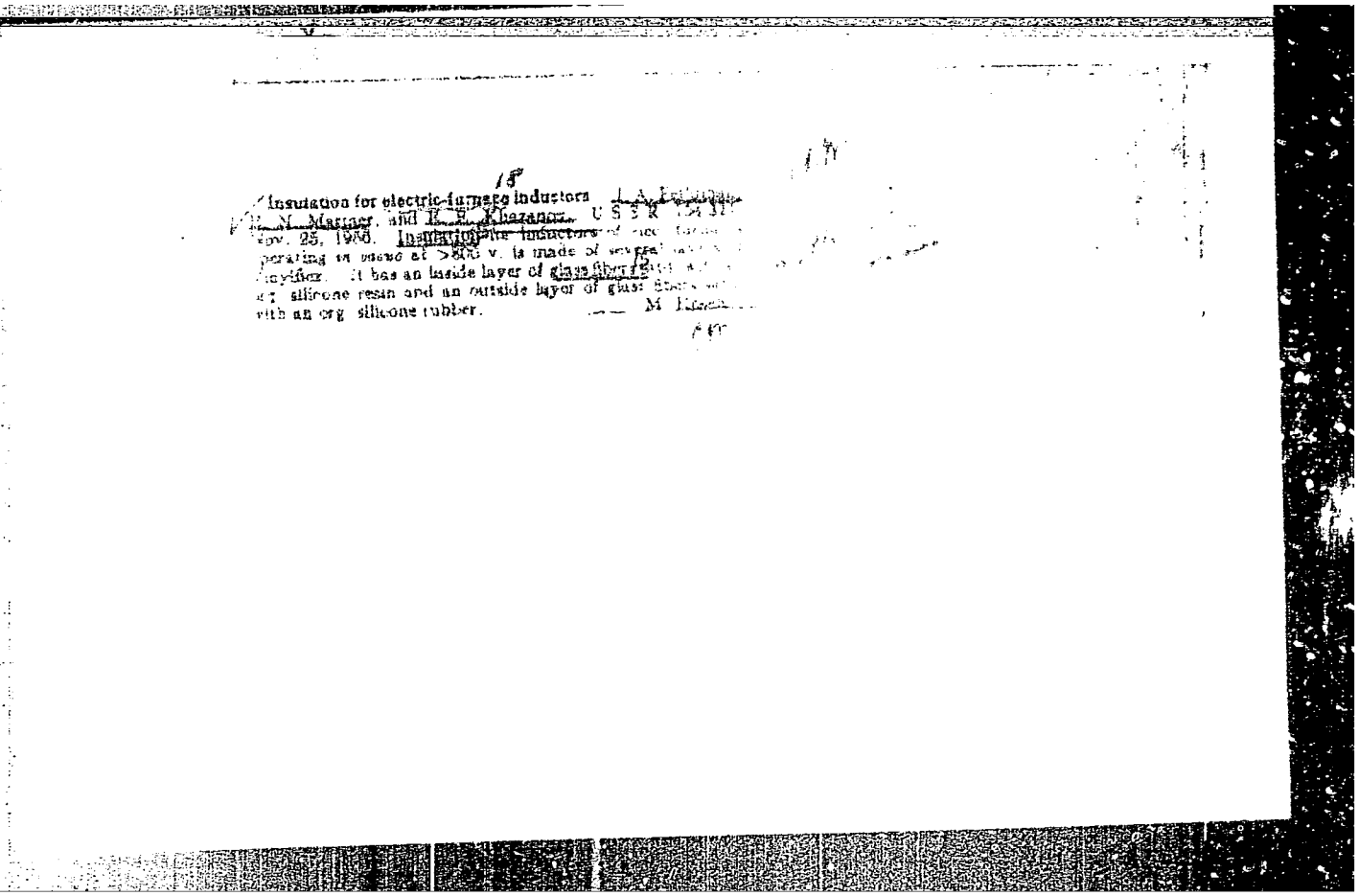

15

Insulation for electric-furnace inductors [illegible] USSR [illegible]
[illegible] N. Marinov, and K. E. Khazanov. [illegible]
Nov. 25, 1960. In electric-furnace inductors [illegible]
operating in vacuo at >800 v, is made of several [illegible]
layers. It has an inside layer of glass fiber [illegible]
of silicone resin and an outside layer of glass [illegible]
with an org. silicone rubber. M. [illegible]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

MARMER, E. N. and CHASANOV, E. E.
Bureau of Electric Furnaces, Moscow.

"Experimental Works," "Electric Furnace in Vacuum Furnace Contruction Field."

paper presented at Second Symposium on the Application of Vacuum Metallurgy.

1-6 July 1958, Moscow

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

SOV/110-58-8-11/26

AUTHORS: Fel'dman, I.A., Marmer, E.N. and Khazanov, E. Ye. (Engineers)

TITLE: An Insulated Inductor for Vacuum-type Induction Furnaces (Izolirovannyy induktor dlya vakuumnykh elektricheskikh pechey)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 8, pp 36-39 (USSR)

ABSTRACT: Vacuum induction furnaces are becoming widely used, but are liable to electrical breakdown in vacuum at voltages above 400 V. Abroad, inductors have been insulated with ceramic coatings to permit of operation at up to 800 V. The authors have developed a design and insulation for a high-voltage inductor which has been tested at up to 2000 V. The special features of electrical breakdown in vacuum furnaces are discussed; it is facilitated by the high operating temperature, the strong magnetic field and the presence of metal vapour in the discharge space. The insulation on the inductors of metal-melting furnaces is subjected to particularly severe duty which cannot be sustained by ceramic coatings. Attempts were therefore made to develop multi-layer coatings of insulation which, although less fire-resistant than ceramics, would be more

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An Insulated Inductor for Vacuum-type Induction Furnaces

reliable. The suitability of the insulating materials selected was assessed by tests of vapourisation at various temperatures in vacuum. The materials were adhesive insulating tape, varnished glass cloth grade LSK-7 and rubberised glass cloth grade RSK-1. The amount of material that vapourised was assessed from loss of weight. The rate of vapourisation as a function of temperature when maintained for two hours in a vacuum of 4×10^{-2} mm.Hg is shown in Fig 1. Intensive evaporation (greater than 2gm per m^2hour) commences at 150°C for flexible tape, 240°C for varnished glass cloth and 400°C for rubberised glass cloth. As will be seen from the graph in Fig 2, all the materials practically cease to lose weight after 4 hours at 250°C. As a result of the tests, the insulating material selected for temperatures up to 200°C was flexible tape, and for higher temperatures up to 500°C rubberised cloth grade RSK-1. The electrical insulating layer consists of a varnished film sprayed on to a carefully prepared surface; each coating is thoroughly dried before the next is applied. The inductor

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An Insulated Inductor for Vacuum-type Induction Furnaces

is then taped with adhesive glass tape and then with rubberised glass cloth. The total insulation thickness is about 1 mm. The thermal conductivity of the insulation was determined because it was needed for design purposes: using a test procedure which is described, determinations were made over the temperature range 100 - 500°C, and the thermal conductivity of the insulation was found to be 0.15 kcal/m.hr.°C. Tests on insulated inductors were made in a steel-melting vacuum furnace. During the tests the voltage was maintained at 1 kV. The inductor was observed to be luminous in the pressure range 4×10^{-2} - 5×10^{-1} mm.Hg. The appearance was that of corona discharge but there was no electrical failure of the insulation. After these laboratory tests a full-scale inductor, whose characteristics are tabulated, was made up for a 1000-V melting furnace. As the inductor remained in operation for a considerable time without trouble, it was decided to attempt insulation capable of withstanding 2000 V and more. This successfully withstood 2000 V, and after many tests had been made without a furnace charge, a charge was simulated by

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An Insulated Inductor for Vacuum-type Induction Furnaces

a graphite electrode installed in the inductor off centre, 30 mm from the surface. The electrode was surrounded by heat insulation and the rest of the space inside the inductor was filled with heat-resisting bricks. During this series of tests the temperature of the graphite rose to 1500°C and breakdown did not occur at pressures down to 1 x 10^{-3} mm Hg. Tests were also made with an atmosphere containing aluminium vapour without failure. It is concluded that inductors can be constructed for operation at 2 kV, and that they will make it possible to design high-power vacuum induction-furnaces of high efficiency and simpler design.

There are 2 figures and 4 references, 2 of which are Soviet, 1 English and 1 German.

SUBMITTED: November 18, 1957

1. Vacuum furnaces--Equipment 2. Electric insulation--Performance

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

Khazanov E. Ye.

32-1-46/55

AUTHORS: Marmer, E.N., Khazanov, E.Ye.

TITLE: On the Application of a Halogen Leak Detector in the Construction of Electric Furnaces (O primenenii galoidnogo techeiskatelya v elektropechestroyenii).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 110-110 (USSR)

ABSTRACT: Such an apparatus, which is known as "ГТИ-1А", is already been used at various plants in the USSR. It has, however, the disadvantage that it is extremely sensitive to smoke, which cannot be avoided in such plants in which welding and similar work is carried out. In this paper a new construction of such an apparatus is suggested in which this disturbing sensitivity is reduced to a minimum and can also be adjusted in a suitable manner. For this purpose the branch lines are here led from the second winding of the ferroresonance stabilizer of the transformer to the switchboard. For the purpose of adjusting the apparatus in order to obtain its necessary sensitivity, a special supplementary device is recommended, which is described as follows: For the purpose of testing the leakages of the electro-vacuum furnace to be examined, Freon, which boils easily, is used. The surplus of Freon gas is conveyed through a

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

On the Application of a Halogen Leak Detector in the Construction of Electric Furnaces 32-1-46/55

glass tube to the supplementary device, where, at the one hand, its pressure is measured by means of a liquid manometer, and, on the other hand, it is conveyed further through a gate valve into a closed vessel. Connection with the vessel is then severed by closing the valve, and compressed air is let in through another pipe and another gate valve. The second valve is then also closed and the pressure attained is measured by the manometer provided for this purpose. The two-way valve on the vessel containing the gas mixture is then slowly opened, so that only such a small quantity of the mixture escapes as is supposed to correspond to the loss of gas through leakages in the walls of the furnace. On the other hand, pressure in the vessel is brought about by means of a knee pipe in one end of the pipe which is placed vertically into the water, causing a difference between the level of the water in the glass and that in the pipe. The velocity with which the gas flows out through the valve can be observed by the gradually diminishing difference between the water level in the glass and that in the tube. There is 1 figure.

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Card 2/2 1. Leaks-Determination 2. Freon 3. Instrumentation-Design

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, E. YE

110-3-17/22

AUTHORS: Marmer, E.N., Engineer, Khazanov, E.Ye., and Barabanova, L.G., Engineers.

TITLE: Experience with the Use of Ceramic Linings in High-vacuum Furnaces (Opyt primeneniya keramicheskikh futerovok v vysokovakuumnykh pechakh)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Vol.29, No.3, pp. 69 - 70 (USSR)

ABSTRACT: At present, metal screens are commonly used as thermal insulation in vacuum electric furnaces, but are not very satisfactory. Nor can the ceramic materials used for open furnaces be applied successfully. Until recently, it has been supposed that only very dense ceramics could be used in vacuum furnaces. Before using porous ceramic, the conditions of desorption of gas from it at different temperatures, and the conditions of passage of the gas through the ceramic wall had to be investigated. To determine the quantity of gas separated in vacuo, the installation depicted in Fig. 1 was developed. It has a tubular working chamber, a diffusion pump with a speed of 40 litres/sec, a backing pump and suitable traps. The chamber is water-cooled and the heater is a cylinder of molybdenum foil. Gas that separated from the specimen was estimated from the pressure change that occurred whilst the specimen was maintained

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Experience with the Use of Ceramic Linings in High-vacuum Furnaces

at a temperature of 500 °C. The quantity of gas evolved on heating samples of lightweight chamotte at 500 °C ranges from 0.067 - 0.206 cm^3 per gram when the material is treated for the first time. On repeated pumping, the quantity of gas evolved is much smaller. The work showed that porous ceramic of this kind can quite easily be de-gassed at pressures of 10^{-5} mm mercury. In order to determine the rate of evolution of gas from the material, it is necessary to determine the rate of gas diffusion through it. A special equipment, developed for this purpose, employed a diffusion pump with a rate of 500 litres per sec. with a suitable backing pump. The working chamber was lined with lightweight chamotte in which the heater was fixed. The tube under test was fitted in the centre of the furnace chamber. The passage of gas through the walls of tubes of Al_2O_3 and chamotte was measured. Once the quantity of gas that separates from the linings and the diffusion rate are known, the size of pump required for a furnace can be calculated. A vacuum furnace with chamotte lining was constructed and has operated since 1953 at pressures of the order of 10^{-4} mmHg and at temperatures up to 1 200 °C. Titanium has been heated in this furnace and after being maintained at a temperature of

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Experience with the Use of Ceramic Linings in High-vacuum Furnaces

850 °C for four hours, it remained bright. Tests have also been made on annealing of magnetic alloys of the permalloy type; again, the surfaces were unspoiled, and the magnetic properties were much improved. A furnace of similar construction but with a large ceramic chamber intended for heat-treatment of magnetic alloys has been working for two years at an instrument works. There are 1 figure, 1 table and 2 Russian references.

ASSOCIATION: Design Office of the Trust "Elektropech" (OKB tresta "Elektropech'")

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Card 3/3

1. Vacuum furnaces-Insulation 2. Ceramics 3. Insulation-Test methods 4. Insulation-Test results

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, G.A.

Perforation of an osteomyelitic abscess of the pubic bone into the urinary bladder with intravesical formation of calculi. Urologiia 24 no.5:64-65 S-O '59. (MIRA 12:12)

1. Iz urologicheskoy kliniki (zav. - prof. A.Ya. Pytel') II Moskovskogo meditsinskogo instituta na baze 1-y gorodskoy klinicheskoy bol'nitsy imeni N.I. Pirogova.
(URINARY CALCULI, compl.)
(BLADDER dis.)
(OSTEOMYELITIS compl.)
(PUBIC BONE dis.)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, G. A.

Intra-arterial blood infusion in urological operations. Urologiia no.6:20-26 '61. (MIRA 15:4)

1. Iz urologicheskoy kliniki (zav. - prof. A. Ya. Pytel') II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(UROLOGY) (BLOOD—TRANSFUSION)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, G.A.

Complications during extraction of ureteral calculi with a ureteral snare. Urologiia no.1:58-59'63. (MIRA 16:7)

1. Iz urologicheskoy kliniki (zav. - prof. A. Ya Pytel') II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
(CALCULI, URINARY) (URETERS—SURGERY)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, G. I.

Mechanization of lowering and hoisting operations in the "Dneprogeologiia" Trust. Razved. i okh. nedr 28 no.5:29-32 My '62. (MIRA 15:10)

1. Trest "Dneprogeologiya".

(Boring—Equipment and supplies)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

SOV/106-59-3-9/12

AUTHOR: Khazanov, G.L.

TITLE: The Synthesis of Active RC-Filters from a Given Transfer Admittance (Sintez aktivnykh RS-Fil'trov po zadannoy provodimosti peredachi)

PERIODICAL: Elektrosvyaz', 1959, Nr 3, pp 63-72 (USSR)

ABSTRACT: The design of adequate selective circuits at low frequencies is difficult because inductances are either difficult or impossible to realise. Resistance-capacitance circuits are favoured but they often require a large number of elements. The proposal made here is to introduce two kinds of active circuit, one is a gyrator and the other a negative resistance convertor. The transfer admittance of the circuit is given in expanded form in Eq (3) where p_1, p_3, etc are the zeros of the function and p_2, p_4, etc are the poles. It has been shown by Bode (Ref 8) that the poles of the transfer admittance of a passive RC circuit must always lie in the real negative half of the plane of complex frequency. The most desirable filters in practice are those whose characteristics correspond either to a Butterworth polynomial, a Chebyshev polynomial or a Zolotarev fraction.

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The Synthesis of Active RC-Filters from a Given Transfer Admittance

The attenuation diagrams and pole-zero plots corresponding to these functions are shown in Fig 1. It will be obvious that they cannot be directly realised by means of a passive RC-circuit. The analysis used in the method proposed in this paper is simplified if we consider the theorem of decomposition of circuits into different components. This is illustrated in Fig 2. A circuit which is to be specified by a transfer admittance is conveniently considered as consisting of two four-pole networks connected in cascade; the theorem is derived in Ref 1. Interest centres round the case when the roots of the numerator of Eq (8) are complex; Eq (8) is in turn the denominator of the required transfer admittance function. The second four-pole of Fig 2b can be realised if there is connected between it and the first four-pole a network having the properties of a gyrator (such a circuit is shown in Fig 3a). A possible realisation using a single transistor is shown in Fig 3b. One example studied in detail is the realisation of an active

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The Synthesis of Active RC-Filters from a Given Transfer Admittance

RC-filter with a maximally-flat attenuation characteristic of the second order as in Eq (25). The resulting circuit is shown in Fig 4b when the terminations are 600Ω and the transistor used is a type P1Zh. The insertion of a gyrator-type circuit is convenient when the number of poles is 2 or 3. When this number is greater, a negative resistance convertor is more convenient. Such circuits have been described previously (Ref 14); a suitable circuit is shown in Fig 6. A second example dealt with in detail is the synthesis of a third-order Butterworth characteristic given by Eq (40); a resulting circuit is shown in Fig 7b for 600Ω terminations and a cut-off frequency of 500 c/s. The experimental verification of the results obtained is illustrated in Fig 9 and 10. In Fig 9, curve a represents the calculated response of the second order Butterworth circuit, curve b the third-order response, curve B a Chebyshev response. In Fig 10 both curves refer to band filters. The values obtained experimentally are marked with dots or crosses. When

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The Synthesis of Active RC-Filters from a Given Transfer Admittance

account is taken of the tolerances of the components and the fact that the active circuits are far from ideal, the agreement between theory and practice is considered to be rather good. There are 10 figures and 15 references, 7 of which are Soviet, 7 English and 1 German.

SUBMITTED: 12th May 1958

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1"

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11201
S/106/61/000/012/005/010
A055/A127

9.2520 (1150, 1154, 1161)

AUTHOR: Khazanov, G. L.

TITLE: Synthesis of selective amplifiers with negative feedback

PERIODICAL: Elektrosvyaz', no. 12, 1961, 36 - 40

TEXT: The author examines a method of synthesizing active RC-filters consisting of a transistorized current-amplifier and of a resistance-capacitance feedback circuit. This method permits to synthesize complicated RC-circuits, to obtain systems with the optimum number of elements and to avoid the use of multistage circuits. The system shown in a figure, consists of a transistorized current-amplifier and of two resistance-capacitance four-poles. The selective properties of this system are fully determined by its transfer function

4

$$H(\omega) = \frac{\alpha_T y_{21a}\left(1+\frac{y_{21b}}{g_{11T}}\right)}{(g_{load}+g_{22T}+y_{22b})\left[1+\frac{y_{11b}+y_{22a}}{g_{11T}}+\frac{\alpha_T y_{21b}}{g_{load}+g_{22T}+y_{22b}}\left(1+\frac{y_{21b}}{g_{11T}}\right)\right]}, \quad (1)$$

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

Synthesis of selective amplifiers with negative feedback

where y_{11a}, y_{22a} and y_{11b}, y_{21b}, y_{22b} are the elements of the [y]-matrix of the four-poles. g_{11T} and g_{22T} are, respectively, the input and output conductance of the amplifier (with short-circuited terminals) and α_T is its current amplification factor (with short-circuited output); g_{load} is the load conductance. If the inequalities:

$$y_{21b} \ll g_{11T} \quad (2) \quad \text{and} \quad y_{22a} + y_{11b} \ll g_{11T} \quad (3)$$

are satisfied, the transfer function can be simplified and written as follows:

$$H(\omega) = \frac{\alpha_T y_{21a}}{y'_{22b}(1+\alpha_T y_{21b}/y'_{22b})} \quad (4)$$

where $y'_{22b} = y_{22b} + g_{22T} + g_{load}$. After explaining how (2) and (3) can be satisfied, the author proceeds to determine the parameters of the RC-circuits of the two four-poles. The function describing the behaviour of the synthesized system in the complex frequency plane is, in the general case:

$$H(p) = A\frac{(p-p_1)(p-p_3)(p-p_5)\ldots}{(p-p_2)(p-p_4)(p-p_6)\ldots} = A\frac{M(p)}{N(p)}. \quad (6)$$

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Synthesis of selective amplifiers with negative feedback

Representing the polynomial N(p) as

$$N(p) = B_1 N_1(p) + B_2 N_2(p), \qquad (7)$$

where B_1 and B_2 are real positive numbers, and choosing a certain polynomial with real negative roots Q(p), it is possible to write (6) as follows:

$$H(p) = \frac{A \cdot M(p)/Q(p)}{B_1 N_1(p)/Q(p)\left[1 + \frac{B_2}{B_1}\frac{N_2(p)/Q(p)}{N_1(p)/Q(p)}\right]}. \qquad (9)$$

Comparison of (9) and (4) gives:

$$y_{21a} = M(p)/Q(p), \qquad (10)$$

$$y'_{22b} = y_{22b} + g_{22T} + g_{load} = N_1(p)/Q(p), \qquad (11)$$

$$y_{21b} = N_2(p)/Q(p), \qquad (12)$$

$$\alpha_T = B_2/B_1. \qquad (13)$$

Certain limitations have to be imposed on the polynomials $N_1(p)$, $N_2(p)$ and Q(p),

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Synthesis of selective amplifiers with negative feedback

to realize the four-poles physically as resistance-capacitance circuits. Stating these limits, the author says that the instability of the frequency response of the synthesized system can be estimated by the ratio between the percentage variation of the modulus of $H(i\omega)$ and the percentage variation of the current amplification factor of the amplifier. This ratio can be considered as the sensitivity of the system:

$$S = \frac{d|H(i\omega)|}{|H(i\omega)|} / \frac{d\alpha_T}{\alpha_T}. \qquad (14)$$

Taking into account (4), (7) and (10) to (13), we can write:

$$S = B_1 |N_1(i\omega)/N(i\omega)| \cos[\varphi_1(\omega) - \varphi(\omega)], \qquad (16)$$

where $\varphi(\omega)$ and $\varphi_1(\omega)$ are, respectively, the arguments of the polynomials $N(i\omega)$ and $N_1(i\omega)$. This shows that S depends on the choice of the roots of $N_1(p)$. The author explains briefly how this choice must be made. The polynomial $N_1(p)$ being chosen, the roots of $N_2(p)$ can be deduced from (7):

$$N(p) - B_1 N_1(p) = 0. \qquad (17)$$

Certain difficulties may here arise if the power of the given function H(p) is suf-

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ficiently great. One of the methods of overcoming them consists in using the method of root hodographs [Ref. 4: D. Traskel. Sintez sistem avtomaticheskogo regulirovaniya. (Synthesis of automatic regulation systems), Mashgiz, 1959]. It can be deduced from (17) that:

$$|N_1(p)/N(p)| = \frac{1}{B_1}; \quad \arg [N_1(p)/N(p)] = 2k\pi. \qquad (19)$$

The roots of the polynomial are situated on the hodograph determined by (19). To each point of the hodograph corresponds a concrete value of B_1. This value must be chosen as small as reasonably possible. When the powers of $N_1(p)$ and $N_2(p)$ are equal:

$$B_1 + B_2 = 1. \qquad (20)$$

Then:

$$\alpha_T = \frac{1-B_1}{B_1} \qquad (21)$$

and

$$S = \frac{1}{1+\alpha_T}|N_1(i\omega)/N(i\omega)|\cos[\varphi_1(\omega)-\varphi(\omega)]. \qquad (22)$$

The described synthesis method permits to determine the parameters of the circuits

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31201

S/106/61/000/012/005/010
Synthesis of selective amplifiers with negative feedback A055/A127

of the two four-poles. On the basis of these parameters and using one of the well-known methods (for instance, the "Dasher" method), it is possible to synthesize the resistance-capacitance four-poles. There are 1 figure and 4 Soviet-bloc references. The names of Soviet authors or scientists mentioned in the article are: D. Traskel, G. Bode, E. A. Saakov and V. M. Shteyn (Radiotekhnika, 1950, no. 1).

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34833

S/106/62/000/003/003/010
A055/A101

9.1400 (1127)

AUTHOR: Khazanov, G.L.

TITLE: Attenuation in a uniform line with an evenly distributed load

PERIODICAL: Elektrosvyaz', no. 3, 1962, 19 - 22

TEXT: In this article are deduced formulae giving the attenuation increment and the return loss in a uniform line with an evenly distributed load as a function of the impedance of this load. A uniform line with an evenly distributed load z can be represented by the fourpole A of Fig. 2. This fourpole, in its turn, can be represented (Fig. 3) as a cascade connection of n similar and simpler fourpoles (l being the total length of the line). To determine the transmission constant (g_{A1}) and the characteristic impedance (z_{A1}) of the system of Fig. 3, the author considers this system as a connection of three elementary fourpoles, and writes:

$$\|a\|_1 = \|a\|_z \times \|a\|_{line} \times \|a\|_z \qquad (1)$$

where $\|a\|_1$ is the resultant matrix of the system, $\|a\|_z$ are the matrices of

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the extreme fourpoles and $\|a\|_{line}$ is the matrix of a line section with parameters γ and z_c. Developing (1), using the tables of Zelyakh and the formulae relating the characteristic parameters of the fourpole to the "parameters-coefficients" of Akul'shin, Koshcheyev and Kul'batskiy ["Teoriya svyazi po provodam" (Wire communication theory), Svyaz'izdat., 1940], the author deduces a set of formulae giving the transmission constant and the characteristic impedance, first for the system of Fig. 3, and then for the fourpole A of Fig. 2. Using these formulae, he calculates the attenuation increment caused in the line by the switching on of telemetering information data units. The expression giving this increment is:

$$\Delta b = (n + 1)\varepsilon_1 \qquad (16)$$

ε_1 being determined by:

$$\text{th}\varepsilon_1 = \frac{z_c}{2z}$$

Using the same set of formulae, the author deduces also an expression giving the return loss for the examined line. In conclusion he says that, with the aid of the above expressions, it is possible to choose the output impedance of the data units, according to the permissible attenuation increment and return

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KHAZANOV, G.L.

Fading in a homogeneous line with an evenly distributed load.
Elektrosviaz' 16 no.3:19-22 Mr '62. (MIRA 15:4)
(Radio lines)

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L 19945-63 EDJ/BDS

ACCESSION NR: AP3006949. S/0106/63/000/009/0034/0042

AUTHOR: Khazanov, G. L.

TITLE: Method of synthesizing RC circuits

SOURCE: Elektrosvyaz', no. 9, 1963, 34-42

TOPIC TAGS: RC circuit

ABSTRACT: As the realization of complex-zero transfer functions is the most difficult part in synthesizing passive RC circuits, and as B. J. Dasher's procedure for cascade realization involves a great deal of mathematical work, the author suggests a generalized Dasher method which requires far less computations. One terminal pole in the transfer-admittance function is replaced by two terminal poles, which introduces some complications into the section structure but eliminates the g_o/b_o conditional equation. A Π-network represents the remainder function. It is claimed that the improved method permits fairly rapid

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ACCESSION NR: AP3006949

determination of the structure and evaluation of components of the RC circuit without complicated computations. The greater number of components is offset by the elimination of the first (zero-shifting function) branch. Orig. art. has: 4 figures, 29 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 30Nov62 DATE ACQ: 30Sep63 ENCL: 00

SUB CODE: GE NO REF SOV: 001 OTHER: 001

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KHAZANOV, G.M.

Information center is a reliable intermediary. Izobr.i rats. no.4:22-23 Ap '62. (MIRA 15:4)

1. Zamestitel' direktora Gosudarstvennogo instituta nauchnoy i tekhnicheskoy informatsii.
(Technology---Information services)

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GOL'DBERG, Mikhail Markovich; ZAKHAROV, Vasiliy Aleksandrovich; KAZANSKIY, Yuriy Nikolayevich; LEONT'YEVA, Valentina Petrovna; LOSEV, Ivan Platonovich, doktor khim.nauk, prof.; TROSTYANSKAYA, Yelena Borisovna, doktor tekhn.nauk, prof.; KHAZANOV, Grigoriy Mikhaylovich; CHEBOTAREVSKIY, Vladimir Vladimirovich; SHEYDEMAN, Igor' Yur'yevich; BONDAREV, V.S., inzh., retsenzent; PANSHIN, B.I., kand. tekhn.nauk, nauchnyy red.; TUBYANSKAYA, F.G., izdat.red.; ROZHIN, V.P., tekhn.red

[Nonmetallic materials and their use in airplane construction] Nemetallicheskie materialy i ikh primenenie v aviastroenii. Pod obshchei red. I.P.Loseva i E.V.Trostianskoi. Moskva, Gos. izd-vo obor. promyshl., 1958. 428 p. (MIRA 11:7)

1. Kafedra "Tekhnologiya obrabotki nemetallicheskikh materialov" Moskovskogo aviatsionnogo tekhnologicheskogo instituta i kafedry "Materialovedenie" Moskovskogo aviatsionnogo ordena Lenina instituta imeni S.Ordzhonikidze (for all except Bondarev, Panshin, Tubyanskaya, Rozhin)

(Airplanes--Desing and construction)
(Nonmetallic materials)

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KHAZANOV, G.M.

Brush polishing wheels. Mashinostroitel' no.11:14-15 N '61.
(MIRA 14:11)
(Grinding wheels)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721920018-1

KHAZANOV, G.M.

Efficiency of the use of compressed wood for machine parts.
Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.
inform. 16 no.5:29-32'63. (MIRA 16:7)
(Wood, compressed) (Machinery industry)

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