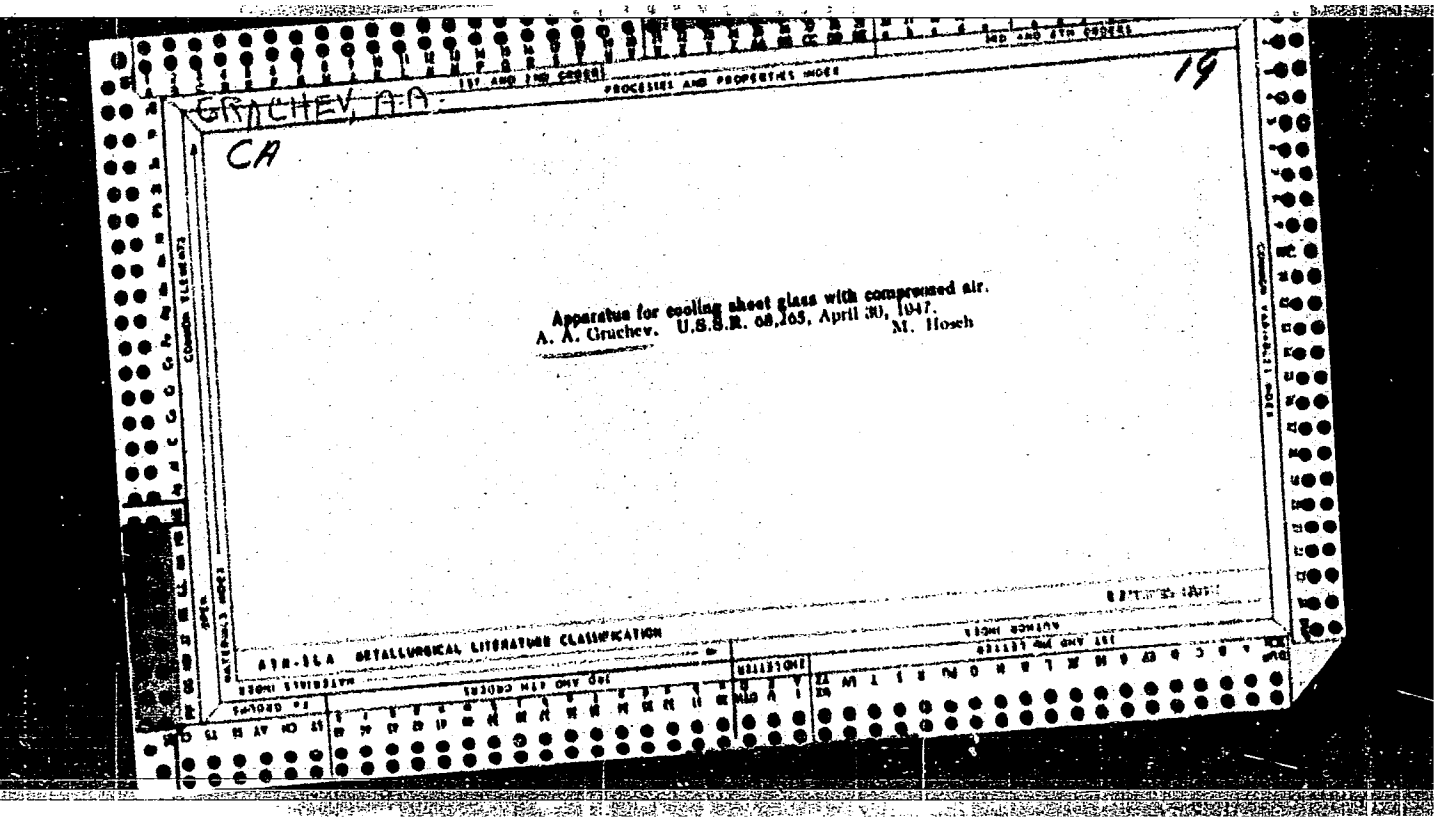

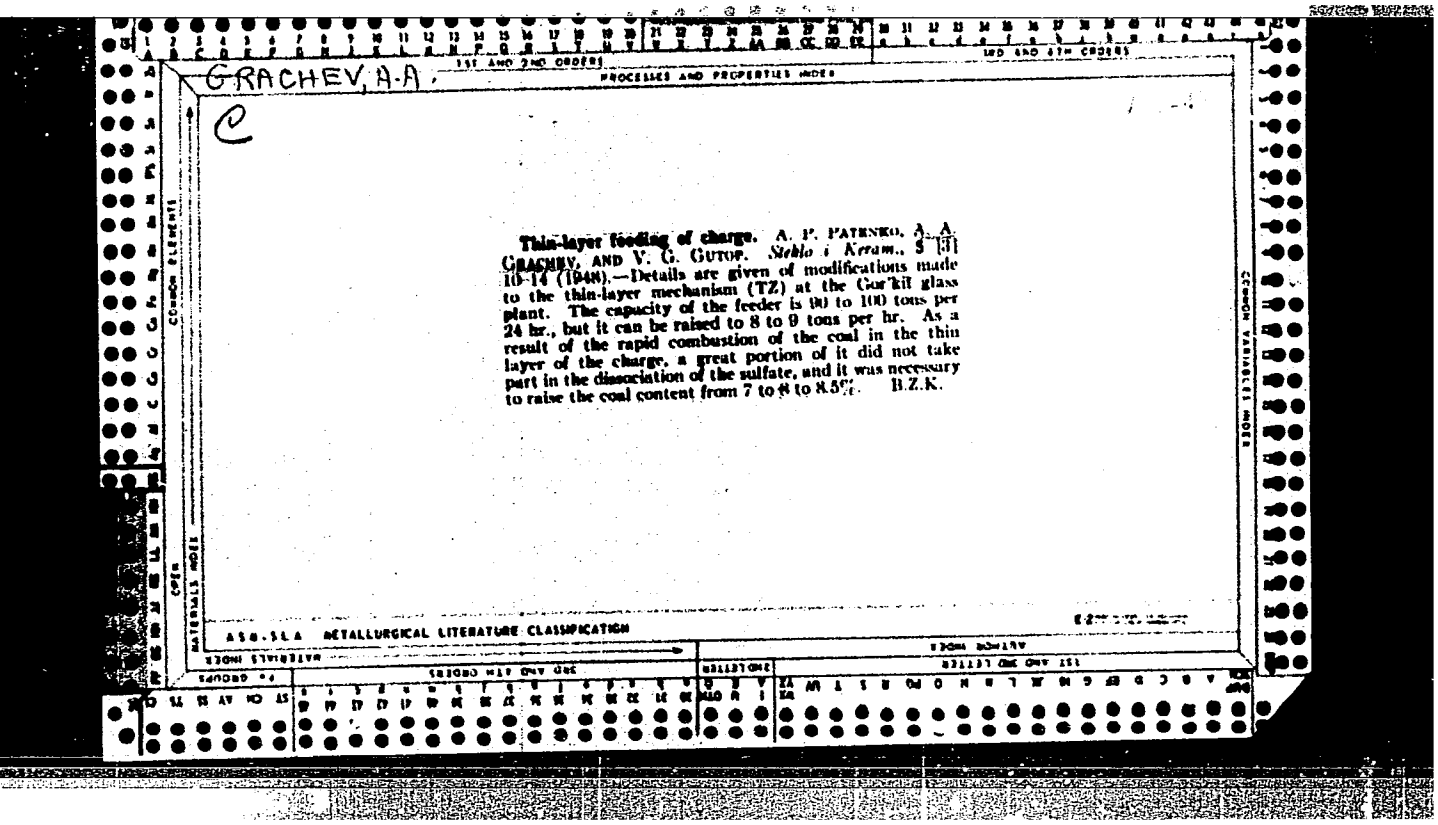
GRACHEV, A-A.

C

Thin-layer feeding of charge. A. P. PATENKO, A. A. GRACHEV, AND V. G. GUTOP. *Stekło i Keram.*, 5 [3] 10-14 (1948).—Details are given of modifications made to the thin-layer mechanism (TZ) at the Gor'kii glass plant. The capacity of the feeder is 80 to 100 tons per 24 hr., but it can be raised to 8 to 9 tons per hr. As a result of the rapid combustion of the coal in the thin layer of the charge, a great portion of it did not take part in the dissociation of the sulfate, and it was necessary to raise the coal content from 7 to 8 to 8.5%. B.Z.K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PA 165T79

GRACHEV, A. A.

USSR/Physics - Magnetism 11 Mar 50

"Discrete-Continuous Spectrum of Induction of a Ferromagnetic During Cyclic Overmagnetization," A. A. Grachev, Physicotech Inst, Gor'kiy State U

"Dok Ak Nauk SSSR" Vol LXXI, No 2, pp 269-272

Experimental studies, in connection with telephones, of the relation $B(t) = f(H(t))$, where f is double-valued function describing hysteresis loop. Spectrum of EMF induction in frequency range 4-50 kc, for various temperatures (20°, 150° C), using quartz filters, oscillators, analyzers, etc. Submitted 14 Jan 50 by Acad M. A. Leontovich.

165T79

PA 227T74

USSR/Physics - Magnetization Noise 1 Aug 52

"Spatial Correlation of Noises of Cyclical Remagnetization," A.A. Grachev, Phys-Tech Inst, Gor'kiy State U

"Dok Ak Nauk SSSR" Vol 85, No 4, pp 741-744

Gives some results of an exptl investigation into spatial statistics of noises of cyclical remagnetization. Acknowledges advice of Prof G.S. Gorelik and assistance of Z.I. Velikosel'skaya in the expts. Submitted by Acad M. A. Leontovich 7 Jun 52.

227T74

(PA 56 no. 671:7788 '53)

FD-1485

USSR/Physics - Magnetic flux

Card 1/1 : Pub. 146-8/20

Author : Grachev, A. A.; Goronina, K. A.; Kolachevskiy, N. N.; and Andrianova, I. A.

Title : Experimental investigation of variation of magnetic flux in a cable at reversal of magnetization of one domain

Periodical : Zhur. eksp, i teor. fiz., 27, 313-317, Sep 1954

Abstract : Results of experimental investigation of magnetic flux generated in a single domain of a ferromagnetic cable are outlined. Experimental data concur within 10% accuracy with theoretical computation by S. M. Rytov (ibid, 307-312). Four references.

Institution : Physicotechnical Institute, Gor'kiy State University

Submitted : December 28, 1953

GRACHEV, A.A.

Continuous spectrum of the e.m.f. of cyclic magnetic polarity reversal. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:71-78 '58. (MIRA 11:11)

1. Issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete.

(Electromagentism)

GORONINA, K. A., GRACHEV, A. A. (NIRFI, Gor'kiy)

"Fluctuations During Magnetic Polarity Reversal of Ferromagnetic Materials."

The author calculated the spectral densities of noises and remaining fluctuating even harmonics, appearing during periodical polarity reversal of ferromagnetic materials. The contents of the report may be used for an evaluation of the ultimate sensitivity of magnetic amplifiers. A comparatively small number of reports was delivered on noise physics.

report presented at the All-Union Conference on Statistical Radio Physics, Gor'kiy, 13-18 October 1958. (Izv. vyssh uchev zaved-Radiotekh., vol. 2, No. 1, pp 121-127) COMPLETE card under SIFOROV, V. I.)

9.2571
24.7900

69951

SOV/141-2-4-6/19

AUTHORS: Goronina, K.A. and Grachev, A.A.

TITLE: The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 4, pp 581 - 587 (USSR)

ABSTRACT: The spectrum of the e.m.f. produced during periodic reversal of the magnetisation in ferromagnetics contains harmonics of the magnetisation frequency as well as a continuous spectrum. The latter portion of the spectrum is referred to as the magnetic noise. It is this effect that is considered in the paper. The problem of magnetic noise has been studied by a number of authors (Refs 1-10), both theoretically and experimentally. In particular, in the work of G. Biorci and D. Pescetti (Ref 9), it was found experimentally that the magnitude of the spectral density of magnetic noise and its frequency dependence are in agreement with the magnetic noise as evaluated by the same method as is employed in determining the shot noise in electron tubes. However, some experimental results (Ref 10)

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The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

appear to contradict the above findings. In view of the above, it was decided to undertake a thorough experimental investigation of the problem. The results obtained from the experiments are illustrated in Figures 1 and 2. Figure 1 shows the noise spectrum density for a ferrite. The axis of abscissae represents the frequency ratio f/F, while the ordinates give the parameter $\sqrt{G/f}$; f is the frequency, F is the magnetisation frequency and G is the spectral density. From Figure 1, it is seen that for a constant f/F, the quantity $\sqrt{G/f}$ is independent of f and F. Such relationship should be observed in the cases when the average value of the magnetic flux for a given magnetic field and the statistic characteristics of random deviations of the flux from the average value are independent of the rate of change of the magnetic field.

The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

In magnetic materials of high conductivity, the quantity $\sqrt{G/f}$ depends not only on the frequency ratio but for a given f/F it decreases with increasing F ; this decrease is less in thin samples than in thick ones (see Figure 2). This phenomenon can be caused by the skin effect. Figure 2 shows the magnetic noise for the armco iron; the upper figure was taken with a sample having a thickness of 3μ, while the lower figure was taken for a strip having a thickness of 110 μ. From Figures 1 and 2, it is seen that the spectral density decreases with decreasing f/F in the region of small f/F . This reduction occurs in the ferrite and iron when $f/F < 30$. From the above it can be concluded that in the region of small f/F , the spectrum of magnetic noise is different from that of the shot noise. Whereas the latter is independent of frequency F , the spectral density of the magnetic noise is zero at zero frequency and then increases with f up to a frequency f_1 , which

The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

is dependent on the magnetisation frequency. At larger values of f/F , the experiments showed (and these are in agreement with the data of Ref 9) that the spectral density is constant and then, with increasing f , it begins to decrease. The shape of the magnetic spectrum has therefore the form indicated in Figure 3a. The spectral density increases as a function of frequency up to a frequency f_1 which is dependent on the magnetisation frequency and varies, depending on the material. At frequencies greater than f_1 but lower than a frequency f_2 , the spectrum has the character of shot noise. Above the frequency f_2 , the spectrum begins to decrease. The correlation function of the magnetic noise is therefore in the form shown in Figure 3b. The spectral density can be described by :

The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

$$G(f) = \overline{|S(f)|^2} NF\left[1 - |\varphi(f)|^2\right] \qquad (4)$$

where $S(f)$ is the Fourier expansion of an e.m.f. pulse produced by a single Barkhausen transition,

N is the number of transitions and

$\varphi(f)$ is a certain characteristic function.

At high frequencies f, the quantity $\varphi(f) \ll 1$ and Eq (4) represents the case of shot noise. At $f = 0$, the characteristic function $f(0) = 1$ and the spectral density is zero.

There are 3 figures and 10 references, 4 of which are English and 6 Soviet.

Card 5/6

69951

SOV/141-2-4-6/19

The Spectrum of the e.m.f. Induced by Periodic Reversal of Magnetisation in Ferromagnetics

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Radio-physics Institute of Gor'kiy University)

SUBMITTED: March 19, 1959

Card 6/6

GRACHEV, A. A., Cand Phys-Math Sci -- (diss) "Noises in periodic magnetic reversal of ferromagnetic material." Sverdlovsk, 1960. 8 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Ural'skiy State Univ im A. M. Gor'kiy); 150 copies; price not given; bibliography at end of text (13 entries); (KL, 51-60, 115)

BRODYANSKIY, V.M., kand. tekhn. nauk, dotsent; GRACHEV, A.B., inzh.

Thermodynamic analysis of gas cooling units with displacers. Izv. vys. ucheb. zav.; energ. 8 no.7:74-79 Jl '65. (MIRA 18:9)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy teplоenergosnabzheniya promyshlennykh predpriyatiy.

BRODYANSKIY, V.M., kand. tekhn. nauk; GRACHEV, A.B., inzh.

Cooling of liquified gases by evacuating the vapor space.
Trudy MEI no.48:97-102 '63. (MIRA 17:6)

GRACHEV, A. D., SEMENTSOV, YU. M. and OSTROVSKIY, N. S. (Students, Novocherkassk Zooveterinary Institute and Assistant Professor)

"Dehorning large cattle"

Veterinariya, Vol. 38, no. 7, July 1961, p. 66

Student Novocherkassk Zoovet. Inst.

OSTROVSKIY, N.S., dotsent; GRACHEV, A.D., student; SEMENTSOV, Yu.M., student

Dehorning of cattle. Veterinariia 38 no.7:66-67 Jl '61. (MIRA 16:8)

1. Novocherkasskiy zooveterinarnyy institut.
(Dehorning)

GRACHEV, A.D., aspirant

Disorders of protein metabolism during leukemia in cattle.
Veterinariia 41 no.9:41-43 S '64. (MIRA 18:4)

1. Donskoy sel'skokhozyaystvennyy institut.

SMIRNOV, Leonid Flegontovich, kand. sel'khoz. nauk; KRUGLOV, A.I., prof., red.; GRACHEV, A.F., red.; KRASULINA, T.N., tekhn. red.

[Raising Romanov sheep] Romanovskoe ovtsevodstvo. Pod red. A.I. Kruglova. IAroslavl', IAroslavskoe knizhnoe izd-vo, 1961. 229 p. (MIRA 14:8)

(Sheep)

GRACHEV, A.F.

Some methodological problems of modern geomorphology. Vest. LGU 18 no.6:63-70 '63. (MIRA 16:4)
(Geomorphology)

GRACHEV, A.F.

Problem of the hordei form of stem rust. Sbor. trud. asp. i mol. nauch. sotr. VIR no.5:255-259 '64. (MIRA 18:3)

PRIDANTSEVA, Ye.A., nauchnyy sotrudnik; PONIROVSKIY, V.N. (Khar'kov); GRACHEV, A.F.; VOVCHENKO, D.P., kand. biolog. nauk; CHEMODANOVA, Ye.V., kand. sel'skokhoz. nauk; KALINICHENKO, A.N.; PETRUSHOVA, N.I., kand. sel'skokhoz. nauk; OVCHARENKO, G.V.; FLORINSKAYA, G.N.; DROZDOVSKIY, E.M.; DROZDOVSKIY, E.M.; MATLASHENKO, Ye.V., aspirantka

Brief news. Zashch. rast. ot vred. i bol. 9 no.7:50-53 '64. (MIRA 18:2)

1. Dal'nevostochnaya opytnaya stantsiya Vsesoyuznogo nauchno-issledovatel'skogo instituta rasteniyevodstva (for Grachev). 2. Mleyevskaya opytnaya stantsiya sadovodstva, Cherkasskaya oblast' (for Vovchenko). 3. Velikolukskiy sel'skokhozyaystvennyy institut (for Chemodanova). 4. Altayskaya opytnaya stantsiya sadovodstva, Barnaul (for Kalinichenko). 5. Nikitskiy botanicheskiy sad (for Petrushova, Ovcharenko). 6. Moldavskiy institut sadovodstva, vinogradarstva i vinodeliya, Kishinev (for Florinskaya). 7. Nauchno-issledovatel'skiy zonal'nyy institut sadovodstva nechernozemnoy polosy (for Drozdovskiy). 8. Tadzhikskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva (for Matlashenko).

VOVENKO, A.S.; GRACHEV, A.G.; LIKHACHEV, M.F.; MATULENKO, Yu.A.; SAVIN, I.S.; SYUY YUN-CHAN [Hsu Yung-ch'ang]; KHE YUAN'-FU [Ho Yuan-fu]

Elastic scattering of positive 3.2 Gev./sec. π-mesons by protons. JAd. fiz. 1 no.4:681-686 Ap '65. (MIRA 18:5)

1. Ob"yedinennyy institut yadernykh issledovaniy.

L 18441-66
ACC NR: AP6006386 SOURCE CODE: UR/0413/66/000/002/0118/0118

INVENTOR: Grachev, A. G.; Vladimirov, V. A.

ORG: none

24
B

TITLE: An output system. Class 42, No. 178177 [announced by the Joint Institute for Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)]

SOURCE: Izobreteniya, promyshelnnyye obraztsy, tovarnyye znaki, no. 2, 1966, 118.

TOPIC TAGS: computer output unit, hodoscope, scintillation counter, coincidence circuit, shift register

ABSTRACT: This Author's Certificate introduces an output system for a scintillation hodoscope. The device contains shift registers and counters. The time for tape recording or punching the output information is reduced by using binary code for recording information on the number of the counter. The device contains a source of shift pulses and two coincidence circuits. The inputs of the first coincidence circuit are connected to the first digit in the shift register and to a source of cadence pulses. The output from this circuit is connected through a blocking generator and a switch to the output system which records the state of the counter on

Card 1/2

UDC: 681.142.07

2

L 18441-66
ACC NR: AP6006386

punched tape. The inputs to the second coincidence circuit are connected to a source of cadence pulses and to a phase inverter. The phase inverter is connected to the first digit of the shift register. The output from the second coincidence circuit is connected to an amplifier which is connected in turn to the inputs of the shift register and the counter.

SUB CODE: 09/ SUBM DATE: 21May63

Card 2/2 mc

GRACHEV, A.G.

36342 Opyt podgotovki svetlo-kashtanovykh pochv pod zashchitnyye lesnyye kul'tury. Les i step', 1949, No 7, s. 86-89

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

1. GRACHEV, A.G.

2. USSR (600)

4. Windbreaks, Shelterbelts, Etc. - Stalingrad Province

7. In the Kamyshin-Stalingrad state forest belt. Les i step' 4 no.10, 1952.

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

GRACHEV, A. G.

Forestry Engineering

Mechanizing forest cultivation work, Les. khoz., 5 No. 3(42), 1952

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

1. GRACHEV, A. G.

2. USSR (600)

4. Acorns

7. Establish correct standards for sowing acorns. Les. Khoz. 5 no.12 1952

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

GRACHEV, A.

[Kamyshin-Stalingrad forest belt] Lesopolosa Kamyshin-Stalingrad. [Stalingrad] Stalingradskoe knizhnoe izd-vo, 1957. 82 p. (MIRA 11:11)

(Windbreaks, shelterbelts, etc.)

USSR / Forestry. Forest Crops K-4

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58417

Author : Grachev, A. G.

Inst : Moscow Agricultural Academy Imeni K. A. Timiryazev

Title : Contemporary Condition of the State Protective Forest Belt Kamyshin-Stalingrad and Cultivation Methods for Tree Plantings.

Orig Pub: Dokl. Mosk. s-kh. adad. im. K. A. Timiryazeva, 1957, vyp. 31, 176-180

Abstract: No abstract

Card 1/1

GRACHEV, A.G.

Forest working circles help collective farms in establishing shelterbelts. Zemledelie 7 no.9:76-78 S '59. (MIRA 12:11)

1. Nachal'nik upravleniya lesnogo khozyaystva Stalingradskogo oblastnogo upravleniya sel'skogo khozyaystva.
(Windbreaks, shelterbelts, etc.)

GODUNOV, Yuriy Nikolayevich; GRACHEV, Aleksey Gavrilovich; KALASHNIKOV, Anatoliy Fedorovich; KOLESNIKOV, Aleksandr Sergeyevich; DEVOCHKIN, N.I., red.

[The greenbelt; practices in the establishment of park forest plantations and orchards around Volgograd] Zelenoe kol'tso; opyt sozdaniia lesoparkovykh nasazhdenii i sadov vokrug Volgograda. Volgograd, Nizhne-Volzhskoe knizhnoe izd-vo, 1964. 100 p. (MIRA 18:3)

L 08573-67

ACC NR: AR6032062 SOURCE CODE: UR/0271/66/000/007/B020/B020

45

AUTHOR: Grachev, A. G.; Kirillov, S. S.

TITLE: Eight-channel semiconductor scaling device with printed output

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislet'naya tekhnika, Abs. 7B146

REF SOURCE: Sb. Poluprovodnik, elementy v vychisl. tekhn. M., 1965, 3-17

TOPIC TAGS: semiconductor device, power supply, scaling device, scaling channel, control generator, control circuit, scaling decade

ABSTRACT: Description is given of a semiconductor scaling device developed at the Joint Institute of Nuclear Research which makes automatic printing of output data possible. The device consists of eight scaling channels, an input—output control circuit with an intermediate memory, a type TsPM-17 digit printing machine (part of the ChZ-4 frequency meter set), and a control generator. Each scaling channel consists of an input pulse shaping unit, six unified scaling decades, an output unit, and a power source. A block-diagram of the device and schematic

Card 1/2 UDC: 681.142:621.374.32

L 08573-67

ACC NR: AR6032062

diagrams of the input unit, decade, decoder, control circuit elements, control generator intermediate memory, and power supply unit, are given. Orig. art. has: 13 illustrations and a bibliography of 2 titles. [Translation of abstract]

SUB CODE: 09/

Card 2/2

GRACHEV, A. I.

"Plant Defects of Cables," "Operation of Cable Networks" (Eksploatatsiya kabeley i kabel'nykh setey), Gosenergoizdat, 1949, 384 pp.

89761

S/169/61/000/002/014/039
A005/A001

9.9842 (2603, 1041, 1046)

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 2, p. 31, # 2G236

AUTHOR: Grachev, A. I.

TITLE: Radar Reflections During Geomagnetic Disturbances

PERIODICAL: V sb.: "Spektr. elektrofotometr. i radiolokats. issled. polyarn. siyaniy i svecheniya nochnogo neba". No. 2-3. Moscow, AN SSSR, 1960, pp. 19-23 (English summary)

TEXT: Observations of radioreflections from polar lights are described, which were carried out in 1957 by the Northern scientific station Loparskaya, F-64°. The radars operated at the frequencies 30 and 72 Mc. The observations at the frequency of 72 Mc were conducted all the days raound at 00, 15, 30, and 45 minutes of each hour, and continuously at the appearance of reflections. At the frequency of 30 Mc, the reflections are of extremely short duration; therefore, the observations were conducted during periods of 15-30 minutes with a following pause of 10-20 minutes. The radioreflections at the frequency of 72 Mc appear on a scanning trace of the amplitude indicator of distance in the form of dense groups of an extension of 100-200 km. Quiet, diffuse reflections were observed

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89761

S/169/61/000/002/014/039
A005/A001

Radar Reflections During Geomagnetic Disturbances

for hours. Sharply defined sliding reflections were of lesser duration. The distance of 450 - 1,050 km corresponds to the reflections at 72 Mc. The radio-reflections at the frequency of 30 Mc have an extension of 30-50 km and appear at distances of 100-500 km. The statistical analysis of the observation data shows that 56% of the total number of events of appearance of reflections at the frequency of 30 Mc coincides in time with the reflections at the frequency of 72 Mc. The maximum number of reflections occurs at 21-22 o'clock of local time. A second maximum is also observed at the frequency of 30 Mc, which occurs at 2-3 o'clock. It is ascertained that the position of the maxima somewhat shifts from month to month. The comparison of the radioreflections with the behavior of the components of the Earth's magnetic field discovered the existence of a close correlation, which particularly pertains to the horizontal component of the geomagnetic field. The results showed that 48% of reflections occurs in times of negative troughs, 27% in the periods of transition from positive to negative troughs, and only 7% of the reflections occurs during the positive troughs. Some number of reflections were recorded during the periods of undisturbed geomagnetic field, but the overwhelming part of reflections occurs during the main phase of a magnetic storm. This fact points out that the main phase of a storm is closely connected with the invasion of charged particles into the ionosphere region, which

Card 2/3

causes an additional ionization, as a result of which reflections appear at so high frequencies.

L. Yerasova

Translator's note: This is the full translation of the original Russian abstract.

X

3,1810
9.9000 (also 1036)

89794
S/169/61/000/003/011/022
A005/A005

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 3, p. 23, # 3G219

AUTHOR: Grachev, A. I.

TITLE: Some Results of Radiolocation of Polar Lights Near the Zone of Their Maximum Recurrence

PERIODICAL: "Spektr., elektrofotometr. i radiolokats. issled. polyarn. siyaniy i svecheniya nochnogo neba". No. 2-3. Moscow, AN SSSR, 1960, pp. 24-27 (English summary)

X

TEXT: The author describes investigations of radioechoes from polar lights at frequencies of 30 and 72 Mc, which were carried out in 1957-1958 by the Severnaya Station ИФА АН СССР (IFA) of the Academy of Sciences of USSR ($\Phi = 64^{\circ}$). The directivity patterns of the antennae of the radar stations are not to a first approximation overlapped with respect to the angle of raise above the horizon. The suitable arrangement of the antennae provided for approximately equal directivity patterns at the mentioned frequencies. Observations carried out from November 1958 to April 1959 showed that the radioechoes at both frequencies coincide in time in the overwhelming majority of events. However, the echoes

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89794

S/169/61/000/003/011/022
A005/A005

Some Results of Radiolocation of Polar Lights Near the Zone of Their Maximum Recurrence

at the frequency of 72 Mc statistically occupy a much larger range of distances on the scanning trace than the echoes at the frequency of 30 Mc. The distance distribution diagrams at comparable frequencies run approximately equally down to a distance of about 650 km. A sharp decrease in the number of echoes sets in for the frequency of 30 Mc starting from 700 km, whereas an effective decrease is only observed from 850 km at the frequency of 72 Mc. The sharp decrease of the number of reflections at the frequency of 30 Mc behind 700 km is explained, in the author's opinion, in the following manner: Firstly, the regions accountable for the appearance of echoes are located, in one's opinion, near an altitude of 110-120 km; it is inherent that the distance responsible to these altitudes may not exceed 700 km for angles of 10° - 15° (upper section of the lobe of directivity pattern). For angles smaller than 10° (the corresponding distances of echoes exceed 700 km for these altitudes), the power radiated by the transmitter noticeably decreases. Secondly, the path of the radiowave in a absorbing medium approximately linear increases with decreasing angle of raise. The absorption is effective at altitudes of 100-110 km at frequencies of 30-50 Mc in nighttime in

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89794
S/169/61/000/003/011/022
A005/A005

Some Results of Radiolocation of Polar Lights Near the Zone of Their Maximum Recurrence

polar regions. It is reasonable to assume that the echoes could not arrive from large altitudes, also with respect to the effective magnitude of absorption. The visual observations of glows well as the analysis of photographs showed that the radar echoes also appeared at instants of absence of visible signs of glows in the angle of aperture of the directivity pattern of the radar antenna. Nevertheless, at this instant the glows were observed in another section of the firmament. As a rule, the echoes did not appear when visible forms of glow were absent on the firmament. A comparison of the variations in the amplitude of radioechoes with the variations in the integral brightness of glows in the same sky region showed that they do not coincide in time. It is but remarked that the maximum of the radioecho amplitude more or less regularly lags in time behind the maximum of the integral brightness. The lag time fluctuates within the limits from 5 to 20 min.

L. Yerasova

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

GRACHEV, A.I., inzh.

Trenching operations in frozen soils for laying and repairing electric cables. Energetik 9 no.9:24-28 S '61. (MIRA 14:9)
(Electric lines--Underground)

GRACHEV, A.I. (Odessa)

Rare case of gigantic lipoma of the epicardium. Vrach.delo no.9: 127-128 S '62. (MIRA 15:8)

1. Patologoanatomicheskoye otdeleniye pervoy gorodskoy klinicheskoy bol'nitsy.

(PERICARDIUM--TUMORS)

GRACHEV, A.I., inzh.

Cable lines with a 220 kv. rating. Elek. sta. 32 no.2:50-55 F '61. (MIRA 16:7)
(Electric lines) (Electric power distribution)

BEDRAN', M. G., kand. tekhn. nauk; ZHEMDRINSKIY, A. P., kand. tekhn. nauk; VISHNEVSKIY, M. A., inzh.; PER'KOV, Yu. V., inzh.; GRACHEV, A. I., inzh.; GORELIK, M. I., inzh.

Flotation of gas coals in the Dobropol'ye Central Concentration Plant. Ugol' Ukr. 7 no.4:30-32 Ap '63. (MIRA 16:4)

(Dobropol'ye—Flotation)

ZYTNER, David Yakovlevich; KIRYACHEK, Andrey Yakovlevich; BER, Ya.M., inzh., retsenzent; GRACHEV, A.I., inzh., nauchn.red.; VAYTS, V.M., red.

[Automated control of the electric drives of continuous-line systems] Avtomatizirovannoe upravlenie elektroprivodami potochno-transportnykh sistem. Moskva, Energiia, 1965. 207 p. (MIRA 18:5)

RYABCHIKOVA, G.G.; SIBIRSKAYA, G.K.; GLAZUNOV, P.Ya.; GRACHEV, A.I.

Apparatus for selecting gas samples during chromatographic analysis. Zav.lab. 29 no.2:244 '63. (MIRA 16:5)

1. Institut fizicheskoy khimii AN SSSR.
(Gas chromatography)

RYABCHIKOVA, G.G.; SIBIRSKAYA, G.K.; GLAZUNOV, P.Ya.; GRACHEV, A.I.

Semiautomatic proportioning device for gas chromatography. Zav.lab. 29 no.2:243-244 '63. (MIRA 16:5)

1. Institut fizicheskoy khimii AN SSSR.
(Gas chromatography) (Proportioning equipment)

GRACHEV, A.I.; ZELENOVA, N.B. (Odessa)

Ectopic chorioepithelioma of the liver in a man. Arkh. pat. 10:77-79 '62. (MIRA 17:1)

1. Iz patologoanatomicheskogo otdeleniya (zav. - N.B. Zelenova) L-y Odesskoy gorodskoy klinicheskoy bol'nitsy (glavnyy vrach A.S. Teslik).

GRACHEV, A.M.; KLYARFEL'D, B.N.; STEPANOV, N.P.

Discharge current distribution along the cross section of a large gas-discharge device. Elektrichestvo no.5:28-33 My '64. (MIRA 17:6)

1. Vsesoyuznyy ordena Lenina elektrotekhnicheskiy institut imeni V.I. Lenina.

GRACHEV, A.M.

Role of intercoronary anastomoses in the blood supply of the myocardium in disorders of coronary circulation. Eksper. khir. i anest. 9 no.1:7-11 Ja-F '64. (MIRA 17:12)

1. Kafedra obshchey khirurgii (zav. - prof. G.G.Dubinkin) Smolenskogo meditsinskogo instituta.

DEMENT'YEV, I.V., dotsent; ZAYTSEV, A.T., inzh.; SOFRONOV, A.A., inzh.;
Prinimali uchastiye: GRACHEV, A.N.; LAMBERG, M.A.

Laboratory investigation of sublevel caving systems for deep levels of the northern Karabash deposit. Izv. vys. ucheb. zav.; gor. zhur. 7 no.10:15-21 '64.

(MIRA 18:1)

1. Sverdlovskiy gornyy institut imeni V.V. Vakhrusheva (for Dement'yev, Zaytsev). 2. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut mednoy promyshlennosti (for Sofronov). Rekomendovana kafedroy razrabotki rudnykh i rossypnykh mestorozhdeniy Sverdlovskogo gornogo instituta.

1. GRACHEV, A.P.

2. USSR (600)

4. Forest Management

7. Prof. V.G. Nesterov's methods of improvement cutting. Les. khoz. 5 no. 11, 1952.

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

MOLCHANOV, Aleksandr Alekseyevich; PREOBRAZHENSKIY, Ivan Fedorovich; MOTOVILOV, G.P., doktor sel'skokhozyaystvennykh nauk, otvetstvennyy redaktor; GRACHEV, A.P., redaktor izdatel'stva; PAVLOVSKIY, A.A., tekhnicheskiy redaktor

[Forests and forestry in Arkhangel'sk Province] Lesa i lesnoe khoziaistvo Arkhangel'skoi oblasti. Moskva, Izd-vo Akad.nauk SSSR, 1957. 237 p. (MLRA 10:10)
(Arkhangel'sk Province--Forests and forestry)

POZDNYAKOV, Lev Konstantinovich; GORTINSKIY, Vladimir Iosifovich; GRACHEV, A.P., otv.red.; TIKHOMIROVA, Ye.V., red.izd-va; MAKUNI, Ye.V., tekhn.red.

[Forests and forest resources of southern Yakutia] Lesa i lesnye resursy IUzhnoi IAkutii. Moskva, Izd-vo Akad.nauk SSSR, 1960. 117 p. (MIRA 13:3)
(Yakutia--Forests and forestry)

KLESHCHEVA, Yelena Pavlovna; GORSHKOVA, Yekaterina Alekseyevna; PUCHKOVA, Nina Ivanovna; GRACHEV, A.P., red.; LAUT, V.G., tekhn.red.

[Methods of teaching the subjects of oxides, bases, acids, and salts] Metodika izucheniia okislov, osnovanii, kislot i solei. Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1960. 102 p. (MIRA 13:10)

(Chemistry--Study and teaching)

ZHIDELEV, M.A.; KALASHNIKOV, A.G.; GRACHEV, A.P., red.; ZNAMENSKIY, A.A., red.; SHAPOSHNIKOVA, A.A., red.

[Mechanical engineering in school] Mashinovedenie v shkole. Moskva, Izd-vo APN, 1961. 187 p. (MIRA 17:4)

GRACHEV, A.P., inzh.; SEMENYUK, V.F.

Bilge shores in dry and floating docks. Sudostroenie 30 no.12:52-56 D '64.

Appliances for docking vessels, positioning them and letting them out of the dock. Ibid.:56-59 (MIRA 18:6)

GRACHEV, A.P.; LARYUKHIN, G.A.; MARUKYAN, S.M.; MIRONOV, V.V.; MUKHIN, A.I.; PANASIK, A.V.; PONOMAREVA, Ye.N.; SIMSKIY, A.M.

[Kolkhoz forester's manual] Spravochnik kolkhoznogo lesovoda. Moskva, Lesnaia promyshlennost', 1965. 424 p. (MIRA 18:8)

L 14464-66
ACC NR: AP6002974 (N) SOURCE CODE: UR/0286/65/000/024/0148/0149

INVENTOR: Grachev, A. P.

ORG: none

TITLE: A dock centering device. Class 65, No. 177294

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 148-149

TOPIC TAGS: marine equipment, ship

ABSTRACT: This Author's Certificate introduces a dock centering device made in the form of traction trolleys moved by a winch and cable system. The trolleys are moved along guide rails on the upper inside edge of the dock tower walls. The device may be used for centering one or several ships in the dock either parallel or at an angle to the diametric plane of the dock by using the trolleys on one or both dock towers. Hinged to the trolleys are telescopic struts which are fastened in the working position to the ship by flexible connections.

Card 1/2 UDC: 629.128.6

L 14464-66

ACC NR: AP6002974

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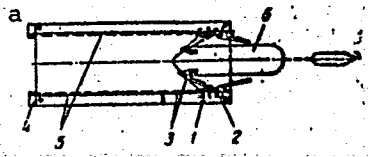
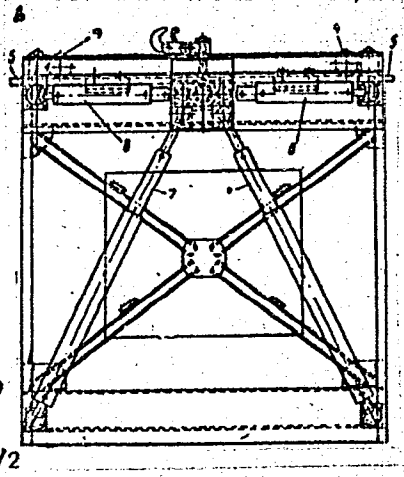
a



1 and 2 - trolleys; 3 - cable; 4 - winch; 5 - guide rails; 6 - ship; 7 and 8 - struts.

б



6C

SUB CODE: 13/ SUBM DATE: 080ct64

Card 2/2

USSR/Diseases of Farm Animals. Diseases Caused by Viruses R-1
and Rickettsiae

Abs Jour : Ref Zhur-Biol., No 1, 1958, 2722

Author : Grachev A. R., Ushmayev N. L.
Inst : Not given
Title : Experiment in Applying Decreased Doses of Glyceric Crystal-Violet Vaccine in Swine Fever

Orig Pub : Veterinariya, 1957, No 2, 28-30

Abstract : In foci which were threatened by swine fever and suspected of it, 310,000 pigs were vaccinated twice with 0.5 milligrams of the vaccine if they were less that two months old and with one milligram of the vaccine if they were older. Sows were not vaccinated a week before they farrowed and five days after farrowing. According to observations, stable immunity occurs

Card 1/2

1. Nachal'nik Veterinarnogo otdela Krasnodarskogo krayevogo upravleniya sel'skogo khozyaystva (for Grachev). Glavnyy veterinarnyy vrach Veterinarnogo otdela Krasnodarskogo krayevogo upravleniya sel'skogo khozyaystva (for Ushmayev).

USSR/Diseases of Farm Animals. Diseases Caused by Viruses and Rickettsiae R-1

Abs Jour : Ref Zhur-Biol., No 1, 1958, 2722

Abstract : during the first ten days after the second introduction of the vaccine. Vaccination, introduced after passive inoculation has taken place, does not create proper immunity.

Card 2/2

BELYANCHIKOV, V.N., inzh.; NOVIKOV, I.V., inzh.; GRACHEV, A.S., inzh.; BELKIN, V.A., inzh.; AKIL'YEV, S.A., inzh.

[Catalog and reference manual on the adaptability of hydraulic and pneumatic systems to excavating, construction, and road machinery] Katalog-spravochnik primeniaemosti gidro- i pnevmosistem na ekskavatorakh, stroitel'nykh i dorozhnykh mashinakh. Moskva, Goslesbumizdat, 1963. 147 p. (MIRA 17:7)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po snabzheniyu i sbytu produktsii tyazhelogo, traktornogo i stroitel'no-dorozhnogo oborudovaniya.

VZNUZDAYEV, N.A.; KAPACHEVSKIY, L.O.; Prinimali uchastiye: LIKHTMAKHER, S.N.; GRACHEV, A.V.; STEFIN, V.V.; DEMBO, A.T.; SHEREMET, B.V.

Hydrophysical properties and water balance of forest soils in the central Kamchatka Valley. Pochvovedenie no.10:30-43 O '61. (MIRA 14:9)

1. Laboratoriya lesovedeniya AN SSSR.
(Kamchatka Valley—Forest soils)

TRET'YAKOV, Andrey Vladimirovich; GRACHEV, Anatoliy Vasil'yevich; ORESHKIN, Pavel Timofeyevich

[Temperature conditions in the operation of rolling mill rolls] Temperaturnyi rezhim raboty valkov prokatnykh stankov. Moskva, Izd-vo "Metallurgiia," 1964. 110 p.
(MIRA 17:6)

ACCESSION NO: AP4013315 S/0032/64/030/002/0234/0235

AUTHORS: Oreshkin, P. T.; Tret'yakov, A. V.; By*kov, S. B.; Grachev, A. V.; Karateyev, A. D.

TITLE: Thermistors for measuring surface temperatures of bodies

SOURCE: Zavodskaya laboratoriya, v. 30, no. 2, 1964, 234-235

TOPIC TAGS: thermistor, surface temperature, thermistor SMI-1, thermistor SMI-2, thermistor ITV-275

ABSTRACT: The working portions of thermistors SMI-1 and SMI-2 represent grains 0.5 x 0.5 x 0.5 mm in size, consisting of 75% CuO and 25% Fe_2O_3. Two opposite surfaces of each grain are coated with silver. In a contactless thermistor SMI-1 two steel wires are soldered to the silvered surfaces; in a contact thermistor SMI-2 one of the leads is a spring and the other a wire. The working parts are coated either with enamel or with lacquer, the former coating serving up to temperatures of 300-350C, the latter up to 80-100C. Preliminary graduating of thermistors was accomplished on a hollow steel roller with a nichrome heating element installed along its axis. Surface temperatures were measured with a thermocouple. Thermistor SMI-1 was enclosed in a textolite cup and fixed on the roller.

Card 1/2

ACCESSION NO: AP4013315

Contactless thermistor ITV-275 was held at 0.75 ± 0.15 mm from the roller. In both cases the temperatures were somewhat lower than those shown by the thermocouple. This difference increased with the distance from the roller, with the speed of revolution of the roller, and with air circulation. However, for continuously fluid-cooled rollers, the contactless and the contact thermistors gave equal readings. Contactless thermistors were found adaptable to stationary conditions. Readings obtained with a contact thermistor SMI-2 varied with the amount of pressure applied to the spring. For a wet roller these readings were similar to those obtained with SMI-1. The contact thermistor was found useful for measuring surface temperatures of ferromagnetic bodies. It provides readings every 5-7 seconds. Orig. art. has: 2 figures.

ASSOCIATION: Sibirskiy metallurgicheskiy institut i Uralmashzavod (Siberian Metallurgical Institute and Uralmashzavod)

SUBMITTED: 00 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: SD NO REF SOV: 002 OTHER: 000

Card 2/2

TRET'YAKOV, A.V., kand.tekhn.nauk; GRACHEV, A.V., inzh.

Investigating methods of stationary measurement of the temperature of rolls on cold rolling mills. Stal' 24 no.2:152-153 F '64. (MIRA 17:9)

1. Nauchno-issledovatel'skiy institut tyazhelogo mashinostroyeniya pri Ural'skom zavode tyazhelogo mashinostroyeniya.

GRACHEV, A.V., dotsent; KORENEVSKIY, S.M., inzh.; SAMGIN, A.N., inzh.; SHCHEKIN, R.V., inzh.; LOBAYEV, B.N., prof., doktor tekhn.nauk, obshchiy red.; PECHKOVSKAYA, O., vedushchiy red.; VUYEK, M., tekhn.red.

[Heating and ventilation of apartment houses of few stories] Teplosnabzhenie i ventiliatsiia maloetazhnykh zhilykh zdanii. Pod red. B.N.Lobaeva. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1954. 238 p. (MIRA 12:3)

1. Deystvitel'nyy chlen Akademii arkhitektury USSR (for Lobayev).
(Heating) (Ventilation)

GRACHEV, A.V., kandidat tekhnicheskikh nauk.

Automatic, two-spindle milling machine. Der.ilesokhim.prom.3 no.1: 6-9 Ja '54. (MLRA 7:2)

1. Leningradskaya ordena Lenina lesotekhnicheskaya akademiya im. S.M.Kirova. (Milling machines)

GRACHEV, A.V.; ATRAN, S.L., red.; FEDOROV, B.M., red. izd-va,; BACHURINA, A.M., tekhn. red.

[Present-day methods of artificially drying wood; "Lumber industry and forestry" pavilion] Sovremennye sposoby iskusstvennoi sushki drevesiny; pavil'on "Lesnaia promyshlennost' i lesnoe khoziaistvo." [Moskva] Goslesbumizdat [1957?] 6 p. (MIRA 11:11)

1. Moscow. Vsesoyuznaya promyshlennaya vystavka.
(Lumber drying)

GRACHEV, A.V., dots.

Automatic conveying of logs to saw frames. Nauch. trudy Len. lesotekh. akad. no.76:103-122 '57. (MIRA 11:4)
(Sawmills) (Conveying machinery)

GRACHEV, Aleksandr Vasil'yevich; OBRAZTSOV, S.A., red.; VOLOKHONSKAYA, L.V., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Mechanization and automatization of labor consuming operations in lumbering] Mekhanizatsiia i avtomatizatsiia trudoemkikh operatsii v lesopil'nom proizvodstve. Moskva, Goslesbumizdat, 1961. 431 p. (MIRA 14:9)

(Automatic control)

GRACHEV, A.V., elektrosvarshchik; SERGIYENKO, N.A., elektrosvarshchik; SMAGORINSKIY, B.S., red.

[Public bureau of technical standards] Obshchestvennoe biuro tekhnicheskogo normirovaniia. Volgograd, Volgogradskoe knizhnoe izd-vo, 1963. 18 p. (MIRA 18:2)

LEVENKO, Petr Ivanovich; KHELEMSKIY, Moisey Aizikovich; ZAKHAROV, M.P., retsenzent; GRACHEV, A.V., red.; SHAPENKOVA, T.A., tekhn. red.

[New technological processes in leather manufacture] Novye tekhnologicheskie protsessy v kozhevennom proizvodstve. Moskva, Rostekhizdat, 1963. 159 p. (MIRA 16:9)
(Leather industry)

TRET'YAKOV, A.V.; GRACHEV, A.V.; KOBELEV, V.

Review of the book by I.M.Meerovich and A.S.Filatov "Force measurement during rolling." Stal' 24 no.7:638 Jl '64.
(MIRA 18:1)

TRET'YAKOV, A.V., kand.tekhn.nauk; GRACHEV, A.V., inzh.; TOKMAKOV, A.A., inzh.; OVODENKO, M.B., inzh.; KONOVALOV, P.G., inzh.

Redesigning the cooling system of the 2800 mill. Sbor. st. NIITIAZHMASHa Uralmashzavoda no.6:156-160 '65.

(MIRA 18:11)

GORENSHTEYN, M.M., dotsent, kand. tekhn. nauk; TRET'YAKOV, A.V., kand. tekhn. nauk; GARBER, E.A., inzh.; GRACHEV, A.V., inzh.

Temperature conditions of the service of rolls on three-high sheet rolling mills. Stal' 25 no.8:841-842 S '65. (MIRA 18:9)

1. Zhdanovskiy metallurgicheskiy institut (for Gorenshteyn).

TRET'YAKOV, A.V., kand.tekhn.nauk; GRACHEV, A.V., inzh.

Perfecting a device to measure the rolling pressure of metal on the rolls. Sbor. st. NIITIAZHMASHa Uralmashzavoda no.6:165-169 '65. (MIRA 18:11)

TRET'YAKOV, A.V., kand.tekhn.nauk; GRACHEV, A.V., inzh.

Equipment of cold rolling mills. Sbor. st. NIITIAZHMASH Uralmashzavoda no.6:170-185 '65.

(MIRA 18:11)

GRACHEV, B.

A first-class exercise is a practical situation. Voen. znan. 41 no.1:27 Ja '65. (MIRA 18:2)

GRACHEV, B. (Kaunas)

In ordinary house management. Voen.znan. 41 no.11:20 N '65. (MIRA 18:12)

SHISHKIN, O.P.; GRACHEV, B.A.

Theory of an a.c. galvanic communication channel with well bottoms. Izv. vys. ucheb. zav.; neft' i gaz 5 no.6:93-96 '62. (MIRA 16:5)

1. Groznenskiy neftyanoy institut i Groznenskiy filial Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.
(Signals and signaling)

SHISHKIN, O.P.; GRACHEV, B.A.

Possibilities of creating a communication channel through pipes in a well. Izv. vys. ucheb. zav.; neft' i gaz 5 no.7: 95-99 '62. (MIRA 16:7)

1. Groznenskiy neftyanoy institut i Groznenskiy filial Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.
(Signals and signaling)

SHISHKIN, O.P.; GRACHEV, B.A.; LEONOV, A.I.

Power of a signaling device using drill pipe as a galvanic circuit. Izv. vys. ucheb. zav.; neft' i gaz 6 no.2:93-97 '63. (MIRA 16:5)

1. Groznenskiy neftyanoy institut i Groznenskiy filial Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.
(Oil wells--Equipment and supplies)

GRACHEV, B.A. (Groznyy); LEONOV, A.I. (Groznyy)

Relaying of signals using a drilling string as a communication channel with the well bottom. Avtom. i telem. 24 no.5: 692-695 My '63. (MIRA 16:6)

(Telemetering) (Remote control)
(Boring)

GRACHEV, B.A.; YURIN, Yu.N.

EBT-1 electric wireless turbotachometer. Burenie no.4:5-9 '64.
(MIRA 18:5)

1. Groznenskiy filial Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.

GRACHEV, B.A.; YURIN, Yu.N.; AKNIYEV, G.E.; DUMCHIKOV, G.K.; KUCHUGUROV, V.F.; BATAL'SHCHIKOV, M.V.

EBT-1 pipe tachometer has passed plant tests. Izv. vys. ucheb. zav.; neft' i gaz 7 no.3:112 '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.

GRACHEV, B.A.

Automatic control of the rotation speed of a turbodrill shaft.
Neft. khoz. 42 no.6:8-11 Je '64. (MIRA 17:8)

L 04421-67 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/GG/AT
ACC NR: AP6034266 SOURCE CODE: UR/0386/66/004/007/0241/0243

AUTHOR: Grachev, B. D.; Komar, A. P.; Korobochko, Yu. S.; Mineyev, V. I.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Electron focusing in thin single-crystal copper films

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, No. 7, 1966, 241-243

TOPIC TAGS: fiber crystal, copper whisker, electron optics, electron reflection, electron diffraction analysis

ABSTRACT: To check on the possible focusing of electrons passing through a single crystal, in analogy with the already observed focusing of protons by chains of atoms in a crystal, the authors investigated the yield of K radiation from a thin (400 - 600 Å) single-crystal film of copper bombarded with 20 - 60 kev electrons. The measurements were by an electron diffraction technique, with the film secured on a rotary device which made it possible to set its inclination relative to the electron beam accurate to < 0.5°. The alignment of the beam direction with the principal crystallographic axes was determined from the electron-diffraction pattern. The copper L photons were counted with a proportional counter whose entrance window was set at an angle of 80° relative to the electron-beam direction in the plane defined by the beam axis and the film rotation axis. The range of photon energies corresponding to the

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ACC NR: AP6034266

copper K radiation was separated with a single-channel pulse-height analyzer. The number of electrons scattered through 80° exceeded by a factor 100 - 1000 the number of photons entering the counter. Plots of the copper K-radiation and of the number of electrons scattered through 80° vs. the angle of film rotation exhibited peaks corresponding to the direction of motion of the primary electrons along the crystal axes and revealed a relative increase in the K-radiation yield of 15 - 20%, as against ~50% in the case of protons. The difference is attributed to the stronger scattering of the electrons in the substance, and in part also to the mosaic structure of the film. It is proposed that the difference between the electron and proton motions is caused also by the fact that as the protons move through the channel they execute a certain number of oscillations during their travel, whereas for the electrons ordered motion takes place probably only during the first quarter of the oscillation, after which the electron is scattered through a large angle. It is possible that this circumstance plays a certain role in the nonmonotonic angular dependence of the yield of secondary electrons from MgO and Ti single crystals, as observed elsewhere. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 04Jun66/ ORIG REF: 001/ OTH REF: 003

awm

Card 2/2

26208
S/106/60/000/002/009/009
A055/A133

9,4340

AUTHOR: Grachev, B. F.

TITLE: Temperature autocompensation of germanium-diode detector voltmeters.

PERIODICAL: Elektrosvyaz', no. 2, 1960, 74 - 76

TEXT: The formulae to determine the magnitude of the parameters R_d and R_1 of the crystal-diode voltmeter at which termocompensation takes place are derived from the equations:

$$\begin{cases} u = R_d i + 2u_{for} + i_1 R_1 \\ i = i_{for} + i_{rev} \\ i_{for} = i_1 + i_{rev} \end{cases}$$

After transformations, the following equation system is obtained for two different temperatures t_1 and t_2:

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Temperature autocompensation of .....

$$(\bar{I}_{11} + 2\bar{I}_{rev1})\, R_d + \bar{I}_{11} R_1 = \bar{u} - 2\bar{u}_{for1}$$

$$(\bar{I}_{12} + 2\bar{I}_{rev2})\, R_d + \bar{I}_{12} R_1 = \bar{u} - 2\bar{u}_{for2}$$

Solving these equations and taking into account the fact that the thermocompensation conditions is $\bar{I}_1 = \bar{I}_{11} = \bar{I}_{12}$, we obtain:

$$R_d = \frac{\bar{u}_{for1} - \bar{u}_{for2}}{\bar{I}_{rev2} - \bar{I}_{rev1}} \qquad (1)$$

and

$$R_1 = \frac{\bar{u}}{\bar{I}_1} - R_d - \frac{2}{\bar{I}_1} \cdot \frac{\bar{u}_{for1}\bar{I}_{rev2} - \bar{u}_{for2}\bar{I}_{rev1}}{\bar{I}_{rev2} - \bar{I}_{rev1}} \qquad (2)$$

These formulae give the optimum magnitudes of R_d and R_1 at which thermocompensation takes place for t_1 and t_2, but not within the interval $[t_1 \div t_2]$. The difference is small, however, if this interval is small. If the interval is large, it is practically sufficient to find the optimum magnitude of R_d and R_1 for every 10°C. There are two methods for calculating R_d and R_1 according to formulae

Card 2/4

Temperature autocompensation of ....

(1) and (2). The first method uses approximated voltampere characteristics of diodes. Linear approximation is used for the forward current, whereas the volt--ampere characteristics of germanium-diode reverse currents can be approximated, within a wide voltage-range, by a segment of a straight line parallel to the voltage axis. The calculation of R_d and R_1 is easy, and formulae (1) and (2) take the following form:

$$R_d = \frac{U_{for1} - U_{for2}}{I_{rev2} - I_{rev1}} \qquad (3)$$

and

$$R_1 = \frac{2U}{JI_1} - R_d - \frac{2}{I_1} \frac{U_{for1} I_{rev2} - U_{for2} I_{rev1}}{I_{rev2} - I_{rev1}} \qquad (4)$$

An experimental calculation of the optimum mangitudes of R_d and R_1 is also easy. The second method of calculating R_d and R_1 according to (1) and (2) consists in an experimental determination of the parameters contained in these formulae with the aid of a pulsating current. This method gives more accurate results, inas-

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Temperature autocomposation of ....

much as it permits direct determination of averaged magnitudes. There are 4 figures, 3 tables and 1 Soviet-bloc reference.

SUBMITTED: August 6, 1959.

[Abstracter's note: The following subscripts are translated in the text and formulae: d stands for ∂ ; l(load) stands for H ; for (forward) stands for ηp ; rev (reverse) stands for $_0\delta_p$.]

Card 4/4

GRACHEV, B.K.

Automatization of continuous processes of cooking and sacharification. Spirt.prom. 26 no.2:24-26 '60. (MIRA 13:6)
(Lipetsk--Distilleries--Equipment and supplies)
(Automatic control)

GRYAZNOV, V.P.; BOGDANOV, Yu.P.; RZHECHITSKAYA, G.V.; TERNOVSKIY, N.S.; GRACHEV, B.K. [deceased] MERKIN, V.G.; POLEVAYA, K.G.; AKIMENKO, I.S.

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1. Tsentral'nyy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti (for Gryaznov, Bogdanov, Rzhechitskaya, Ternovskiy). 2. Lipetskiy spirtovoy zavod (for Grachev, Merkin, Polevaya, Akimenko).