L 24360-66 EWT(m)/EWP(w)/EPF(n)-2/T/EWP(t) IJP(c) JD/GG

ACC NR: AP6008119 SOURCE CODE: UR/0139/66/000/001/0190/0191

AUTHORS: Krivov, M. A.; Potakhova, G. I.; Rybkina, L. P.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Siberskiy fiziko-tekhnicheskiy institut)

TITLE: On the influence of gamma radiation on the microhardness of silicon

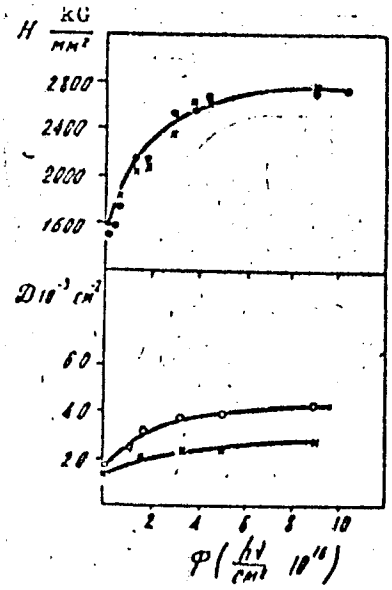
SOURCE: IVUZ. Fizika, no. 1, 1966, 190-191

TOPIC TAGS: silicon, hardness, gamma irradiation, crystal dislocation, carrier density, Hall effect, crystal defect

ABSTRACT: The authors have measured the microhardness of n- and p-type silicon before and after exposure to different doses of γ radiation. Since γ radiation can produce additional dislocations and change the carrier density, which in turn influences the microhardness, these quantities were also measured simultaneously with the microhardness. The samples of each type used for all the investigations were cut from a single plate. In all cases the microhardness

Card 1/3

L 24360-66
ACC NR: AP6008119



Figures 1 and 2. Microhardness (H) and dislocation density (V) against the integral γ-quantum flux (φ).

increased with increasing radiation dose (Fig. 1). The change in microhardness can be attributed to three causes -- change in carrier density, appearance of displaced atoms, and change in dislocation density. Hall-effect measurements have shown that the change in carrier density does not exceed 6 -- 8% and is comparable with the measurement error. The displaced-atom density increases in accordance with theory in proportion to the integral γ-quantum flux, and the

Card 2/3

L 24360-66
ACC NR: AP6008119

change in the dislocation density is shown in the figure. It is therefore concluded that the increase in microhardness is due to the increased number of defects in the structure, caused by a simultaneous increase in the dislocation density and the appearance of a large number of displaced atoms. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 18Dec64/ ORIG REF: 012/ OTH REF: 003

Card 3/3

L 02967-67 EWT(l)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6032547 SOURCE CODE: UR/0139/66/000/004/0084/0087

AUTHOR: Krivov, M. A.; Malyanov, S. V.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Effect of x-ray radiation on the electrophysical properties of germanium and germanium p-n junctions. II. Electrophysical properties of germanium irradiated by hard x-rays

SOURCE: IVUZ. Fizika, no. 4, 1966, 84-87

TOPIC TAGS: germanium, radiation source, ~~germanium property, germanium electrophysical property, x-ray irradiated germanium, irradiated germanium, irradiated germanium property~~, pn junction, x-ray irradiation, irradiation

ABSTRACT: An experimental investigation was made of the effect of hard x-radiation on the properties of low- and high-resistance n- and p-type germanium. An RUP-200 industrial x-ray installation was used as the radiation source. The dependence of conductivity, concentration, and mobility of current carriers on the absorbed dose of radiation was measured at source energies ranging from 90 to 180 kv and 1.5 to 4 ma. The absorption coefficient of the x-ray was calculated by the method derived from E. Segre (Experimental Nuclear Physics, in Russian translation: Eksperimental'naya yadernaya fizika, 1, IL, 1961). The most interesting results were obtained at the maximum x-ray tube voltage(λ = 0.138 Å), since the absorption under these circumstances

Card 1/3

remained low (8.5 cm^{-1}), extending the effects into the depth of the material and changing sharply the photoelectrically activated surplus carriers which lead to the occurrence of low-level excitation ($\Delta n(\Delta p) << n_o + p_o$). The measurement data revealed that the dependence curves of conductivity, concentration, and mobility of current carriers on the dose of absorbed radiation are analogous to those observed under soft x-ray radiation for both low- and high-resistance n- and p-type specimens (Izvestiya vysshikh uchebnykh zavedeniy SSSR, Fizika, no. 4, 1965, 156). An analysis of cases of low-level excitation, described by equations $\Delta n = \Delta n_{st}(1 - e^{-ct})$ for irradiation and $\Delta n = \Delta n_{st} e^{-ct}$ for relaxation (Δn — photoelectric increment of surplus carrier concentration from x-rays, Δn_{st} — stationary value of the same increment, t — irradiation time or relaxation time) is presented, under the assumption that the parameter $c = 1/\tau_{rel}$ (τ_{rel} — relaxation lifetime of carriers under impact recombination). The values of both $\lg(1 - n/\Delta n_{st})$ and $\lg(\Delta n/\Delta n_{st})$, plotted versus time in semi-logarithmic coordinates, show that experimental points lie on a straight line with a slope tangent equal to the parameter c. In the case of irradiation, the curve deviates upward after about 220 minutes, when the surplus carrier concentration reaches its stationary value, after which the curve follows a different law, the investigation of which is considered "very difficult at the present time." The tabulated values of c and τ_{rel} were shown to be of the same order for all specimens. A certain scattering in coefficient values can be attributed to structural imperfections or the presence of unidentified impurities in the specimens. The dependence of relaxation curves of surplus concentrations on the content of impurities and structural defects will be taken

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826610012-5"

L 02967-67
ACC NR: AP6032547

up in forthcoming investigations. Orig. art. has: 4 figures, 4 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 15Dec64/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 5099

Card 3/3

ACC NR: AT6032549 SOURCE CODE: UR/0139/66/000/004/0118/0121

AUTHOR: Krivov, M. A.; Malyanov, S. V.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Influence of x rays on germanium and germanium p-n junctions. III. Effect of x rays on germanium p-n junctions

SOURCE: IVUZ. Fizika, no. 4, 1966, 118-121

TOPIC TAGS: x ray irradiation, germanium semiconductor, pn junction, junction diode, volt ampere characteristic, minority carrier, carrier density, germanium diode

ABSTRACT: The first two parts were published in Ixv. vuzov SSSR, Fizika, no. 4, 156, 1965 and no. 4, 1966. The present paper is devoted to an investigation of the influence of x rays on p-n junctions of commercial germanium diodes type D7Zh and D1602V, and also laboratory-produced germanium p-n junctions. To eliminate the additional photoeffect, all the investigations were made in a dark room and the junctions were wrapped in black paper. The experiments have shown that the x rays cause the inverse branch of the volt-ampere characteristic to change noticeably. The photoelectric increment of the inverse current is independent of the resistivity of the base and is determined by the parameters of the incident x rays. Its increase can be attributed to the increase of the minority-carrier density by the x rays. The dependence of the current on the absorbed incident dose is similar to the relaxation curves previously observed in the carrier density of x-rayed germanium. The forward branch of the volt-

ACC NR: AP6032549

ampere characteristics of germanium p-n junctions is not noticeably altered by the x rays. Whatever changes occur are connected with the change in the mobility of the carriers under the influence of the x radiation. The tests have also shown that the forward current depends on the specific resistivity of the base, which is also altered slightly by the exposure to x rays. The forward current decreases with the absorbed dose when the ratio of the thickness of the base to the diffusion length is small, and increases with the absorbed dose when this ratio is large. The changes in the forward and inverse currents have a strong effect on the rectification coefficient, which decreases strongly with increasing dose. Orig. art. has: 5 figures and 7 formulas.

SUB CODE: 20/ SUBM DATE: 08Apr65/ ORIG REF: 006

Card 2/2

ACC NR: AP7000573 SOURCE CODE: UR/0139/66/000/006/0055/0061

AUTHOR: Krivov, M. A.; Potakhova, G. I.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Effect of x-ray irradiation on the electrophysical properties of silicon and p-n-type silicon junctions Part I Electrophysical parameters of silicon exposed to x-ray irradiation.

SOURCE: IVUZ, Fizika, no. 6, 1966, 55-61

TOPIC TAGS: pn silicon, pn junction, pn conductivity, silicon, silicon single crystal

ABSTRACT: This study presents the results of an investigation of the effect of x-ray irradiation on conductivity, concentration of charge carriers, and their mobility in a single silicon crystal with p-n type conductivity. It is shown that the changes in parameters, caused from x-ray irradiation, depend on irradiation intensity and similarity in p and n-type silicon. The changes in charge carrier

Card 1/2

ACC NR: AP7005731

concentration are described by an equation of linear recombination. Orig. art. has: 6 figures, 6 formulas, and 1 table. [Authors' abstract] [WA-095] [NT]

SUB CODE: 20/SUBM DATE: 18Jun65/ORIG REF: 014/OTH REF: 002/

Card 2/2

ACC NR: AP7005738 SOURCE CODE: UR/0139/66/000/006/0135/0136

AUTHOR: Krivov, M. A.; Malyanov, S. V.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetshov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Effect of x-ray and electron emission on gallium arsenide p-n junctions

SOURCE: IVUZ. Fizika, no. 6, 1966, 135-136

TOPIC TAGS: ~~semiconductor device~~, semiconductor diode, semiconductor research, gallium arsenide, pn junction

ABSTRACT:

A study was made of the effect of x-ray and electron emission on the volt-ampere characteristics of gallium arsenide p-n junctions with the initial concentration of the current carriers of ~4 x 10^{15} cm^{-3} and mobility of 3500 $cm^2/V \cdot sec$. The irradiation of the p-n junctions was accomplished using x-rays and electrons with energies of 90 Kev and 6.5 Mev respectively. On the basis of the results obtained the following was established: 1) direct and reverse currents in p-n junctions are increased owing to the appearance of non-equilibrium current carriers during x-ray irradiation. Because of imperfections in gallium arsenide crystals, the speed of the recombination of

Card 1/2 UDC: none

ACC NR: AP7005738

current carriers was sufficiently high, and the observed changes of characteristics during irradiation were much smaller than changes during the irradiation of germanium and silicon diodes. the coefficient of rectification of p-n junctions during irradiation varies by as much as 40% from the initial value. 2) The reverse current of p-n junction irradiated by electrons increase sharply in the pre-breakdown voltage regions, and the breakdown voltage is decreased. This reverse branch of the characteristic can be explained by the development of radiation defects in the p-n region of the junction. It is concluded that the gallium arsenide p-n junctions are stable during irradiation by x-rays and fast electrons. The coefficient of rectification of irradiated electrons of the p-n junction decreases as the radiation dose increases. It decreases by 10% when the integral electron flux is ~1.5 x 10^{16} cm^{-2}. Orig. art. has: 3 figures. [GS]

SUB CODE: 20/ 09/ SUBM DATE: 1Jun66/ ORIG REF: 005/ ATD PRESS: 5117

Card 2/2

GALAKTIONOV, A.A.; SERGEYEVA, Z.V.; KURICHENKO, V.A.; RESHETNIKOVA, L.V.; POGULYAYLO, Z.K.; SUVOROV, V.S.; KRIVOV, M.D.; RASTATUYEV, V.A.; FEDOROVA, Yu.A., red.; SAYTANIDI, L.D., tekhn. red.

[Collection of technologically gronded production norms for mechanized farm work done in shifts]Sbornik tekhnicheski obosnovannykh normativov smennoi proizvoditel'nosti na sel'skokhoziaistvennye mekhanizirovannye raboty. Moskva, Izd-vo MSKh RSFSR, 1962. 231 p. (MIRA 15:9)

1. Russia (1917- R.S.F.S.R.)Ministerstvo sel'skogo khozyaystva. TSentral'naya zonal'naya normativno-issledovatel'skaya stantsiya. 2. TSentral'naya zonal'naya normativno-issledovatel'skaya stantsiya (for all except Fedorova, Saytanidi).

(Agricultural machinery--Production standards)

KRIVOV, M.P.

Increasing the reliability and the lifetime of turbodrills. Mash. i neft. obor. no.8:36-38 '64. (MIRA 17:11)

1. Permskiy mashinostroitel'nyy zavod im. V.I. Lenina.

9(2) SOV/107-59-4-23/45

AUTHOR: Krivov, N., Kursk

TITLE: Using an Avometer for Tuning Acoustic Systems (Ispol'zovaniye avometra dlya naladki akusticheskikh sistem)

PERIODICAL: Radio, 1959, Nr 4, p 30 (USSR)

ABSTRACT: The author suggests the application of an avometer for phasing loudspeakers in acoustic systems. The terminals of an avometer are connected to the terminals of an avometer are connected to the terminals of the loudspeaker coil. When the diffusor of the loudspeaker is moved, the needle of the instrument will be deflected right or left, indicating the polarity.

Card 1/1

KRIVOV, N.V.

BONDARENKO, S.A.; DONDAREVSKIY, S.N.; KHILIN, M.S.; KATS, Ye.A. (g. Kuybyshev); KRIVOV, N.V. (Stalinskaya oblast'); MULTANOVSKIY, V.V.

Teachers' letters on a physics textbook. Fiz. v shkole 17 no.3: 76-77 My-Je '57. (MLRA 10:6)

1. 5-ya srednyaya shkola, g. Kamensk-Shakhtinskiy (for Bondarenko). 2.10ya srednyaya shkola, st. Kiyev (for Bondarevskiy). 3. 1-ya srednyaya shkola, Belgorodskyaya oblast', g. Gubkin (for Khilin). 4.1-ya Belokholunitskaya srednyaya shkola Kirovskoy oblasti (for Multanovskiy).

(Physics--Textbooks)

KRIVOV, V.A., i BELEN'KIY, P.G.

Using DEM electric detonators in the Novomoskovskiy gypsum mine. Vzryv. delo no.48/5:27-33 '62. (MIRA 15:9)

1. Proizvodstvenno-eksperimental'noye upravleniye tresta Soyuzvzryvprom.

(Detonators) (Gypsum)

KRIVOV, V.D.

Exostosis obstructing the external acoustic meatus associated with acute suppurative otitis media. Vest. otorin. 25 no.5:91 S-O '63. (MIRA 17:4)

S/020/62/145/003/003/013
B172/B112

AUTHOR: Krivov, V. V.

TITLE: Extremal quasiconformal mappings in space

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 3, 1962, 516-518

TEXT: According to B. V. Shabat (DAN, 130, no. 6 (1960)) a homeomorphic mapping of a spatial domain is called (Q_1, Q_2)-quasiconformal if its functional determinant is everywhere positive and if its linear main part maps a sphere into an ellipsoid in each point of the domain, the ratio between the large (or medium) and the small axis being bounded by Q_1 or Q_2 as the case may be. A quasiconformal mapping is called extremal if the corresponding product $Q_1 Q_2$ is minimal. The treatment is limited mainly to cylindrical domains and various theorems are proved, such as one stating that an extremal mapping has the form

$$u = u(x,y),\ v = v(x,y),\ w = Cz \quad (C = \text{const.})$$

and that the functional determinant of an extremal mapping is constant.

Card 1/2

S/020/62/145/003/003/013
Extremal quasiconformal mappings ... B172/B112

PRESENTED: February 26, 1962, by M. A. Lavrent'yev, Academician

SUBMITTED: February 8, 1962

Card 2/2

KRIVOV, V.V.

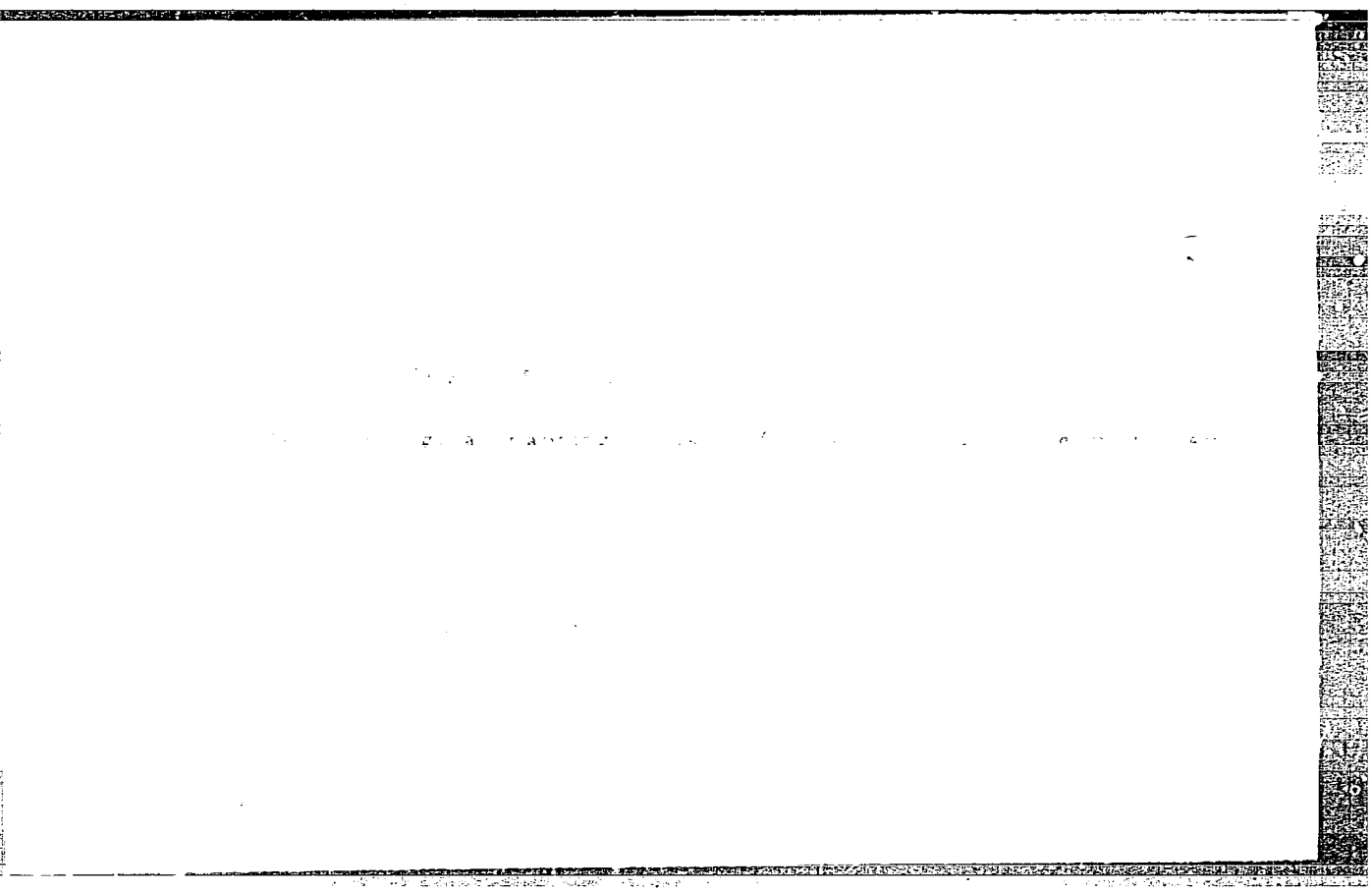
Some properties of moduli in space. Dokl. AN SSSR 154 no. 3: 510-513 Ja '64. (MIRA 17:5)

1. Moskovskiy lesotekhnicheskiy institut. Predstavleno akademikom M.A.Lavrent'yevym.

[redacted], V.V.

Local extremal mappings in a space. Dokl. AN SSSR 155 no.1:38-40 Mr '64. (MIRA 17:4)

1. Moskovskiy gosudaratvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom M.A.Lavrent'yevym.



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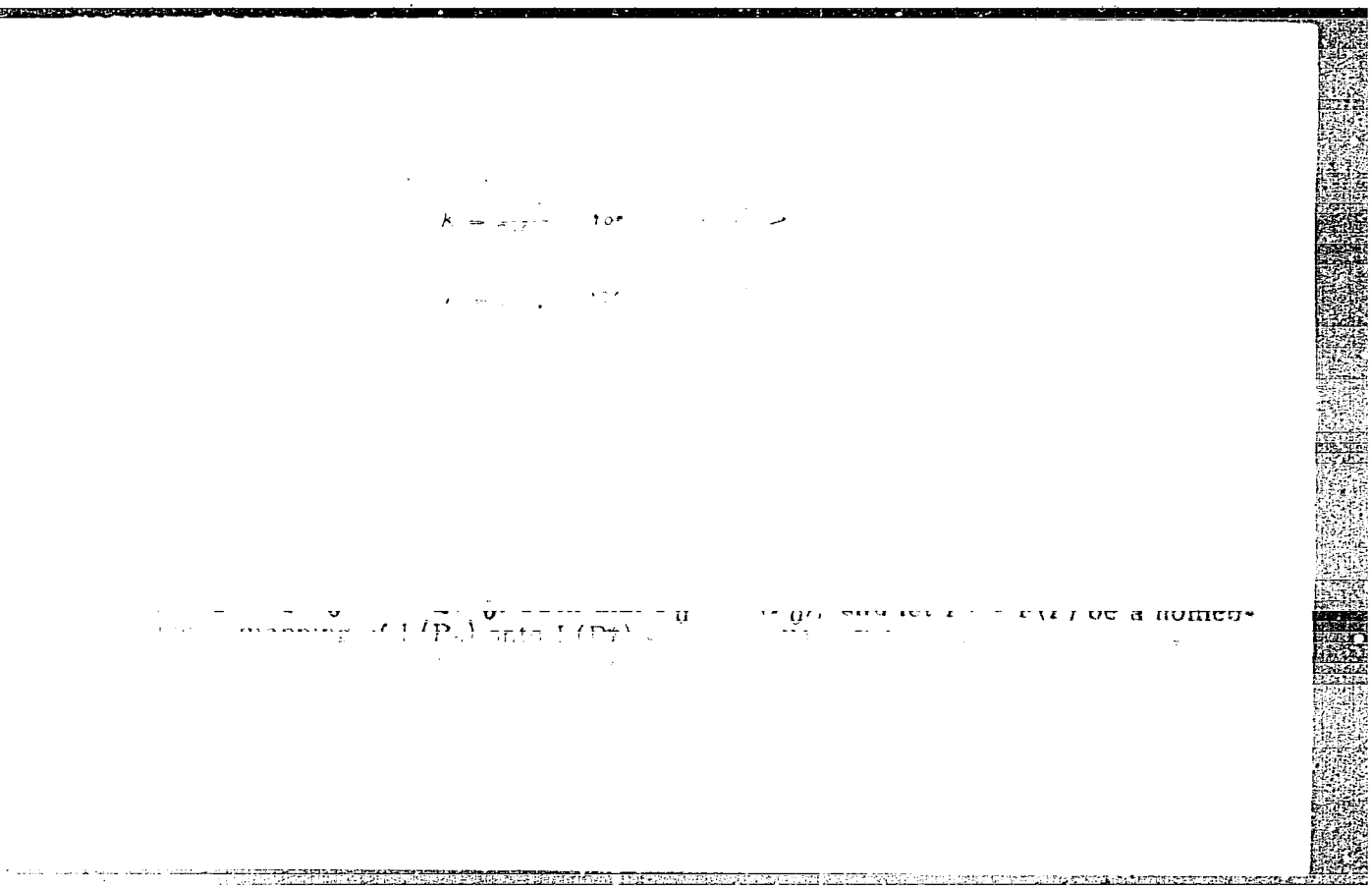


AFFILIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University)

ACC NR: AR6035422 SOURCE CODE: UR/0137/66/000/009/E043/E043

AUTHOR: Krivov, V. V.; Fal'kov, A. I.; Manakov, A. I.

TITLE: Contact roller welding of thin sheets of the alloy AMG-6N using commercial type MShN-25M machines

SOURCE: Ref. zh. Metallurgiya, Abs. 9E296

REF. SOURCE: Tr. Kurganskogo mashinostroit. in-ta, vyp. 2, 1966, 74-80

TOPIC TAGS: pressure welding, automatic welding, sheet metal, ignitron/AMG-6N alloy

ABSTRACT: The possibility of roller welding thin-sheet structures of the AMG-6N alloy is disclosed, and some of its features are discussed. Sheets of this alloy, of 0.3 mm thickness, were successfully welded with an ordinary low-power roller machine (25 kva) using an ignitron timer; some individual units of the machine had to be slightly modified. Certain structures made of thin-sheet AMG-6N alloy by roller welding can operate at differential pressures up to 1.0 — 1.5 atm. M. Frolova.

SUB CODE: 13, 11

Card 1/1 UDC: 621.791.763.3:669.715

AL'BITSKAYA, Ye.F.; KRIVOVA, A.A.

Influence of single doses of ultraviolet irradiation on the higher nervous activity of animals. Zhur. vys. nerv. deiat. 11 no.4:759-762 Jl-Ag '61. (MIRA 15:2)

1. Chair of Labour Hygiene, Medical Institute, Kharkov.
(NERVOUS SYSTEM) (ULTRAVIOLET RAYS--PHYSIOLOGICAL EFFECT)
(CONDITIONED RESPONSE)

KRIVOVA, A.A.; MADIYEVSKIY, Yu.M.

Heat resistance of rabbit blood serum during continuous and non-continuous ultraviolet irradiation. Vop. med. khim. 9 no.5:463-469 S-O '63. (MIRA 17:1)

1. Kafedra gigiyeny trudy Khar'kovskogo meditsinskogo instituta.

L 14968-63 EWT(1)/BDS/ES(a)/ES(b)/ES(c)/ES(k) AMD/AFFTC Pb-4
AR/K

ACCESSION NR: AP3003603 S/0247/63/013/003/0565/0571

AUTHOR: Al'bitskaya, Ye. F.; Krivova, A. A. 62 61

TITLE: Effect of repeated ultraviolet radiation on the higher nervous activity of white rats

SOURCE: Zhurnal vy*sshey nervnoy deyatel'nosti, v. 13, no. 3, 1963, 565-571

TOPIC TAGS: ultraviolet radiation, repeated dose , nervous system, conditioned reflex

ABSTRACT: Earlier studies revealed that single dose ultraviolet irradiation affects conditioned reflexes. Exactly this type of irradiation is used in medical treatment, which is why the effect of repeated ultraviolet irradiation on the higher nervous system is of particular interest. The motor-food conditioned reflex method (as developed by L. I. Kotlyarevskiy) was applied to the study of 45 male rats. The ultraviolet radiation source was a PRK-4 mercury-quartz tube with a 290-340 millimicron wave length. The skin of the rats' paws was irradiated in cycles of small 0.5, 0.1, and 0.05 biodoses and in large hypererythemic doses of 10, 5, and 1 biodoses

Card 1/3

L 14968-63
ACCESSION NR: AP3003603 O

in 5 to 6 exposure periods. The latent period and conditioned reflex values recorded on an electrokymograph served as an index to the responses. Conditioned reflex activity was studied before irradiation and 1, 6, 24, and 48 hrs after irradiation. Results show that a repeated 0.05 biodose improves the tone of the cerebral cortex, 0.1 biodose causes a temporary weakening of the excitatory process, and a 0.5 biodose has a certain inhibiting effect on the conditioned reflex activity expressed by a longer latent period and a decrease in the conditioned reflex value. 1.0 and 5.0 repeated biodoses produce similar changes in the higher nervous activity state which are characterized by fluctuation of positive conditioned reflex values, longer latent period, and in some cases weakened differentiation. Hypererythemic doses (on the order of 10 biodoses) sharply inhibit conditioned reflex activity apparently as a result of protective inhibition. In some cases complete inhibition of the unconditioned food reflex takes place. There is no evidence that the effect of ultraviolet irradiation on conditioned reflex activity is dependent on nervous system type. The authors suggest that the products formed by ultraviolet irradiation in the skin may stimulate not only the receptors but also the nerve centers. No other conclusions are drawn.

Card 2/3

L 14968-63
ACCESSION NR: AP3003603

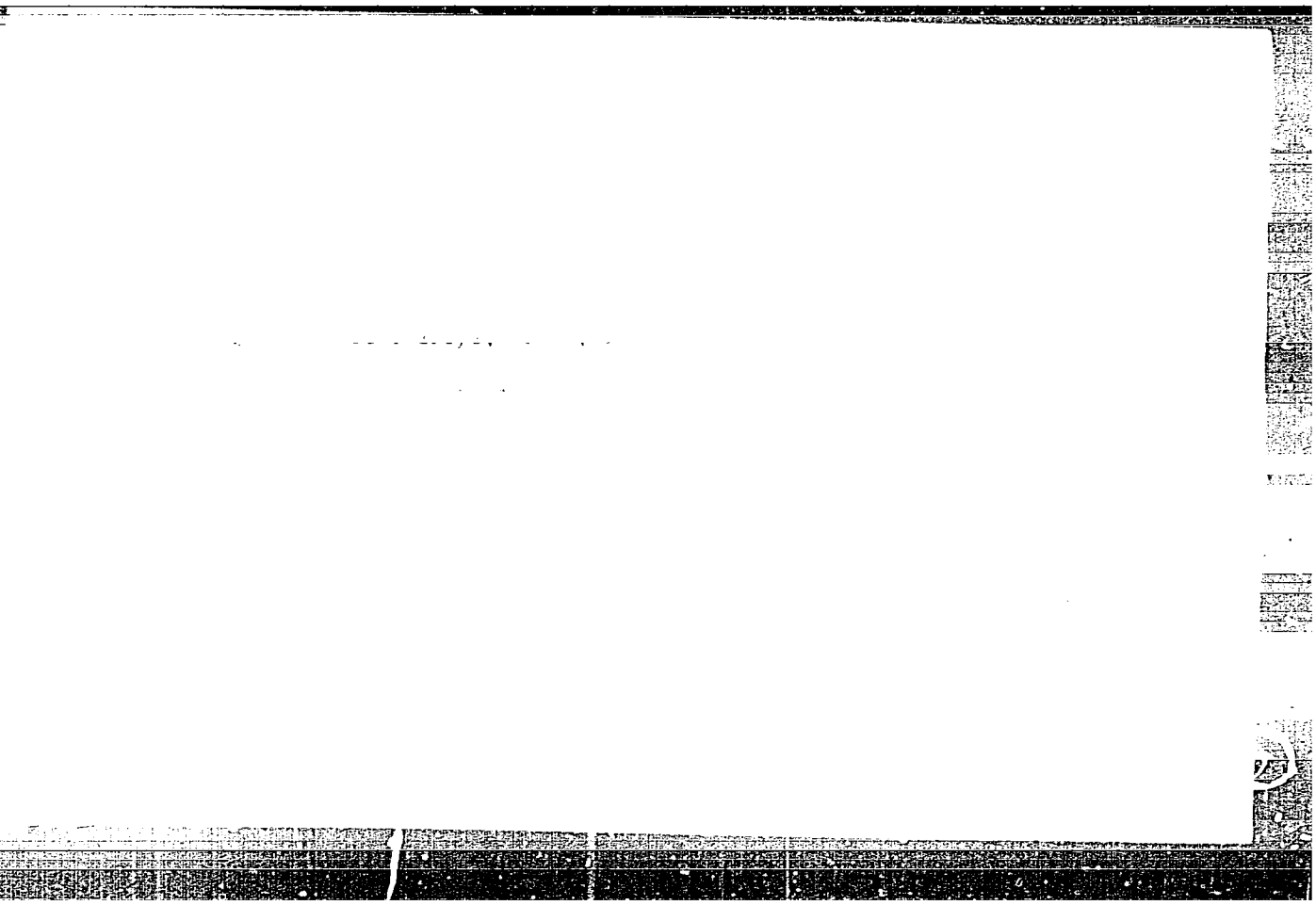
Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Kafedra gigiyeny* truda Khar'kovskogo meditsinskogo instituta (Department of Labor Hygiene of the Kharkov Medical Institute)

SUBMITTED: 31Jul62 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: AM NO REF SOV: 006 OTHER: 000

Card 3/3



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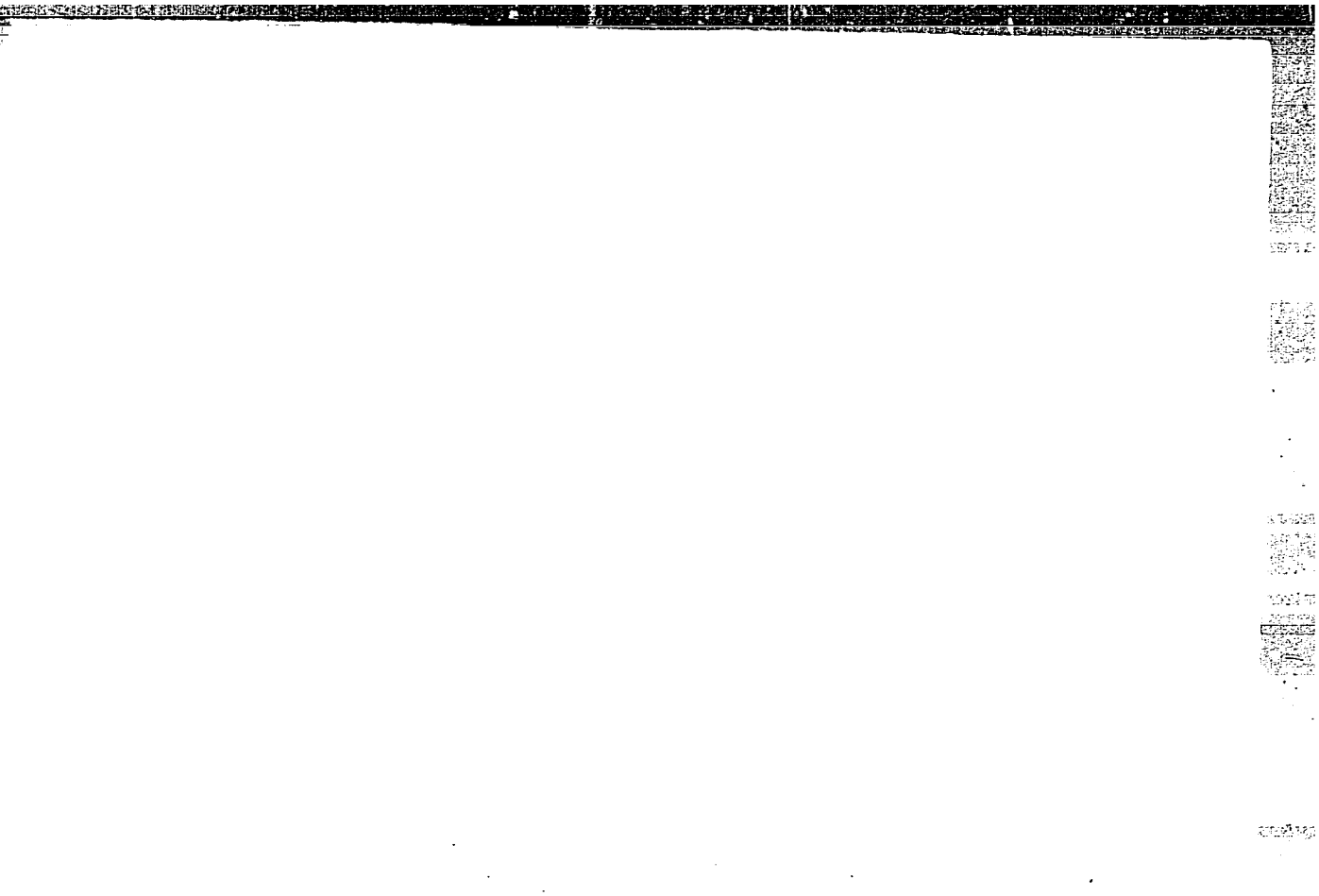

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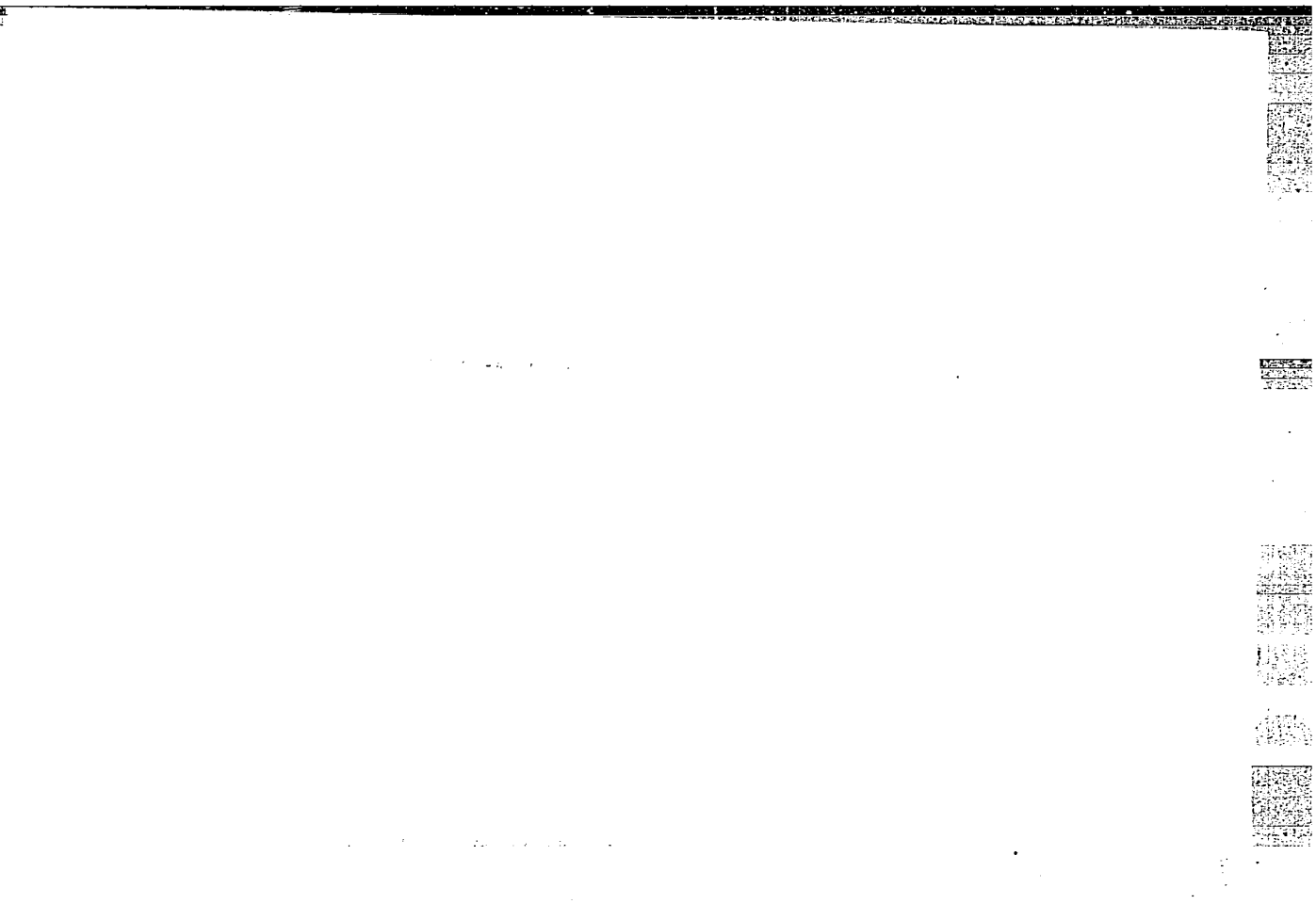
[redacted]

[redacted] network

[redacted] recording, storing, and reading information. The network consists of [redacted] neurons whose [redacted]



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GUTIN,S.S.; KRIVOVA,M.A.

Scientific conference of the Siberian Physical-Technical Institute
Zhur.tekh.fiz.25 no.7:1332-1334 Jl'55. (MLRA 8:10)
(Tomsk--Physics--Congresses)

ARTEMOV, D.M.; HUDENKO, P.A.; BOYARIN, B.Ya.; KURTSEV, V.V.; VOLODINA, M.A.; KRIVOVAYA, V.I.; KOROLEV, I.V.; BUDNIKOVA, Z.M.; METAL'NIKOVA, A.L.; AFANAS'YEV, S.P., red.; GUDKOVA, N., red.; YAKOVLEVA, Ye., tekhn. red.

[Economy of Moscow Province; a statistical manual] Narodnoe khoziaistvo Moskovskoi oblasti; statisticheskii sbornik. [Moskva] Mosk. rabochii, 1958. 270 p. (MIRA 11:9)

1. Moscow (Province). Oblastnoye statisticheskoye upravleniye.
2. Nachal'nik Moskovskogo oblastnogo statisticheskogo upravleniya (for Afanas'yev).
(Moscow Province--Economic conditions--Statistics)

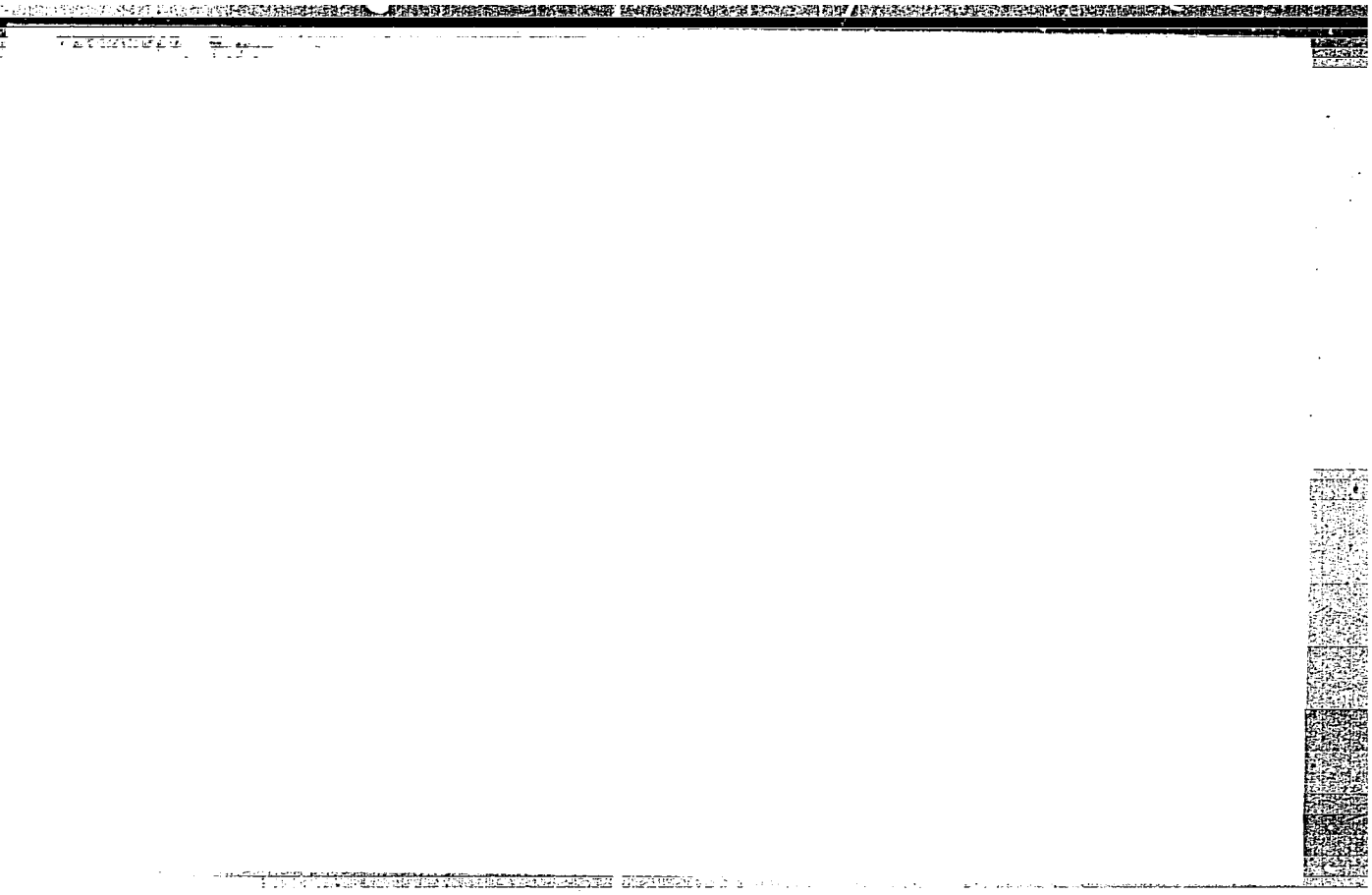
KRIVOVIAZ, S. M.; MATEV, Tsvetan

Determination of the furrow irrigation technique.
Selskostop. nauka 2 no. 3/4 316-324 '63.

KRIVOVICHEV, N.

With the slogan "Teach and learn yourself!" Prof.-tekh. obr. 22 no.10:43 O '65. (MIRA 18:10)

1. Direktor Skuratovskoy gorno-mekhanicheskoy shkoly.



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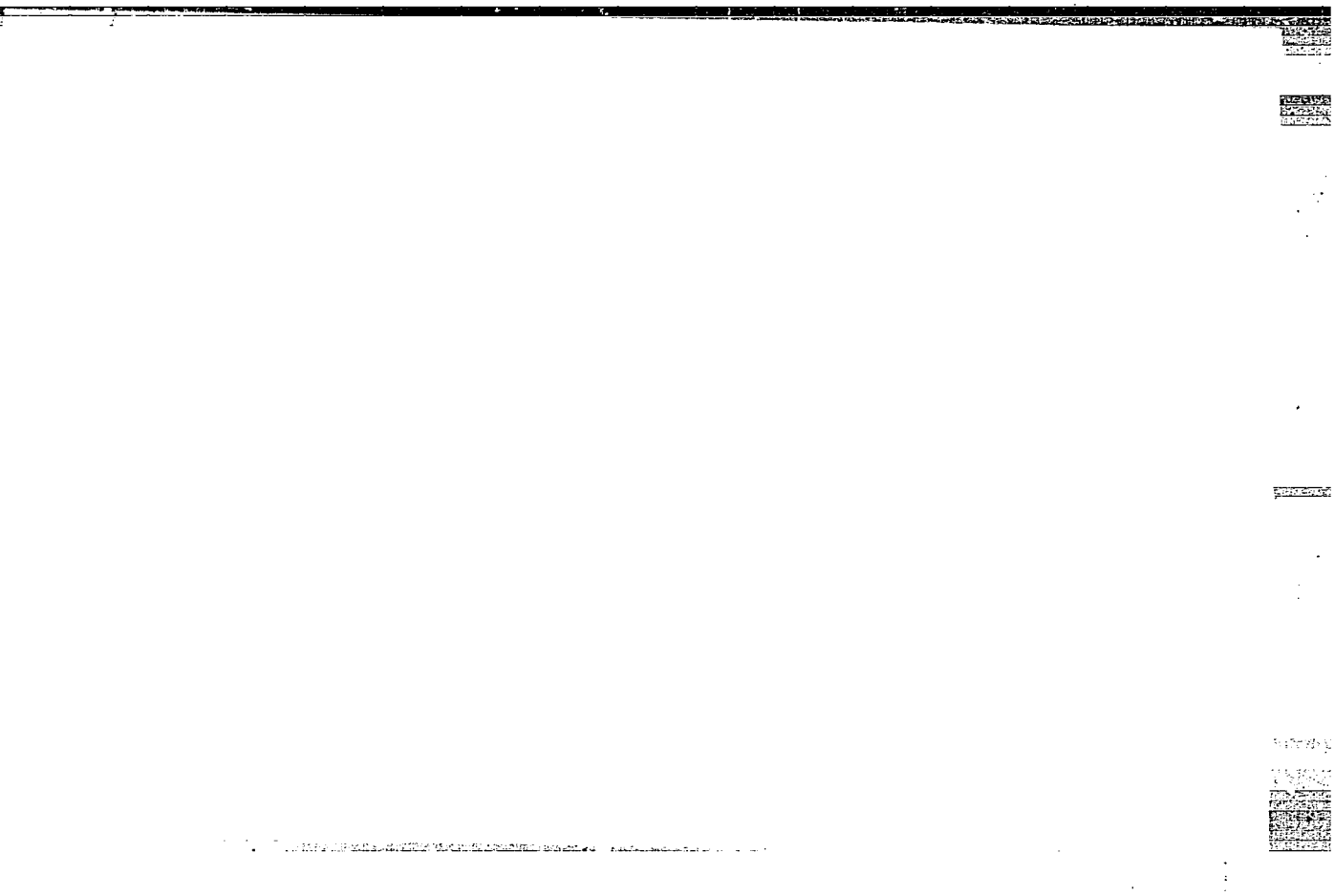


AUTHORS: Garif'yanov, N.S., Kozyrev, B.M. and Krivovyaz, I.M. (Institute of Chemistry of the Ac.Sc. of the Uzbek SSR).

TITLE: Free radicals during coking of the Angrensk coals. (Svobodnyye radikaly pri spekanii Angrenskikh ugley).

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and Technology of Fuels and Lubricants), 1957, No.2, pp. 29-32 (U.S.S.R.)

ABSTRACT: The nature of binding forces appearing during coking of coal was investigated on an example of agglomeration of the Angrensk brown coal ground to 1-0 mm. The coal does not cake on heating, while briquettes made from this coal (pressed at 2000 kg/sq.cm), heated to 900-1000°C produced coke similar in properties to one produced from a coking coal. Caking of a coking coal is often explained by its ability to pass into the plastic state on heating, but brown coals do not pass through this stage. The other explanation offered is an interaction of free radicals in the final stage of the coking process. It was expected by one of the authors that the interaction of free radicals during thermal treatment of non-caking coal fines and briquettes made from these fines should be different. Thus, paramagnetic resonance of thermally treated powdered Angrensk coal should be present as the coal particles do not react with each other, while in a

Free radicals during coking of the Angrensk coals. (Cont.)

similarly treated briquette it should disappear. To confirm this supposition measurements of paramagnetic resonance of the initial coal and that heated to 350, 550, 700, 750 and 900°C as well as similarly treated briquettes were carried out. Experimental results are given in Tables 2 and 3. Details of the experimental procedure are given. On heating powdered coal an increase in the paramagnetic resonance was observed, it attained maximum at 550°. On further heating it decreased and became unobservable after treatment at 950°. Samples which after an appropriate treatment were kept for four days in air, showed a much higher paramagnetic effect, the intensity of which was increasing with the temperature to which samples were heated (the width of the peak of the sample heated to 950°C was twice larger than that of the starting coal). Quite different results were obtained for briquetted coal. The paramagnetic effect disappeared after heating to 700 to 750°C and was not restored after four days. It is concluded that in powdered coal there were no suitable conditions under which an interaction of free radicals could take place, as individual particles were not brought closer either by pressing or by the presence

Free radicals during coking of Angrensk coals. (Cont.)

of plastic layer. In briquettes on the other hand, free radicals interacted during heating and this is confirmed by the disappearance of the paramagnetic effect. There are three tables and 9 references, 8 of which are Russian.

Card 3/3

Krivovyaz, I.M.

GUMAROV, R.Kh.; KRIVOVYAZ, I.M.

Strength of briquets and coke briquets made of artificially oxidized lignite. Dokl. AN Uz. SSR no.7:33-37 '57. (MIRA 11:5)

1.Institut khimii AN UzSSR. Predstavleno akademikom AN UzSSR S.Yu. Yunusovym.

(Briquets (Fuel))

GUMAROV, R. Kh.; KRIVOVYAZ, I.M.

Effect of heat treatment and oxidation of coal on the quality of briquets and coke briquets made from it. Dokl.AN Uz.SSR no.12: 24-27 '59. (MIRA 13:5)

1. Institut khimii AN UzSSR. Predstavleno akad.AN UzSSR. S. Yu. Yunusovym.
(Coal) (Briquets (Fuel))

S/058/63/000/001/059/120
A160/A101

AUTHORS: Krivovyaz, I. M., Yagudayev, M. R.

TITLE: The use of infrared absorption spectra for studying the processes of briquet and cokebriquet formation

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 30, abstract 1D211 ("Uzb. khimiya zh., Uzb. khim. zh.", no. 3, 1962, 77 - 82, summary in Uzbek)

TEXT: It is shown that the infrared spectra may serve as an efficient method for studying the mechanism of briquet and coke briquet formation. It was established that, under the effect of the thermal action in the investigated carbon substances, the decay of the H-bonds ends at a temperature of ~400°C - for intermolecular hydrogen bonds, and at ~600°C - for intramolecular bonds. A general disappearance of the infrared bands of functional carbon groups starts at ~700 - 800°C. The so-called "volatile" part of the carbon are apparently copolymeric links which bind in the initial carbons monotype condensed links (humites) of the non-volatile part. The peculiar features in the structure of the carbons are the

Card 1/2

The use of infrared absorption spectra for... S/058/63/000/001/059/120
A160/A101

different compositions of the links which become a part of the volatile part of the carbon. The macromolecule of the organic substance of carbons is a copolymer of humites.

[Abstracter's note: Complete translation]

Card 2/2

KRIVOVYAZ, I.M.; GUMAROV, R.Kh.

Thermographic study of the formation of coke briquets. Dokl. AN Uz. SSR 21 no. 11:39-41 '64. (MIRA 18:12)

1. Institut khimii AN UzSSR. Submitted July 22, 1963.

KRIVOVYAZ, L.

We are for an eight-hour workday. Mor. flot 22 no.11:10 N '62. (MIRA 15:12)

1. Chlen mashinnoy komandy parokhoda "Kurgan" Azovskogo upravleniya Chernomorskogo gosudarstvennogo morskogo parokhodstva. (Merchant seamen)

L 37794-66 EWT(d)/EWT(l)/EEC(k)-2/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) IJP(c)

ACC NR: AP6028839 SOURCE CODE: UR/0237/66/000/004/0023/0029

AUTHOR: Puryayov, D. T.; Krivovyaz, L. M.; Kameneva, P. A.; Nikitin, S. V.; Butenko, V. M. 47 B

ORG: none

TITLE: Interferometer for inspecting the quality of second order aspherical surfaces of revolution

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 4, 1966, 23-29

TOPIC TAGS: quality control, optic equipment component, optic instrument, industrial instrument, light reflection

ABSTRACT: The authors describe a Twyman interferometer with a modified working section consisting of the objective lens, the aspherical second order surface to be tested and a spherical mirror. The wave produced by reflection is deformed by four times the magnitude of distortion in the shape of the aspherical surface. The operating principle and optical system of the interferometer are described with the help of diagrams, and some of the design features are discussed. The instrument may be applied in theory to inspection of all types of second order surfaces, although it is basically designed for quality control of concave elliptical, hyperbolic and parabolic as well as convex hyperbolic surfaces. A table is given showing the limiting parameters of surfaces which may be inspected on this instrument. Tests of the experimental model indicate that work should be done on developing an instrument of this type for use under industrial conditions. Orig. art. has: 5 figures, 11 formulas and 1 table. [JPRS: 36,581]

SUB CODE: 17, 05 / SUBM DATE: 20Apr65

Card 1/1 UDC: 531.715.1

0917 2338

KRIVOVYAZ, L.M., kand.fiziko-matematicheskikh nauk

New method for checking the quality of optical parts with plane surfaces. [Trudy] MVTU no.102:70-76 '61. (MIRA 14:8)
(Optical instruments—Testing)

SOV-127-58-10-14/29

AUTHORS: Krivovyaz, O.M. and Okladnov, V.P., Mining Engineers

TITLE: The Reconstruction of the Hoisting System at the Nittis-Kumuzh'ye Mine (Rekonstruktsiya pod"yëma na rudnike Nittis-Kumuzh'ye)

PERIODICAL: Gornyy zhurnal, 1958, Nr 10, pp 46-49 (USSR)

ABSTRACT: With the increased ore production at the Nittis-Kumuzh'ye Mine of the Severonikel' Combine, the one-cage hoisting system had to be replaced by the more efficient skip hoisting system. The authors describe this operation which required 2 years for completion. There are 6 diagrams and 1 table.

ASSOCIATION: Kombinat Severonikel' (The Severonikel' Combine)

1. Mining industry--USSR 2. Hoists--Applications

Card 1/1

KRIVOVYAZ, O.M., gornyy inz.-mekhanik

Introduction of an electric and hydraulic drive for the mechanization and automatic control of mining equipment. Gor. zhur. no.4: 49-51 Ap '61. (MIRA 14:4)

1. Rudnik "Nattis-Kumuzh'ye", Monchegorsk Murmanskoy obl. (Automatic control) (Mining machinery)

ACC NR: AP7001448 (A) SOURCE CODE: UR/0413/66/000/021/0184/0184

INVENTORS: Omirov, V. S.; Krivovyaz, R. M.; Shteynberg, A. S.; Markochov, V. N.; Dvurechenskiy, N. I.

ORG: none

TITLE: A combustion chamber of an automobile gas turbine engine. Class 46, No. 188221 [announced by Central Scientific Research Institute of Automobiles and Automobile Engines (Tsentral'nyy nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 184

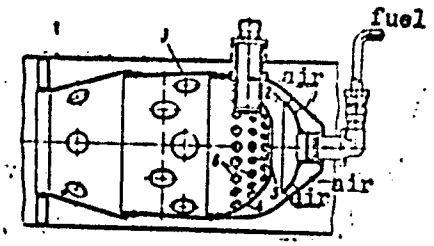
TOPIC TAGS: automotive industry, gas turbine, turbine engine, gas turbine engine, combustion chamber

ABSTRACT: This Author Certificate presents a combustion chamber of an automobile gas turbine engine. The chamber contains a head with a stabilizer and a fire tube (see Fig. 1). To improve the process of mixture forming, a spherical diaphragm with a main central opening and with several auxiliary openings on the periphery of its surface is placed in the head of the chamber between the stabilizer and the fire tube.

Card 1/2 UDC: 621.438.056

ACC NR: AP7001448

Fig. 1. 1 - chamber head; 2 - stabilizer; 3 - fire tube; 4 - diaphragm; 5 - central opening; 6 - auxiliary openings



Orig. art. has: 1 figure.

SUB CODE: 21/ SUBM DATE: 01Jul65

Card 2/2

1. KAIVOVAZ, S. M.

2. USSR (600)

4. Soil Percolation

7. Packing the earth to control seepage from canals. Gidr. i mel. 5, No. 3, 1953.

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

KRIVOVYAZ, S.M., kand. sel'skokhoz. nauk (Tashkent)

Some results of the study on the irrigation technique in the new lands of the Golodnaya Steppe. Gidr. i mel. 15 no.8: 7-16 Ag '63. (MIRA 16:8)

KRIVOVYAZ, S.M.

Theory and calculation of the irrigation by means of furrows. Izv. AN Uz. SSR. Ser. tekh.nauk no.6:41-55 '60. (MIRA 14:1)

1. Institut vodnykh problem i gidrotekhniki AN UzSSR.
(Irrigation farming)

KHIVOVYAZ, S.M., kand.sel'skokhozyaystvennykh nauk (Tashkent)

Calculation of furrow irrigation. Gidr. i mel. 13 no.1:12-13 Ja '61. (MIRA 14:2)

(Irrigation)

SOKOLOVA, I.D.; KRIVOVYAZOV, Ye.L.; VOSKRESENSKAYA, N.K.

Surface tension of alkali metaphosphates and alkaline earth metaphosphates. Zhur.neorg.khim. 8 no.12:2625-2630 D '63. (MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

KRIVOVYAZOV, Ye.L.; SOKOLOVA, I.D.; VOSKRESENSKAYA, N.K.

Surface tension of nitrite-nitrate and nitrate salt mixtures.
Zhur. prikl. khim. 36 no.11:2542-2543 N '63.
(MIRA 17:1)

VOSKRESNSKAYA, N.K.; KRIVOVYAZOV, Ye.L.

Thermal effects of the exchange reactions of salts containing analogous ions with different charges. Zhur.neorg.khim. 7 no.10: 2426-2433 O '62. (MIRA 15:10)

1. Institut obshchey i neorgaincheskoy khimii imeni N.S.Kurnakova AN SSSR.

(Ion exchange) (Thermochemistry)

KRIVOY, A.L., inzh., otv. za vypusk; BRAYLOVSKIY, N.G., inzh., red. MEDVEDEVA, M.A., tekhn. red.

[Calibration tables for tank cars] Tablitsy kalibrovki zheleznodorozhnykh tsistern. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 214 p. (MIRA 14:8)

1. Russia(1923- U.S.S.R.) Ministerstvo putey soobshcheniya. (Railroads—Freight cars)

KRIVOY, Aleksandr L'vovich; DEBERDEYEV, Sadyk Abdulayevich; ARSHINOV, I.M., inzh., red.; VOROTNIKOVA, L.F., tekhn. red.

[Preparing tanks for filling; practice of the Baladzhary washing and steaming station of the Azerbaijan Railroad] Podgotovka tsistern k nalivu; opyt promyvochno-proparochnoi stantsii Baladzhary Azerbaidzhanskoi dorogi - predpriiatiia kommunisticheskogo truda. Moskva, Transzheldorizdat, 1962. 55 p. (MIRA 15:7)
(Baladzhary--Tank cars--Maintenance and repair)

KRIVOY, A.L., inzh.

Kinematics of the flow of liquids in the washing of railroad tank cars. Vest.TSNII MPS 21 no.3:24-27 '62. (MIRA 15:5)

1. Ministerstvo putey soobshcheniya.
(Hydraulics) (Tank cars--Cleaning)

KOCHNV, A.T.; KRIVOY, D.V.

Method of intravenous alcohol-pentothal anesthesia. Khirurgiia 32 no.3:76 Mr '56. (MLRA 9:7)

1. Iz bol'nitsy st. Vsesvyatskaya Molotovskoy oblasti.
(BARBITURATES, anesthesia and analgesia, thiopental, intravenous anesth., with alcohol (Rus))
(ALCOHOL, ETHYL, anesthesia and analgesia, intravenous, with thiopental (Rus))

RABINOVICH, M.A., inzhener; KRIVOY, M.I.; MIKHAYLOV, N.P.; GUROVA, M.I.

The manufacture at the Snigirevka Plant of lightweight grog refractories having a volumetric weight of 1.0 gram per cm^3. Ogneupory 21 no.2:76-79 '56. (MLRA 9:7)

1.Snigirevskiy ogneupornyy zavod.
(Refractory materials)

SHUMILIN, A.A.; IVANOV, V.A.; RABINOVICH, M.A.; KRIVOY, P.I.

Calcination of lightweight press-molded refractory products with waste additives. Ogneupory 25 no.12:540-545 '60. (MIRA 14:1)

1. Vsesoyuznyy institut ogneuporov (for Shumilin, Ivanov). 2. Snigirevskiy ogneupornyy zavod (for Rabinovich, Krivoy).
(Firebrick)

AUTHORS: Krivoy, Ts.P., Novikov, A.A., Shanturin, P.M. 119-2-1/13

TITLE: A Single Aggregate System for Pneumatic Devices (Yedinaya agregatnaya sistema pnevmaticheskikh priborov).

PERIODICAL: Priborostroyeniye, 1958, Nr 2, pp. 1-7 (USSR)

ABSTRACT: Each of the new pneumatic devices for automatic control and regulation are an independent aggregate. By assembling these individual devices it is possible to construct the most complicated systems of control. Each of the devices fulfills only one function, as e.g. measuring, transformation, control, etc. The following devices are described: The pneumatic amplifier PN-326. This amplifier is indispensable for a pneumatic control system, and is used in the transmitter, regulator, or in such a device in which transformation of pulse amplification into a proportional amount of pressure is intended. The core of this device is a special relay with nozzle and closing cap. The operational characteristic of the amplifier is linear. Consumption is 1.4 l/min.
The pneumatic transformer: This device is connected with the amplifier. Transformation of pressures is carried out by way of sylphones which, by lever action, also make a sort of feedback possible.

Card 1/2

A Single Aggregate System for Pneumatic Devices 119-2-1/13

The pneumatic transmitter: This device (with compensation) operates in a manner similar to that of pneumatic transformers. The transmitter transforms the magnitude to be measured into a proportional air pressure at the output (0.1 to 1.6 kg/cm²) and transmits the pulse to a secondary system and to the regulator. As examples the transmitters ДРП-329 (for the recording of gas consumption) and ДТП-331 (for the recording of temperature) are described.
The structure and the operating principles of the following devices are then described: The automatic recorder ВПЗ-344; the indicator ВПП-323; the isostatic pneumatic regulator РПИ-338; the element ЭПП-322 (a control system is connected in order to obtain an additional pulse for control); the element for the indication of the ratio ЭСП-5008; the piston mechanism with position indicator ПИМ-401; individual pressure regulator РДП-334; air filter ФВ-327.
There are 18 figures.

AVAILABLE: Library of Congress

Card 2/2 1. Control systems-Equipment 2. Control systems-Operation
3. Pneumatic devices-Control and regulation

NOVIKOV, A.A.; KRIVOY, TS.P.

Automatic regulation of the position of the line separating the liquids in by-product coking assemblies. Koks i khim. no.5:46-48 '60. (MIRA 13:7)

1. TSentral'naya laboratoriya avtomatiki.
(Coke industry—By-products)
(Automatic control)

S/119/60/000/010/004/014
B012/B063

AUTHORS: Krivoy, Ts. P., Engineer, Novikov, A. A., Engineer, and Shanturin, P. M., Engineer

TITLE: Pneumatic Instruments Used for the Automation of Thermal Conditions in Open-hearth Furnaces

PERIODICAL: Priborostroyeniye, 1960, No. 10, pp. 12 - 14

TEXT: The Tsentral'naya laboratoriya avtomatiki (TsLA) (Central Laboratory of Automation) designed the principal instruments for the standard pneumatic unit АУС-ЦЛА (AUS-TsLA) (Ref. Footnote p. 12) and a number of instruments and blocks for the automation of the open-hearth process. Three of these instruments are described in the present article: 1) A pneumatic pulse summator of the type СП-5017 (SP-5017). When regulating the fuel-to-air ratio, the regulator receives the given pulses corresponding to the total amounts of fuel and air. These pulses are summed up by the summator shown in Fig. 1. Its mode of operation is schematically represented in Fig. 2 and briefly described. The technical data of this instrument are also given. The error in summation does not exceed 1%.

Card 1/2

Pneumatic Instruments Used for the Automation of Thermal Conditions in Open-hearth Furnaces

S/119/60/000/010/004/014
B012/B063

A change of the air pressure by $\pm$ 0.1 kg/cm^2 entails no pressure change at the output of the summator. 2) The pneumatic integrator (volumenometer of the type СРП-5051 (SRP-5051)) operates together with the pneumatic quantity transmitters, and summes up the total amounts of fuel and oxygen entering the open-hearth furnace. Fig. 3 reproduces a photograph of the instrument, and Fig. 4 shows its basic circuit diagram by which its mode of operation is explained. It is based on the principle of power compensation. The integrator differs from conventional instruments by its high degree of accuracy and simple design. A change in the air pressure by $\pm$0.1 kg/cm^2 changes indication by 0.5% at most. 3) A pneumatic transformer for changing displacements into pressure was developed in the form of a connecting piece for the electronic potentiometers and bridges produced in series by the TsLA. The air pressure is conveyed from the output of the transformer to a pneumatic regulator or to another pneumatic instrument. A basic scheme of this instrument is shown in Fig. 5, and a photograph is reproduced in Fig. 6. Its technical data are also given. There are 6 figures and 1 Soviet reference.

Card 2/2

S/119/62/000/002/004/010
D201/D301

AUTHORS: Krivoy, Ts.P., Novikov, A.A. and Shanturin, P.M.

TITLE: New designs of pneumatic instruments АУС-ШИ (AUS-TsLA)

PERIODICAL: Priborostroyeniye, no. 2, 1962, 10-13

TEXT: The authors describe 6 new types of pneumatic instruments for automating the Martin furnace processes and for automatic tuyère blast distribution of blas furnaces: 1) A new multiplying device for use in systems in which the control of a ratio is required. The instrument is based on the principle of force compensation with elastic support of the input pressure bellows. The instrument has been called 'ratio-pick-up' 3-СТ-5269 (3-ST-5269). 2) A secondary pressure meter ПП-5246 (PP-5246) with position control. The absolute error is less than ± 0.5% of the measured pressure range 0.2-1 kg/cm^2; the temperature error 0.2% per 10°C. 3) The so called 'two-limit pneumatic signaller' type СД-5292 (SD-5292) for switching on acoustic, visible or other signalling installations, when

Card 1/ 2

the controlled parameter exceeds or falls below a preset limit. The instrument can operate with any type of pick-ups in which the pneumatic output signal varies from 0.2 to 1 kg/cm^2. The signaller operates on the principle of displacement compensation, the control point being set-up by differential levers. The output signal for pneumatic signal is the compressed air at 1.4 kg/cm^2; for electric signal a voltage not exceeding 20-30V. Resistive load current 0.2-10A, inductive load current 0.2-5A. The absolute error and backlash not exceeding ±1%. 4) Pulse time relay type ИРВ-5297 (IRV-5297) for transmitting a pneumatic signal at 1.4 kg/cm^2 pressure of a given duration at a given repetition frequency, may be used in sampled data control systems. 5) Storage relay type [illegible]-5223 (RL-5223) used as a storage element for input signal with the command signal applied in the form of a 1.4 kg/cm^2 pressure. 6) Pressure relay [illegible]-5271 (RD-5271) for converting an input air pressure into a standard air pressure. The sensitivity is better than 0.001 kg/cm^2 (0.1% of max. output pressure). Absolute error less than ± 1% of the input air pressure range; additional error due to a change of ± 10% of supply pressure not exceeding 0.2%. There are 6 figures.

Card 2/2

S/119/62/000/002/005/010
D201/D301

AUTHORS: Bekenshteyn, V.A. and Krivov, Ts.P.

TITLE: A review of the АУС -ЦПА(AUS-TsLA) pneumatic instrument system

PERIODICAL: Priborostroyeniye, no. 2, 1962, 14-16

TEXT: The authors describe the composite unified automatic pneumatic equipment system AUS-TsLA, developed by the Tsentral'naya laboratoriya avtomatiki (Central Automation Laboratory) and now in mass production at the pilot plant of YuVMA. The above equipment was primarily designed for automation of the coke and chemical industries, but is now widely used in the iron-foundry industry as well. At the beginning of 1961 the AUS-TsLA system consisted of about 30 components, and at present it is undergoing redesign with the aim of using as much plastic material as possible. V

The system is standardized as to input and output pressures, method of dry air pressure drives and connections. The TsLA system has several types

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S/119/62/000/002/005/010
D201/D301

A review of the ...

of pneumatic amplifiers: with closed and open nozzles, with positive feedback, with constant pressure steps at constant cross-section throttle. The feedback element of the amplifier consists either of a membrane or bellows. These are interchangeable and produce a max. force of 1.35-5.75 kg. The system incorporates also several types of pneumatic pick-ups for measuring various parameters which transform the measured quantity into a standard pneumatic signal. The pressure step pick-up, ДРП -330 (DRP-330) are designed for max. pressure steps of 40, 63, 160 and 250 mm Hg at static pressures up to 25 kg/cm^2. They may be used for level measurement and in the final stages of design in the pick-up for 5 mm of water column. The pressure pick-ups are designed for measurements within 0.5-6 kg/cm^2 and max. static pressures of 25 kg/cm^2. The temperature pick-ups differ from those of pressure only by a nitrogen filled manometric system. Their operating temperature range is -60 to +550° C. The level meters are designed for measuring non-crystalline fluids in open and closed vessels, for the range 50-2500 mm (as reduced to the fluid with unity s.g) Various transducers have been developed for measurements with electrical instruments. The ЭПП-5063 (EPP-5063) transducer changes the angle of rotation

Card 2/4

A review of the ... S/119/62/000/002/005/010
D201/D301

of the instrument pointer into proportional air pressure; type EPP-5113 does the same with d.c. 1-5mA currents. The absolute error of transducers does not exceed 1%. The pneumatic regulator РПИ-338 (RPI-338) has a proportional-integrating action and is used in conjunction with pneumatic pick-ups for automatic control of various technological parameters. A Subsidiary unit ЭПП-322 (EPP-322) introduces into the control system supplementary derivative pulses. The computer arrangement as added to the AVS system, consists of the following units: 1) A summing device СП-5017 (SP-5017) for the addition of up to 4 pressure pulses multiplied by constant factors (summing error less than 0.5%; 2) a standardized pressure relay УПР-5011(UPR-5011) for several logical and mathematical operations; 3) a ratio element; 4) ratio pick-up 3-СТ-5269 (3-ST-5269) which in conjunction with the regulator PPI-338 controls the ratio of two parameters; 5) a functional transducer for squaring, root extraction etc. The indication and recording secondary instrument set consists of a profile indicator ПМ-5245 (PM-5245) and recorder ВПП-344 (VPP-344). A new type of force compensated indicator ПП-5246 (PP-5246) has been developed. As output stage a piston-type mechanism ПИМ-401 (PIM-401)

Card 3/4

A review of the ...

S/119/62/000/002/005/010
D201/D301

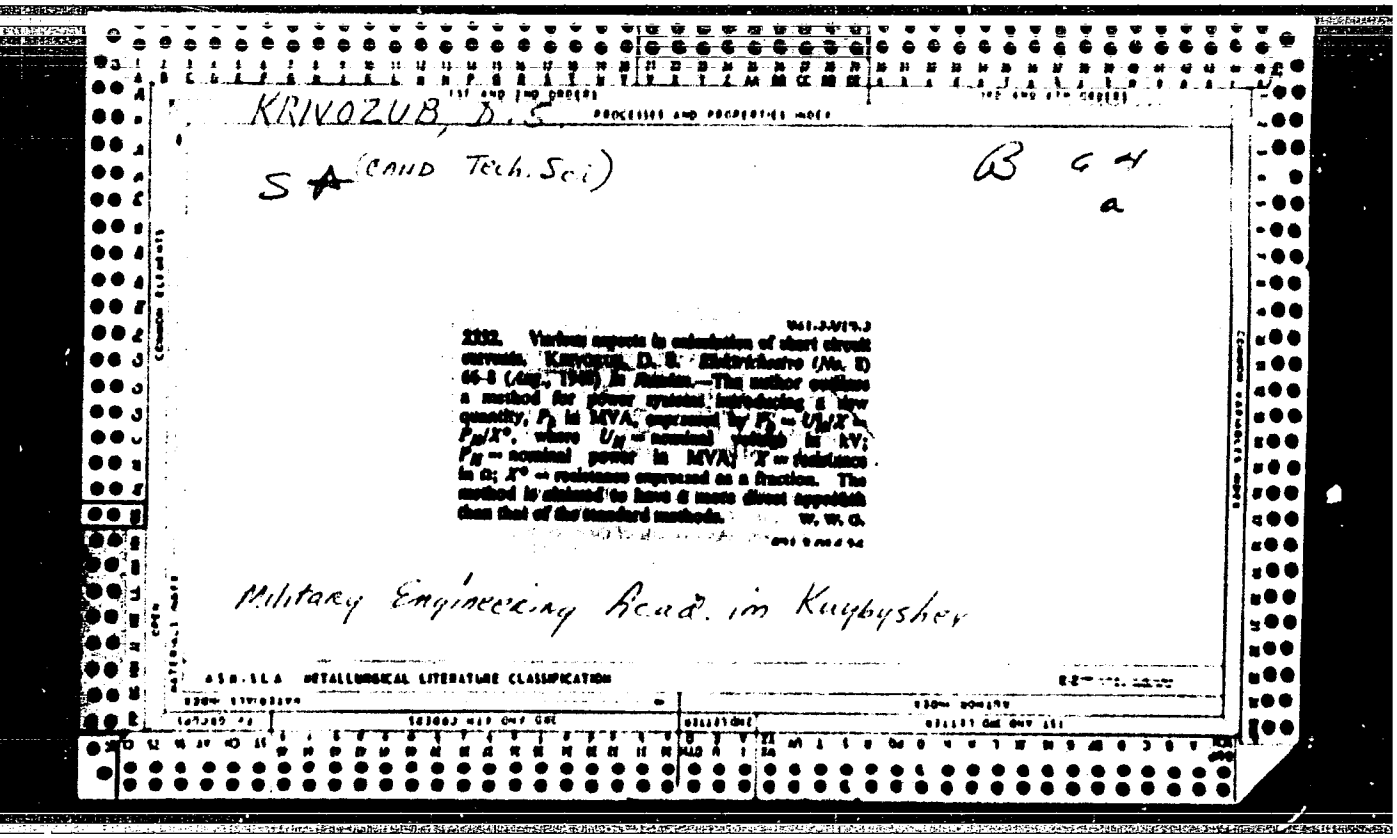
has been developed, displacing the control organ in proportion to the input command air pressure. Piston travel 200 mm, effective area 100 cm^2, non-linearity less than ± 1%. Subsidiary apparatus consists of the following: 1). Remote control panel ПДУ-5041(PDU-5041); 2) Precision air pressure reducing valve ПРУ-328 (PRU-328); 3) Air pressure reducing valve РВ-5022 (RV-5022); 4) Air filter ФВ-5036 (FV-5036) for max. static pressure of 10 kg/cm^2 with the capacity of 10 ℓ/min and a pressure loss of 0.01 kg/cm^2. There are 4 figures.

Card 4/4

KRIVOY, TS.P.; TREYSTER, Yu.Ya.; SHERMAN, E.M.

Automatic control of the blast distribution to blast furnace tuyeres. Metallurg 7 no.2:6-8 F '62. (MIRA 15:3)

1. TSentral'naya laboratoriya avtomatiki.
(Blast furnaces) (Automatic control)


KRIVOZUB, D. S.

SA (CAND Tech. Sci)

B G H
a

2332. Various aspects in calculation of short circuit currents. Krivozub, D. S. Elektrichestvo (No. 8) 66-8 (Aug., 1948) In Russian.—The author outlines a method for power systems introducing a new quantity, P_k in MVA, expressed by $P_k = U_N^2/X$, P_N/X^*, where U_N = nominal voltage in kV; P_N = nominal power in MVA; X = resistance in Ω; X^* = resistance expressed as a fraction. The method is claimed to have a more direct approach than that of the standard methods. W. W. G.

Military Engineering Acad. im Kuybyshev

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

[redacted], D.

Elektricheskiy Zabor. Elektrichestvo No. 1, 1952.
Kandidat Tekhn. Nauk, Dots.

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

KRYUKOV, D. S.

Electric Lines - Underground

Underground cable conduits. (From Transactions, AIEE, v 69:1562, 1950.) Elektrichestvo, No. 1, 1953.

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

1. KRIVOSHEV, D. S.

2. USSR (600)

4. Airplanes - Electric Equipment

7. Aluminum wire in airplane construction. Elektrichestvo no. 1, 1953.

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

KRIVOZUB, D.S.

Electric servomotors with printed winding on the rotor (from "Electrical Design News", no.4 1959). Prom.energ. 5 no.5:58-59 My '60. (MIRA 13:7)
(Electric motors) (Servomechanisms)

KRIVOZUB, D.S.

Transformer with constant output voltage. Prom.energ. 15 no.3:50 Mr '60. (MIRA 13:6)
(Electric transformers)

TERENT'YEV, Ya.K.; KRIVOZUB, D.S.

Fuel cells. Prom.energ. 15 no.4:47-49 Ap '60.
(MIRA 13:6)

(Fuel cells)

KHIVOZUB, D.S.

Regulator of rotation speed "Elkotron." Prom.energ. 15 no.5:60 My '60. (MIRA 13:7)
(Electric apparatus and appliances)

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(Detroit--Electric switchgear)

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Magnetohydrodynamic generators (from "Electrical World" no.22, 1959; "Electrical Times" no.3547, 1959). Prom. energ. 15 no.12:45-46 D '60. (MIRA 13:12)

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Generator of increased frequencies with commutation of the magnetic flux (from "Electrical Design News," no.3 1960). Prom. energ. 16 no.4:45-46 Ap '61. (MIRA 14:9)
(Electric generators)

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Use of the slippage energy (from "Electrical Times," 136 no. 3549 1959). Prom. energ. 16 no.4:46 Ap '61. (MIRA 14:9)
(Electric motors)

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AUTHOR: Krivozub, D. (Brigadier general; Engineering forces; Candidate of technical sciences; Docent); Zolotarev, O. (Candidate of technical sciences; Docent) 28

ORG: None

TITLE: Contactless generators 15

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ABSTRACT: After a general discussion of the well-known commutation deficiencies of d-c generators and various a-c commutator machines, the authors describe some types of electric generators designed without commutators, brushes, slip rings or any other similar contacts. The authors consider such types of "contactless" generators (including their excitation and voltage regulation circuits) from the standpoint of their possible use for small military mobile power stations, various motor vehicles and aircraft electrical systems. The first type described by the authors consists of a synchronous generator with an exciter mounted on the generator shaft and equipped with rotating rectifiers. The design and operation of the machine is outlined by using a cross-section drawing and a connection diagram. The generator is reliable in operation, can be used in explosive atmospheres and does not cause radio interferences. However, it is more complicated in design having rectifiers and additional windings. The second type of synchronous genera-

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tor includes a rotor made of permanent magnet and enveloped by stator pole windings wound on two sleeves of a jaw clutch type. Its design is illustrated and the principles of its function are explained. In general, the generator is heavy and of a low power capacity. Its improved version provided with a rotating excitation winding is also described and shown in a cross-section projection. It is a compromising version because the rotating winding must be provided with sliding contacts. In order to eliminate sliding contacts the generator can be made with a fixed excitation winding. Two versions are described of which the first is equipped with a winding fastened to a core inside the rotor and the second represents a generator with a fixed winding placed symmetrically between the stator and rotor. Both versions are illustrated and the formation of their magnetic circuits is explained stressing that the first version is used for small generating capacities and the second one for larger types of generators. Such an enlarged model composed of three pole circuits is shown in a cross-section projection. Orig. art. has: 4 figures.

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AUTHORS: Goncharova, N. V; Krivozubova, N. V; Yevseyev, G. D; Voytekhov, A. A; Kasatkin, D. F. and Karzhev, V. I.

TITLE: Preparation of Products with a High Aromatic Hydrocarbon Content by Hydrogenation (Polucheniye produktov s vysokim soderzhaniyem aromaticheskikh uglevodorodov metodom gidrogenizatsii)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 12, pp 15 - 21 (USSR)

ABSTRACT: Processes for the hydrogenation of high-molecular liquid products and solid fuels are very important for the manufacture of motor fuels. The authors investigated the hydrogenation of two samples of crude over a specially treated catalyst, and showed that the end-products contained a high amount of aromatic hydrocarbons. The process was carried out in a laboratory apparatus with a 1.5 litre reactor working at pressures up to 700 atms. (Fig 1). The broad fraction of a liquid phase hydrogenate of tar obtained by semi-coking of Cheremkhovsk coal, and the gas-oil fraction boiling between 160 - 280°C obtained by catalytic cracking of the vacuum distillate of S- petroleum, were used as starting materials. Their

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physico-chemical characteristics are given in Table 1. Bicyclic aromatic hydrocarbons are converted over a chromium catalyst, at temperatures above 460°C, and at hydrogen pressures from 300 - 600 atms into monocyclic hydrocarbons in high yields. These compounds, with long side chains, are dealkylated and simpler homologues of benzene are formed at 500°C and a pressure of 300 atms. The hydrogenate contained a fraction boiling up to 180°C which equalled approximately 46%; benzene formed 23% of this fraction. The quantity of the initial decalin in this mixture remained practically unchanged. Variations in the activity of the catalyst are shown in a graph (Fig.2). A series of experiments was carried out to determine the reaction kinetics with fresh material up to its dephenolisation when the pressure of hydrogen equalled 600 atms, at various temperatures and various volume rates (Fig.3). Results are given in the form of kinetic isotherms (Fig.4). On comparing these isotherms it can be seen that the highest yields of aromatic hydrocarbons are obtained at a temperature of 500°C and a volume rate of 0.5 - 0.7 kg/litre hour^{-1}. At pressures

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of 300 atms the yield of hydrogenate constituted 87% and contained 71% of the fraction boiling at 160°C and 56% of sulphonated hydrocarbons boiling at the same temperature. At 600 atms pressure slightly less satisfactory results were obtained. Results of laboratory tests on three samples, which were carried out at almost optimal conditions, are listed (Table 2). Table 3 gives the content of aromatic hydrocarbons in hydrogenation products. The octane number of the pure fraction equals 81.3 and is increased to 86.8 when 1 ml/kg of P-9 is added. Further investigations concerned the effect of the chemical composition of the starting material; these were carried out on fractions boiling between 160 - 280°C. The hydrogenates contained a large quantity of aromatic hydrocarbons (up to 70%). A 68% yield of the fraction boiling at 160°C, with a 68% content of aromatic hydrocarbons was obtained on processing gas-oil. It was found that the chemical composition of the initial material hardly affects the

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yield of C_6 - C_8 aromatic hydrocarbons. Table 5: results of hydrogenation of different types of raw material. There are 5 Tables, 4 Figures and 10 References: 5 English, 1 German and 4 Soviet.

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