S/170/61/004/006/011/015
B129/B212

26.2263

AUTHORS: Yegorov, Yu. A., Pankrat'yev, Yu. V.

TITLE: Fast-neutron spectrometer with one indicator

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 6, 1961, 112-115

TEXT: A fast-neutron spectrometer with a high gamma background is described. The separation of the recoil proton and electron pulses is based on the difference in the fluorescence time of the scintillator when irradiated by heavy and light particles. It is known that several organic scintillators show this difference in the fluorescence time when irradiated by heavy particles (alpha particles and protons) and by electrons. This time difference depends on the different ionization capability of the heavy and light particles. There are more ionized molecules along the track of a heavy particle in the scintillator than along that of an electron. After about 10^{-9} sec the excited molecules will return into their normal state and the ionized ones after about 10^{-7} sec. Therefore the fluorescence will take place in two parts for both cases: viz. a

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Fast-neutron spectrometer...

fast and slow part. The slow part caused by heavy particles will last longer than that caused by light particles. Therefore, the mean fluorescence time during irradiation of the scintillator by heavy particles will be greater than that by light particles. The front of the current pulse in the photo-multiplier will also differ for both kinds of particles viz. that caused by light particles will be steeper than that caused by the other particles. Stilbene crystals possess such properties. Pulses of different shapes are produced if such a crystal is irradiated by neutrons and gamma rays, so that pulses of neutrons can be distinguished on the background of gamma rays. Stilbene crystals possess such properties. Fig. 1 shows a pulse discriminator, which is used in the spectrometer described in connection with a stilbene crystal to determine fast neutrons with one pickup. Fig. 3 shows a block diagram of this instrument. This fast-neutron scintillation spectrometer is not sensitive to a gamma background when irradiated by neutrons having an energy $E_n > 2$ Mev.

Fig. 4 shows the measurement results obtained with this spectrometer. There are 4 figures and 3 non-Soviet-bloc references. The references

Card 2/6

23155

S/170/61/004/006/011/015
B129/B212

Fast-neutron spectrometer...

to English-language publications read as follows: Brooks F. D., Nuclear Instruments and Methods 4, 151, 1959; Wright G. T. Proc. Phys. Soc., B.49, 358, 1958; Kallman H. and Brucker G. I. Phys. Rev., 108, 1122, 1957; Owen R. B. IRE Transition Nuclear Science No. Ns. 5, No.3, 198, 1958. Whitmore B. G. Phys. Rev. 78, 6, 799, 1950.

SUBMITTED: March 2, 1961

Card 3/6

EWP(j)/EPF(c)/EPF(n)-2/EWT(m)/BDS AFFTC/ASD/SSD Pc-4/ Pr-4/Pu-4 RM/WW/DM

L 12860-63
ACCESSION NR: AP3003970 S/0089/63/015/001/0017/0020 78

AUTHOR: Ayayev, V. N.; Vasil'yev, G. A.; Veselkin, A. P.; Yegorov, Yu. A.; Orlov, Yu. V.; Pankrat'yev, Yu. V. 19

TITLE: Reactor neutron flux attenuation in polyethylene 15

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 17-20

TOPIC TAGS: neutron attenuation, polyethylene, polyethylene neutron attenuation, slow neutron, fast neutron, neutron relaxation length, biological shielding, water-water reactor

ABSTRACT: The attenuation of fast and slow neutron fluxes by polyethylene has been investigated experimentally in a water-water research reactor. 19 A polyethylene 680 x 680 x 1000-mm prism consisting of square plates 10 and 20 mm thick was irradiated by placement in a recess in the heavy concrete shielding of the reactor. The slow neutron fluxes were measured by the use of resonant indicators (indium, iodine) and a BF_3 counter. The fast neutron distribution was measured by means of threshold indicators P(n,p), Al(n,p), and Al(n,α) and a scintillation counter with ZnS(Ag). During measurements the plane indicators were inserted into gaps between the polyethylene plates, and

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L 12860-63

ACCESSION NR: AP3003970

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the cylindrical indicators were placed into 20 x 20 x 100-mm holes cut in the plates. The results obtained are shown in Figs. 1 and 2 of the Enclosure, along with theoretical data obtained by the method of moments for a point neutron source. A comparison of neutron relaxation length in polyethylene (density, 0.92 g/cm^3) and in water under identical conditions showed that the relaxation length in polyethylene is 12—17% shorter than that in water. "The authors thank the reactor operating personnel and laboratory technicians who took part in the experiment." Orig. art. has: 2 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 25Aug63 DATE ACQ: 08Aug63 ENCL: 01

SUB CODE: NS NO REF SOV: 004 OTHER: 004

Card 2/2

L 11121-63 EWT(m)/BDS AFFTC/ASD/APWL/SSD
Pc-4/Pu-4 RM/JW S/0089/63/015/001/0020/0022
ACCESSION NR: AP3003971

AUTHOR: Avayev, V. N.; Vasil'yev, G. A.; Veselkin, A. P.; Yegorov, Yu. A.; Orlov, Yu. V.; Pankrat'yev, Yu. V.

TITLE: Spectra of reactor fast neutrons passed through polyethylene

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 20-22

TOPIC TAGS: fast neutron spectra, polyethylene, reactor shielding

ABSTRACT: Measurements were made of the spectra of fast neutrons after passage through a layer of polyethylene plates (680 x 680 x 10 mm) installed in a recess of the shielding of a water-water reactor. The thickness of the polyethylene layer was increased on the side facing of the spectrometer detectors. The measurements were made by means of a fast-neutron spectrometer with a single detector in which γ-background discrimination was achieved by means of a space charge between the last dynode and anode of the photomultiplier. The fast-neutron spectra were determined from the amplitude distribution of pulses produced by recoil protons in the stilbene crystal of the detector. The spectra were corrected for the effect of secondary neutron scattering in the crystal and for partial leakage of recoil protons from the crystal. The results obtained

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ACCESSION NR: AP3003971

are shown in Fig. 1 of the Enclosure along with the results calculated by the method of moments (shown by the solid line). The measured spectra were found to be in good agreement with theoretical results for all thicknesses of the polyethylene layer at $E_n > 3$Mev. At $E_n < 3$Mev a divergence between the experimental and calculated results was noted. However, the tendency for a change in spectra with an increase in layer thickness in this energy range was the same for both calculated and experimental spectra. At neutron energies from 3 to 4 Mev and polyethylene thicknesses greater than 20 g/cm^2, the curve of the measured spectra showed a sharper dip than that of the calculated spectra. This is probably due to some inaccuracy in selecting or averaging the cross sections during calculation. The sharper dip in the curve was also noted in neutron spectra measured in water. "The authors thank their coworkers who serviced the reactor and laboratory assistants who assisted in the carrying out of experiments." Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 25Aug62 DATE ACQ: 08Aug63 ENCL: 01

SUB CODE: NS NO REF SOV: 003 OTHER: 002

Card 2/2

VASIL'YEV, G.A.; VESELKIN, A.P.; YEGOROV, Yu.A.; MOISEYEV, G.G.; PANKRAT'YEV, Yu.V.

Moderation of reactor radiations in serpentine sand. Atom. energ. 19 no.4:354-359 O '65. (MIRA 18:11)

L 05043-67 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/JR/GD/RM

ACC NR: AT6027927 SOURCE CODE: UR/0000/66/000/000/0120/0122

AUTHOR: Yegorov, Yu. A.; Orlov, Yu. V.; Pankrat'yev, Yu. V.

ORG: None

TITLE: Titanium removal cross section for a layer in a hydrogen-containing medium

SOURCE: Voprosy fiziki zashchity reaktorov (Problems in physics of reactor shielding); sbornik statey, no. 2. Moscow, Atomizdat, 1966, 120-122

TOPIC TAGS: particle cross section, titanium, neutron cross section, research reactor

ABSTRACT: Removal cross sections for titanium were measured in a water-water reactor of the swimming pool type. Sheets of titanium measuring 70×70 cm were placed near the reactor core with dimensions of 50×43×32 cm. The removal cross section was determined from the expression

$$N(r)G(r)=N(r-d)G(r-d)e^{-\Sigma_B d},$$

where $N'(r)$ is the neutron flux at distance r; $N'(r-d)$ is the neutron flux at the distance $(r-d)$ when there is no plate; Σ_B is the macroscopic removal cross section; d is the thickness of the plate and $G(r)$ is the experimentally determined correction factor

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L 05043-67

ACC NR: AT6027927

2

for geometric attenuation. The results show a removal cross section of 1.72±0.06 barns. The removal cross sections determined for detectors with various effective energy thresholds from 1.1 to 7 Mev coincide within the limits of experimental error. The minimum distance from the plate used for the removal cross section depends on the effective threshold of the detector. For neutrons with an effective energy of 1.5 Mev in polyethylene, this distance is close to 15 cm. The distance decreases with an increase in the threshold. Orig. art. has: 3 tables, 4 formulas.

SUB CODE: 18/ SUBM DATE: 12Jan66/ ORIG REF: 006/ OTH REF: 001

Card 2/2

L 28032-66 EPF(n)-2/EWI(m)/EWC(f)/EWG(m)

ACC NR: AP5026441 SOURCE CODE: UR/0089/65/019/004/0354/0359

AUTHOR: Vasil'yev, G. A.; Veselkin, A. P.; Yegorov, Yu. A.; Moiseyev, G. G.; Pankrat'yev, Yu. V.

ORG: None

TITLE: Attenuation of pile radiation in serpentinite sand

SOURCE: Atomnaya energiya, v. 19, no. 4, 1965, 354-359

TOPIC TAGS: nuclear reactor material, nuclear reactor shield

ABSTRACT: The use of serpentine rock for biological shielding is discussed. This mineral is found widely distributed in the Urals, Caucasus, Siberia and Kazakhstan, usually associated with asbestos deposits such as the Bazhenov quarries where pure serpentinite monoliths of about 1 cu m were excavated. Its bound water is liberated only at temperatures exceeding 450° C. Thus it can be used as a heat-resisting material for biological shielding. The concentration of hydrogen nuclei in serpentite being about 1.5% by weight, is quite sufficient for insuring the attenuation of fluxes composed of intermediate and fast neutrons. The density of monolithic serpentinite is about 2.6 ton/cu m while the thermal conductivity varies between 2.16 and 2.56 kcal/m.hr. C. This material could be easily cut. The compression strength of blocks made of serpen-

Card 1/3 UDC: 621.039.538.4

tinite reaches 600 kg/sq cm. The shielding properties of serpentinite fine sand (from Bazhenov deposits) were tested in a water-cooled and water-moderated research reactor. The boxes filled with sand were placed close to the core vessel. The maximum thickness was about 180 cm. The sand density was 1.62 ton/cu m. The chemical composition given in a table shows that the serpentite sand includes 38.83% of SiO_2 and 37.39% of MgO. The investigations were carried out assumming "semi-infinite" and "energy barrier" geometry. The method of induced activity was used for determining the neutron flux attenuation, while the gamma dose rate was measured by means of a scintillation dosimeter. The macroscopic cross-section for fast neutrons in sand was calculated as 0.0602 cm^{-1} of which 45% was due to oxygen and 21% to hydrogen. The variations of cross sections in serpentite and its main components for different levels of fast neutron energy was shown in a graph. The peaks and dips in curves reflected the dependence of cross-sections upon the presence of oxygen. The attenuation of fast neutrons calculated on the basis of threshold measurements is also graphically illustrated. From these graphs and a table, it follows that the relaxation of neutron in serpentite sand is the same as in boron carbide. The protective properties of serpentite monolithical blocks are considerably higher than those of iron ore concentrates and only slightly better than those of serpentinous concrete. The spectra of fast neutrons were also determined and the

L 28032-66

ACC NR: AP5026441 O

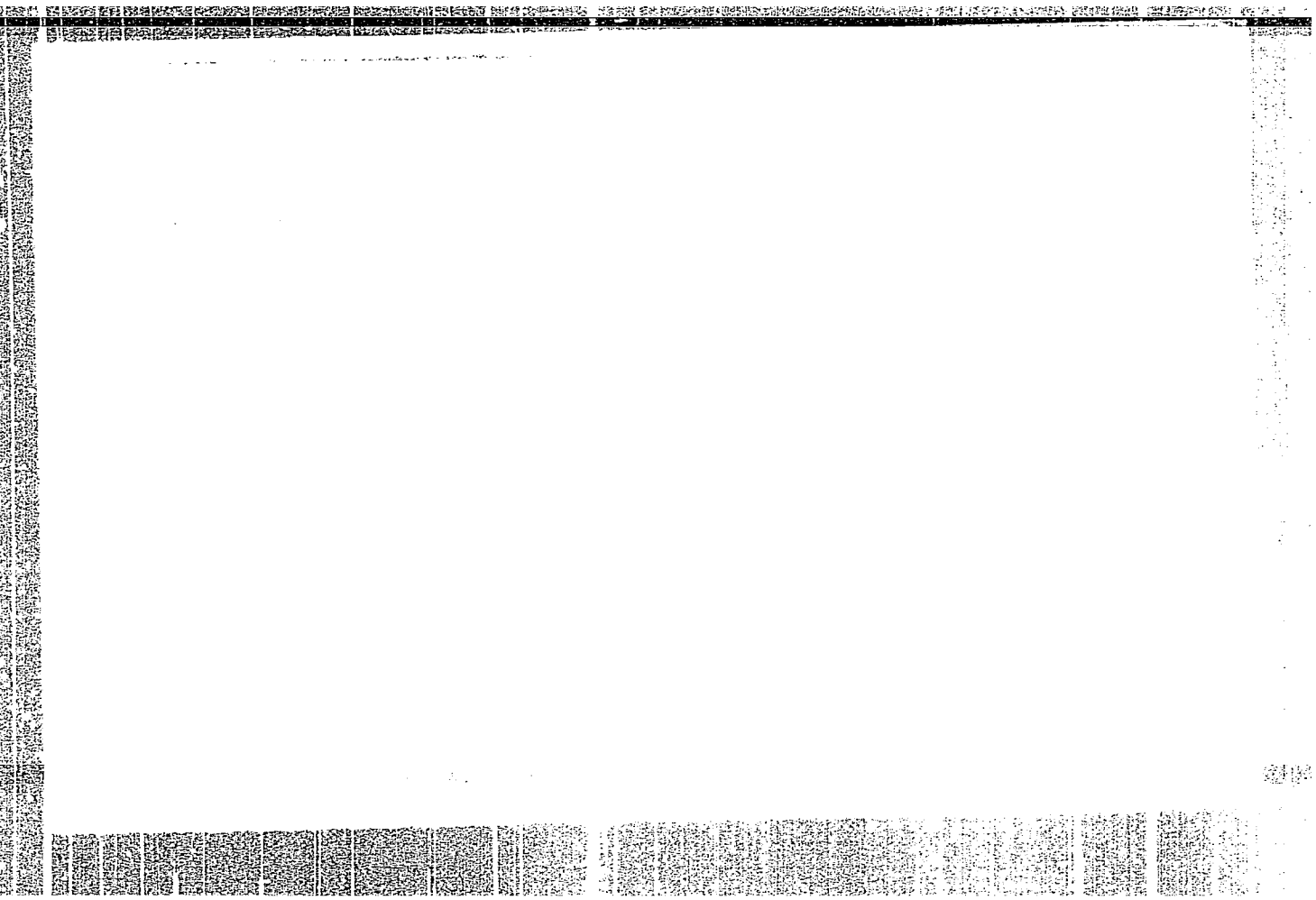
energy distributions at 0, 30, 60, 100 and 140-cm thickness were plotted for various values of neutron flux. The greatest changes were observed for energy levels from 3 to 8 Mev. The relaxation length varies from 14.9 to 17 cm. The flux attenuation for thermal and epithermal neutrons was also investigated. A certain accumulation of neutrons was observed at small serpentite thicknesses. The relaxation was about 15.2 cm. This length is smaller than that (about 20 cm) obtained for iron ore concentrates. The attenuation of dose rates of fast and intermediate neutrons was the same for tested layer thicknesses. The dose relaxation was 15.2 cm. The gamma dose attenuation was 22 cm for a serpentite layer of 270 g/sq cm. The experiments showed that the serpentite sand is as good as the boron carbide. In conclusion, it was stated that the serpentite is not as good as the iron ore concentrate, although the monolithic serpentite has a lower relaxation length. The serpentite shielding properties could be improved by using a mixture consisting of 25% of serpentite and 75% of iron. The full neutron dose relaxation will be about 9 cm. ORIG. art. has: 4 tables and 5 graphs.

SUB CODE: 18 / SUBM DATE: 29Jan65 / ORIG REF: 11 / OTH REF: 3

Card 3/3 dc

VASIL'YEV, G.A.; VESELKIN, A.F.; YEGOROV, Yu.A.; KUCHERYAYEV, V.A.; PANKRAT'YEV, Yu.V.

Attenuation of reactor radiations by serpentine concrete. Atom. energ. 18 no.2:121-127 F '65. (MIRA 18:3)



I-3992/-65

VESELKIN, A.P.; YEGOROV, Yu.A.; ORLOV, Yu.V.; PANKRAT'YEV, Yu.V.

Spectra of fast neutrons from a reactor after passing through graphite, lead, and iron. Atom. energ. 16 no.1:32-40 Ja '64. (MIRA 17:2)

ACCESSION NR: AT4019065 S/0000/63/000/000/0304/0310

AUTHOR: Yegorov, Yu. A.; Pankrat'yev, Yu. V.

TITLE: A single-crystal fast-neutron spectrometer for the measurement of continuous spectra

SOURCE: Voprosy* fiziki zashchity* reaktorov; sbornik statey (Problems in physics of reactor shielding; collection of articles). Moscow, Gosatomizdat, 1963, 304-310

TOPIC TAGS: nuclear reactor, reactor shielding, yield proton method, stilbene scintillator, radiation dosimetry, neutron, neutron spectrometer, single crystal spectrometer, continuous spectrum, scintillation spectrometer, organic scintillator

ABSTRACT: The authors call attention to the differences between spectrometers with a single hydrogen-containing scintillator and other high-efficiency scintillation spectrometers. It is pointed out that the possibility of discovering differences in the glow time of certain organic scintillators when they are radiated by protons and electrons and the development of methods for the discrimination of pulses caused by gamma-radiation has recently made possible a far wider application of single-crystal spectrometers for various kinds of measurements. The yield proton method is discussed as the most widely used technique for the

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ACCESSION NR: AT4019065

measurement of the energy values of fast neutrons in connection with the spectrometer type under consideration. Formulas are obtained for the number of yield protons for given scintillator parameters and in a given energy range. An additional formula is given whereby the correction factor for secondary scattering and yield proton energy leak (dissipation) can be calculated. A spectrometer designed for measurements in a nuclear reactor is described. Crystal thickness as influenced by the presence of an intensive gamma-background is considered in some detail. A graph illustrating the correction factor for secondary scattering and for incomplete proton energy absorption is presented. The authors claim that, depending on the neutron energy, the efficiency of the 5-mm thick stilbene crystal used in the spectrometer described varies from 37 for E_0 = 2 Mev to 1.3% for E_0 = 10 Mev. It is further claimed that no other fast-neutron scintillation spectrometer possesses such high efficiency. An FEU-33 photomultiplier is used in the single-crystal spectrometer. A discrimination circuit proposed by Brooks (Nucl. Instrum, 4, 3 (1959)) is employed to eliminate the effect of the gamma-background. A block diagram of the device used to balance this discrimination circuit is given in the article. By means of this circuit, each pulse on the oscilloscope screen is represented by a gleaming dot. A block diagram of the single-crystal fast-neutron

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ACCESSION NR: AT4019065

spectrometer may be seen in the Enclosure. A pulse, whose amplitude is proportional to the yield proton energy, is tapped from the photomultiplier diode and passes through the cathode follower to the linear pulse amplifier. The boosted pulse is fed through the delay line to the electronic key. For control of the operation of the spectrometer, a pulse from the output of the discrimination circuit is used which passes through the cathode follower to the amplifier, and then to the integral discriminator. This integral discriminator is at the same time a regulating mono-vibrator and is so tuned that it is triggered only by proton pulses. For pulse amplification in both spectrometer channels type USH-10 amplifiers are used. The pulse amplitude analyzer is a hundred-channel analyzer, type AI-100-1. The techniques used to check the quality of the spectrometer operation are described in the article. Control measurements indicated that operation was reliable. In the region of neutron energy values greater than 0.9 Mev, the test results lend themselves to easy processing (the tests were conducted by measuring the neutron spectra of Po + Be, Po + B sources, a nuclear reactor and the spectral deformation of a Po + Be source in water). The spectrometer was found to be practically insensitive to gamma-radiation in a stream of gamma-quanta approximately 10^4 greater than the neutron stream. "The authors wish to thank Yu. G. Anisimov for his assistance in conducting the experiments and in calibrating the spectrometer." Orig. art. has: 7 figures and 7 formulas.

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ACCESSION NR: AT4019065

ASSOCIATION: none

SUBMITTED: 14Aug63 DATE ACQ: 27Feb64 ENCL: 01

SUB CODE: NP NO REF SOV: 005 OTHER: 008

Card 4/5

ACCESSION NR: AT4019065 ENCLOSURE: 01

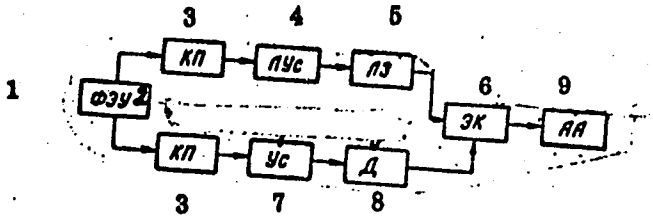

Figure 1. Block diagram of the single-crystal fast-neutron spectrometer: 1 - radiation source; 2 - spectrometer sensor with discrimination circuit; 3 - cathode follower; 4 - linear pulse amplifier; 5 - delay line; 6 - electronic key; 7 - amplifier; 8 - integral discriminator; 9 - pulse amplitude analyzer

Card 5/5

ACCESSION NR: AT4019066 S/0000/63/000/000/0310/0312

AUTHOR: Yegorov, Yu. A.; Orlov, Yu. V.; Pankrat'yev, Yu. V.

TITLE: Permissible Gamma-background in measurements by a fast neutron spectrometer with a single detector

SOURCE: Voprosy* fiziki zashchity* reaktorov; sbornik statey (Problems in physics of reactor shielding; collection of articles). Moscow, Gosatomizdat, 1963, 310-312

TOPIC TAGS: neutron spectrum, Gamma-background, fast neutron, reactor shielding, spectrometer, spectrometer discrimination, photomultiplier, neutron flux measurement

ABSTRACT: The discriminating ability of a single-detector fast neutron scintillation spectrometer against a γ-radiation background was studied by two methods: separation by an electronic circuit (Brooks, F. D. Nucl. Instrum. 4, 151 (1959)), and separation based on the spatial charge saturation in the region between the last dynode and the anode of a photomultiplier (Owen, R. B. Trans. I.R.E. PGNS 5, 198 (1958)). In both cases, an FEU-33 photomultiplier was used with a stilbene crystal (30x20 mm). The energy threshold of the spectrometer was set at 0.6 Mev and determined from the reaction $D(d,n)He^3$. A Po + Be neutron source was

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ACCESSION NR: AT4019066

used and Co^{60} served as a γ-radiation source. The results are given in the Enclosure, based on data obtained by the electronic circuit separation method (Fig. 1a) and the spatial charge saturation method (Fig. 1b), respectively. As seen from Fig. 1a, γ-quanta at 1.33 Mev are not registered until the intensity of γ radiation exceeds 4mc/sec. In the spatial charge saturation method, γ-quanta are registered only if the limit of 15-20 mc/sec is exceeded. It is found, however, that γ radiation with energies greater than 3 Mev is registered when the spatial charge saturation method is used in measurements on a nuclear reactor. This difficulty is avoided by increasing the energy threshold to 2.1 Mev. It is then possible to measure a fast neutron spectrum when the ratio of neutron flux to that of γ-rays is 1:2000. Orig. art. has: 2 figures.

ASSOCIATION: none

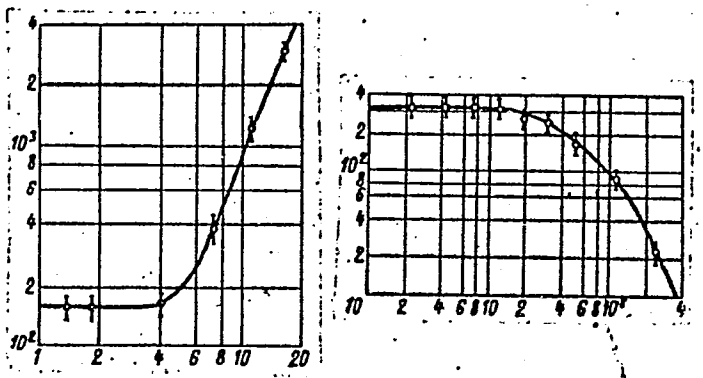
SUBMITTED: 14Aug63 DATE ACQ: 27Feb64 ENCL: 01

SUB CODE: NP NO REF SOV: 005 OTHER: 003

Card 2/3

ACCESSION NR: AT4019066

ENCLOSURE: 01



a b

Recording characteristics of a fast neutron spectrometer with a system of discrimination based on: a) comparing the full charge count with the peak count electronically; b) the γ-background of the spatial charge. In both a and b: ordinate = relative number of counts, and abscissa = γ-radiation dose in $\mu r/sec$.

Card 3/3

ABSTRACT: The shielding characteristics of concrete (density, 2.2 t/m^3) with serpentine aggregate [illegible]

Card 1/2

ASSOCIATION: none

Card 2/2

ACC NR: AP6032440 SOURCE CODE: UR/0368/66/005/003/0284/0287

AUTHOR: Tsekhanskiy, G. N.; Pankrat'yeva, E. A.; Vafiadi, V. G.

ORG: none

TITLE: Procedure for measuring the depth of modulation of light flux

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 3, 1966, 284-287

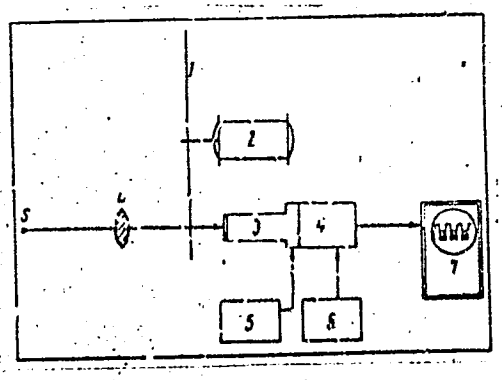
TOPIC TAGS: light modulation, luminescence, photoconductivity, Kerr cell

ABSTRACT: In view of the development of new types of modulators for use with research on luminescence kinetics and photoconductivity, the authors describe apparatus, aimed at comparing different modulators, for the measurement of the depth of modulation of light flux from a light modulator or from a source of modulated light. The principle of the apparatus (Fig. 1) is based on interrupting the light by a rotating perforated disc and measuring the oscillograms of the output of photomultiplier on which the interrupted light is incident. A Kerr cell was used as a standard modulator producing a constant depth of light-flux modulation. The use of the Kerr cell made it possible to correct the photomultiplier readings for inertia occurring at different frequencies. As an example illustration of the operation of the equipment, it was used to measure the depth of modulation of the light flux from a neon lamp (type TF-0.20) at 4 Mcs. Orig. art. has: 4 figures, 3 formulas and 1 table.

Card 1/2 UDC: 621.376

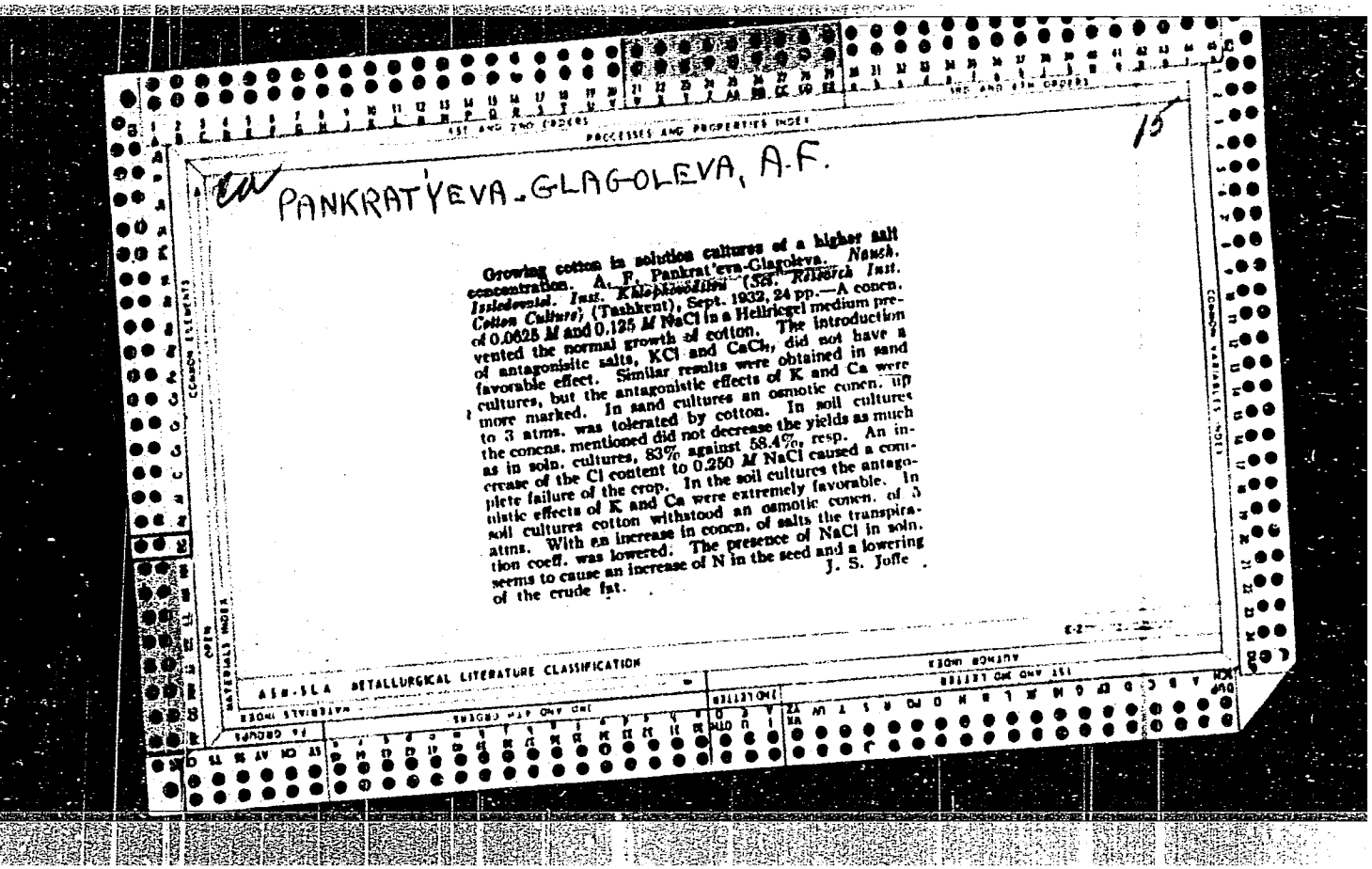
ACC NR: AP6032440

Fig. 1. Block diagram of apparatus for the measurement of depth of modulation of light flux. 1 -- Perforated disc, 2 -- motor, 3 -- photomultiplier, 4 -- preamplifier with cathode follower, 5 -- photomultiplier power supply, 6 -- preamplifier power supply, 7 -- oscilloscope.



SUB CODE: 20/ SUBM DATE: 26Oct65/ ORIG REF: 003

Card 2/2



15

PANKRAT'YEVA-GLAGOLEVA, A.F.

Growing cotton in solution cultures of a higher salt concentration. A. F. Pankrat'eva-Glagoleva. *Nauch. Issledovatel. Inst. Khlopkovodstva* (Sci. Research Inst. Cotton Culture), (Tashkent), Sept. 1932, 24 pp.—A concn. of 0.0625 *M* and 0.125 *M* NaCl in a Heilriegel medium prevented the normal growth of cotton. The introduction of antagonisitc salts, KCl and $CaCl_2$, did not have a favorable effect. Similar results were obtained in sand cultures, but the antagonistic effects of K and Ca were more marked. In sand cultures an osmotic concn. up to 3 atms. was tolerated by cotton. In soil cultures the concns. mentioned did not decrease the yields as much as in soln. cultures, 83% against 58.4% resp. An increase of the Cl content to 0.250 *M* NaCl caused a complete failure of the crop. In the soil cultures the antagonistic effects of K and Ca were extremely favorable. In soil cultures cotton withstood an osmotic concn. of 5 atms. With an increase in concn. of salts the transpiration coeff. was lowered. The presence of NaCl in soln. seems to cause an increase of N in the seed and a lowering of the crude fat.

J. S. Joffe

PODBEL'SKIY, G.N., kand.tekhn.nauk; PANKRAT'YEVA, N.P., inzh.

Marking and classification of oxidized coal from Kuznetsk Basin strip mines. Nauch.trudy KuzNIIUgleobog. no.2:163-182 '64.

(MIRA 17:10)

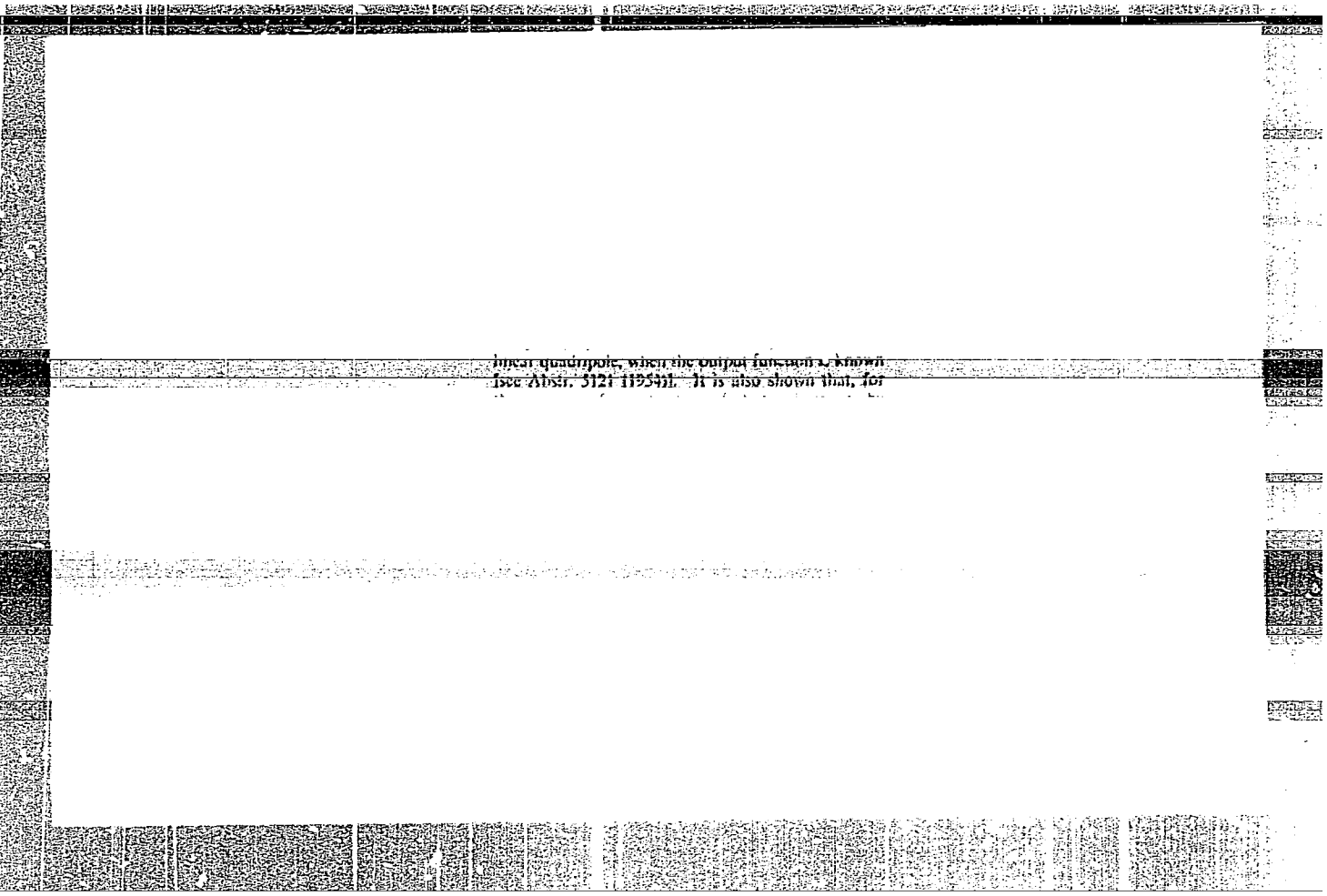
38363 PANKRAT'YEVA, T. V.

Tarzo-kon"yunktival'nyye nasechki v terapii III stadii trakhomy.
Zdravookhraneniye Kazakhstana, 1949, No 6, s 10-12

PANKRAZ, O.

Two mathematical remarks on the solution of feed-back problems. p.165
SLABOPROUDY OBZOR. Vol. 15, No. 4, April 1954. Prague.

SOURCE: Monthly List of East European Accessions (EEAL) LC, Vol. 5, No. 6, June 1956, Uncl.



PANKREV, P. I.

PANKREV, P. I. --"'Water- Soluble' Camphor Compounds as Regulators of Blood Pressure in Experimental Hypotonic and Hypertonic States in Dogs. *(Dissertation for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Min of Higher Education USSR, Leningrad Veterinary Inst., Leningrad, 1955

SO: Knizhnaya Letopis', No. 25, 18 Jun 55

* For Degree of Candidate in Veterinary Sciences

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Forestry Schools and Education

Thirtieth anniversary of the Lybianskii Forest Technical School. Les. Khoz. 4 no. 12, 1951

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

DANCHEVSKAYA, M.N.; KOBOZEV, N.I.; PANKRUSHEV, Yu.A.

Catalysis by metal vapors. Part 3. Zhur. fiz. khim. 38 no.2: 442-448 F '64. (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet.

PANKRUSHIN, V.K., aspirant.

Investigating the accuracy of staking out engineering structures by the method of angular intersections. Izv. vys. ucheb. zav.; geod. i aerof. no.5:63-71 '60. (MIRA 13:12)

1. Novosibirskiy inzhenerno-stroitel'nyy institut imeni V.V. Kuybysheva.

(Surveying)

AUTHORS: Gusarov, A. K., Pankrushin, V. K. S/006/60/000/03/003/019
B007/B123

TITLE: On the Application of the Method of Measuring Angles in Sets

PERIODICAL: Geodeziya i kartografiya, 1960, Nr 3, pp 21 - 25 (USSR)

TEXT: The present paper refers to an article by B. M. Rubis published in the periodical "Geodeziya i kartografiya", 1959, Nr 1. B. M. Rubis demands that the application of the method of measuring angles in sets be prohibited for observations at triangulation points of the second order, and that it should be restricted at points of the third order. Based on the experience gained in the Novosibirskoye AGP (Novosibirsk Aerogeodetic Enterprise) it is shown that B. M. Rubis is wrong. The observers N. F. Shishayev, Yu. A. Bykov, I. G. Dement'yev, and N. A. Dragovich are mentioned. For observations with changing sight conditions in some directions the method suggested by N. V. Yakovlev (Ref 1, footnote on p 23) is recommended. In order to confirm the arguments in favor of this method Professors D. A. Kuleshov (Ref 2, footnote on p 24) and K. L. Provorov and Docent A. A. Vizgin (Ref 2, footnote on p 24) are cited. Based on the explanations made here the following is noted and suggested: 1) When observing points of continuous triangulation nets by means of the method of measuring angles in sets the results obtained show the same accuracy as when observing angles in all combinations. However, it saves time, and the successive

Card 1/2

On the Application of the Method of Measuring Angles in Sets

S/006/60/000/03/003/019
B007/B123

adjustment is simpler when applying the former method. 2) Experience gained from setting up continuous triangulation nets of the second and third order - more than half the points of the second order and all points of the third order being observed by the method of measuring angles in sets - showed that the accuracy achieved met the demands of the mapping phase. 3) For setting up triangulation nets the most economical methods must be used in order to prevent superfluous work. On of the ways would be to apply to a large extent the method of measuring angles in sets and the method of "incomplete observations" for observations at triangulation points of the second order. 4) The development of new methods used to measure horizontal angles must be continued, the solution being found in uniting the method in all combinations with the method of measuring angles in sets. 5) The question of reducing the number of observations to nine for observations of triangulation points of the third order should be considered. There are 1 table and 3 Soviet references.

Card 2/2

PANKRUSHIN, V.K., aspirant

Precalculating the accuracy of an auxiliary point in laying out engineering projects. Izv. vys. ucheb. zav.;geod. i aerof. no.2:67-76 '62. (MIRA 15:9)

1. Novosibirskiy inzhenerno-stroitel'nyy institut imeni Kuybysheva. (Surveying)

PANKRUSHIN, V.K., aspirant

Accuracy of staking out structures by the microtraingulation method. Izv. vys. ucheb. zav.; geod. i aerof. no.2:77-85 '61. (MIRA 14:6)

1. Novosibirskiy inzhenerno-stroitel'nyy institut imeni V.V. Kuybysheva.
(Triangulation)

PANKRUSHIN, V.K.

Erection of masts on trees to be used as triangulation reconnaissance points. Geod.i kart. no.3:22-26 My '56. (MLRA 9:10)
(Triangulation)

3 (4)

AUTHOR: Pankrushin, V. K. SOV/6-59-5-12/25

TITLE: Some Remarks on the Reconnaissance of Triangulation Points (Nekotoryye zamechaniya po rekognostsirovke punktov triangulyatsii)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 5, pp 28-31 (USSR)

ABSTRACT: The paper under consideration presents a number of remarks on the method and the devices employed in reconnaissance. As a rule, two main operations are carried out in the reconnaissance of the triangulation nets of the 2nd and 3rd orders according to the maps drawn on a scale of 1 : 100000 - accurate identification of the zone for the projected point in the terrain, and the determination of the elevation of the control point. The Novosibirskoye aerogeodezicheskoye predpriyatiye (NAGP)(Novosibirsk Aerogeodetic Enterprise) employ the procedure proposed by the author. In open or closed flat terrains this procedure facilitates with sufficient accuracy the immediate reaching of the zone of the projected station along the mapped-out route, vast and deep bogs being avoided. The direction of movement is determined by means of a compass, the distance by means of a two-meter rod. - The flat taiga

Card 1/2

Some Remarks on the Reconnaissance of Triangulation Points

SOV/6-59-5-12/26

bog terrain, where the author carried out work, is called "urman" by the population. On the boggy ground of the urman progress is difficult even for horses carrying burdens of only 30-40 kg. Almost always two horses are required per man. The highest tree clusters consist of aspen trees, which are very brittle, thus rendering difficult the erection of masts on these trees. In open and flat terrain the distance is determined by the number of wheel revolutions in vehicles or cars by means of a speedometer. A cyclometer ("odometr") is recommended for the Soviet Far North. Some remarks are presented on the erection of masts and on reconnaissance from masts or tree-tops. - The use in reconnaissance of periscopes of the type of the artillery mast periscope seems desirable. These periscopes would render superfluous the climbing of masts and eliminate the dangers involved. Besides, women could then also be employed in reconnaissance. There are 5 Soviet references.

Card 2/2

GUSAROV, A.K.; PANKRUSHIN, V.K.

Using the method of circular observations. Geod.i kart. no.3:21-25 Mr '60. (MIRA 13:6)
(Triangulation)

PANKRUSHIN, V.A.

"The Placing of Masts on Trees for Reference Points in Triangulation," by V. K. Pankrushin, Tr. Novosibir. in-ta. inzh. geod., aerofotos'yemki i kartogr., No 7, 1956, pp 41-46 (from Referativnyy Zhurnal -- Astronomiya, Geodeziya, No 2, Feb 57, Abstract No 1641)

The means of lifting masts and poles on trees is suggested. For this method, only three workers are needed. It is also suggested that the man setting the reference points use metallic insertion stairs instead of wooden leads, and to fix the span rope, that he use clamps in the form of a chain with a semiautomatic closure. The computation of the strength of the lifting rope, levers, and turning axis is presented. (U)

Sum. 1360

TOPIC TAGS: wattmeter

connection diagram are presented. The instrument [illegible]
permits visual observation of active-power, voltage, and current pulses
[3 oscilloscopes ; row [illegible]

1—10 Mc range. Rated peak currents are 50—1,000 amp [illegible] range and for
[illegible]

29603

S/120/61/000/004/012/034
E192/E382

9.6000 (1089,1159)

AUTHORS: Yakovlev, K.A., Pankrushina, D.K. and Basin, Yu.G.

TITLE: A pulse-power measuring instrument

PERIODICAL: Pribory i tekhnika eksperimenta, no. 4, 1961, pp. 89 - 91

TEXT: A block diagram of the instrument is shown in Fig. 1. The signals from pick-ups 1 and 2, which are proportional to the current and voltage amplitude (in the right phase) are applied to the voltage dividers 3 and 4. The latter are used for attenuating the signals to the required level necessary for the operation of the converter 5. When the input signals are applied to the converter, a constant amplitude pulse is obtained at its output, the pulse being proportional to the instantaneous active power across the measured load. The peak value of the pulse is recorded by the memory device 6 and is measured by the DC vacuum tube voltmeter 7. The correcting network 8 is employed for the correction of the measurement error of the converter. A calibration generator 9 is used for checking the instrument

Card 1/04

during its operation. The electrical circuit of the pick-ups is such as to give a satisfactory amplitude and phase response over the frequency range from 0.8 to 8 Mc/s. The current and voltage ranges for the pick-ups are 50 - 2 100 A and 1 - 15 kV, respectively. The feeders for the pick-ups are in the form of screened cables, type PK-50 (RK-50), 8 m long. The current pick-up (Fig. 2) is in the form of a toroidal coil situated in an electromagnetic screen. The mean diameter of the coil is 150 mm and the cross-section of its winding is 6 cm^2, the number of turns being 70. The coil resistance is R_1 = 20 ohm and the natural resonance frequency of the coil is 15 Mc/s. The voltage pick-up (Fig. 3) is mounted on the toroidal screen of the current pick-up. Its transfer coefficient is 0.01. The quantity $\omega_H C_2 \rho = 3$, which eliminates the frequency-phase errors of the pick-ups. The converter of the instrument is based on a pentode type PK-71 (GK-71) and the high-frequency pulses from the dividers are applied to the

29605
S/120/61/000/004/012/034
E192/E382

A pulse-power measuring instrument

first and the third grids of this tube. The biasing voltage and the signal amplitudes are chosen so that the operating point of the pentode does not emerge from the linear region of its static characteristics $i_a(u_{g1})$ and $i_a(u_{g3})$. The magnitude of the DC component at the anode of the converter is therefore proportional to the active power $I_H U_H \cos \varphi$ at the load; the increment of the anode voltage level is therefore used as the useful signal. All the high-frequency components of the anode voltage are eliminated by a low-frequency filter having a cut-off frequency of 400 kc/s. During the operation of the converter, a negative video pulse is obtained at the output of its anode filter. The polarity of the pulse is changed by a phase inverter and this is applied to the cathode followers which drive three storage diodes. The parameters of the storage diodes are chosen in such a way that the charge on the capacitance of the last storage cell, which corresponds to the peak value of the pulse, remains constant for about 2-3 sec. The voltage across this storage capacitance is measured by the

Card 3/4

29603

S/120/61/000/004/012/034
E192/E382

A pulse-power measuring instrument

valve voltmeter. The calibration generator produces single, amplitude-calibrated video pulses of both polarities; the negative pulse is used to test the storage circuit while the positive pulse is employed to check the converter. The instrument is supplied from the mains via a ferroresonance stabiliser. For the mains changes of ± 10 - 15% the change in the instrument reading does not exceed 1%. The instrument does not require recalibration when any of its tubes are replaced since its reading is not changed thereby by more than 2 - 3%. The authors thank N.G. Kovalenko, V.N. Goncharov and V.P. Bezruka for taking part in designing the preliminary models of the instrument. There are 4 figures.

SUBMITTED: November 2, 1960

Card 4/4

YAKOVLEV, K.A.; PANKRUSHINA, D.K.; BASIN, Yu.G.

Instrument for measuring peak pulse power. Prib. i tekh.eksp. 6 no.4:89-91 Jl-Ag '61. (MIRA 14:9)
(Pulse techniques (Electronics))

STADNIKOVA, Ye.I.; PANKRUSHINA, G.V.

Method of compensating for massive and rapid losses of blood.
Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:60-63 '63.
(MIRA 17:12)

PANKUL, A., traktorist.

Cultural work in the field. Sov.profsoiuzy 4 no.8:34-35 Ag '56.
(MLRA 9:10)

1.Kul'torganizator profgruppy vos'moy traktornoy brigady Panfilovskoy mashinno-traktornoy stantsii.
(Panfilovo (Stalingrad Province)--Social group work)

PANKUL,L. A.

THE REPAIR OF DIESEL ENGINE CYLINDERS. L. A. Pankul. (Avtogennoe Delo, 1948, No. 3, p. 32). (In Russian). A description is given of the repair of large cracks in American diesel engine cylinders by oxy-acetylene welding with a borax flux. The engines repaired in this way have given satisfactory service for a number of years.

Immediate source clipping

PANKUL, L. A.

M

20

Babbitt Metal Lining by Means of the Gas Torch. L. A. Pankul (*Avtog. Delo*, **1949**, (7), 29).—[In Russian]. A method of applying an anti-friction lining to locomotive cross-head bearings is described, using an oxy-acetylene torch in which the cross-head is set up in an inclined position on a welding table, the inclination being varied to control the thickness of the built-up layer and to lay down minimum tolerances in manufacture. Besides speeding up the process of lining, the method makes it possible to build up a bearing surface without removing the old lining.—W. J. K.

L-1207, 1950

PANKUL, L.A.

USSR/ Engineering - Cold welding

Card 1/1 Pub. 128 - 15/26

Authors : Sineok, Ya. Ya.; Baranov, M. S.; Pankul, L. A.; Sapiro, L. S.; Kagan, I. Z.; Glukhov, P. A.; Mikhin, V. N.; and Karpichev, A. S.

Title : The cold welding of crude iron

Periodical : Vest. mash. 2, 68-71, Feb 1954

Abstract : In order to familiarize and draw the attention of readers to the pressing problems of cold welding (soldering) of crude iron, the Editorial Office published several articles in which various methods of cold welding are discussed, and a description is given of the operations performed and the type of electrodes and equipment used for the above mentioned purpose. Table; drawings; illustrations.

Institution: : .....

Submitted : .....

PANKUL, L.A.

135-9-14/24

AUTHORS: Dikiy, V.M., and Pankul, L.A., Engineers

TITLE: Repair of a Cast Iron Locomotive Cylinder by Welding (Remont svarkoy chugunnogo parovoznogo tsilindra)

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 9, p 32 (USSR)

ABSTRACT: The article describes repair operations performed at the Smolensk Locomotive Depot on a cylinder of a "Эу706-90" locomotive, which was severely damaged in an accident. Broken off portions of the cylinder and the frame were welded and the broken bushing was replaced. Iron-copper electrodes "034-1" of 3-5 mm diameter were used. The work required 31 kg of these electrodes and 30 work hours. After the described repair, the locomotive has been now for a considerable time in service. No defects were revealed on the repaired cylinder at the recent regular overhaul of locomotive. A detailed description of all repair operations involved is given. As a conclusion, it is stated that the electrodes "034-1" considerably extend the possibilities of cold welding of cast iron, in particular in the repair of locomotives

Card 1/2

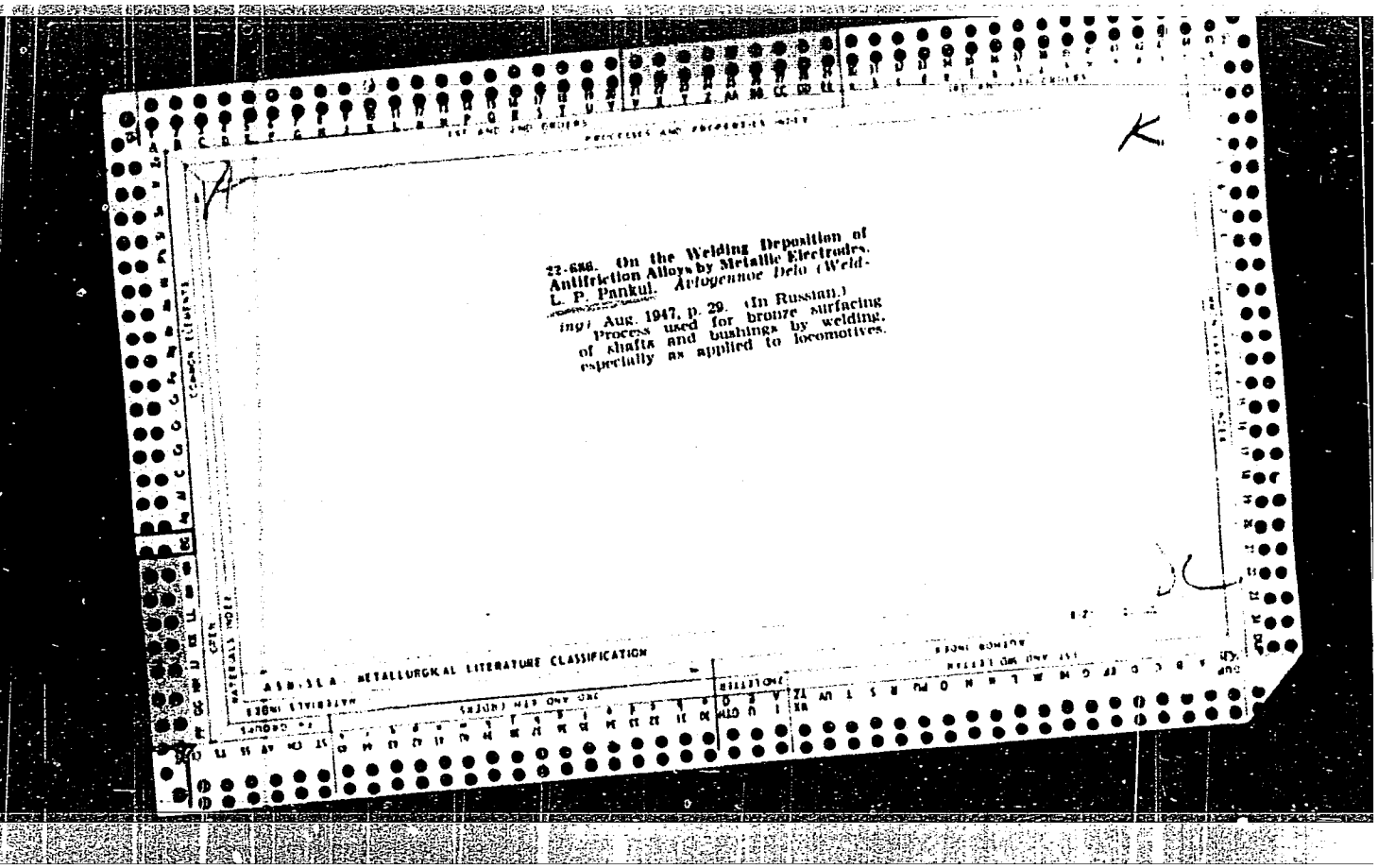
Repair of a Cast Iron Locomotive Cylinder by Welding 135-9-14/24

under conditions of RR depots.
The article contains 3 sketches and 1 drawing.

ASSOCIATION: Smolensk Locomotive Depot (Smolenskoye parovoznoye depo)

AVAILABLE: Library of Congress

Card 2/2



22-686. On the Welding Deposition of Antifriction Alloys by Metallic Electrodes. L. P. Pankul. *Avtogennoe Delo* (Welding), Aug. 1947, p. 29. (In Russian.) Process used for bronze surfacing of shafts and bushings by welding, especially as applied to locomotives.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

PANKUL, L. P. PA 18T16

USSR/Welding - Methods Aug 1947
Alloys, Antifriction

"Beading Antifriction Alloys with Metal Electrodes," L. P. Pankul, Highway Instructor for Investigation of Locomotive Service, Trans-Caucasian RR, ½ p

"Avtogennoye Delo" No 8

Author adds his article to that published in issue No 1, 1947, of "Avtogennoye Delo." Commends the foresight of the Ministry of Transportation which suggested carburization of beads and bushings produced from ST-2 and tempering where ST-5 was used. Four locomotives using beads with bronze plating, in 1946, fully proved the worth of the Ministry of Transportation's foresight

18T16

ACC NR: AP7009120 SOURCE CODE: UR/0413/67/000/003/0110/0110

INVENTOR: Pleshko, A. P.; Kashirin, Yu. N.; Pankusov, N. A.

ORG: None

TITLE: A hydroacoustic pulsator for checking pressure gauges. Class 42, No. 191169

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 110

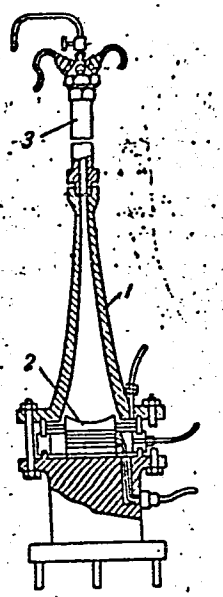
TOPIC TAGS: resonator, waveguide, pressure gage, quality control, piezoelectric transducer

ABSTRACT: This Author's Certificate introduces a hydroacoustic pulsator for checking pressure gauges. The device contains a base which holds a piezoceramic transducer and a working chamber filled with fluid. To increase the amplitude and frequency of the vibrations, the working chamber is made in the form of an exponential waveguide concentrator with the broad end connected to a spherical radiating diaphragm while the narrow end is connected to interchangeable tubular resonators terminating in the head and test pickups.

UDC: 531.787.913

Card 1/2

ACC NR: AP7009120



1--exponential waveguide compensator; 2--spherical radiating diaphragm,; 3--tubular resonator

SUB CODE: 14/ SUBM DATE: 18May65

Card 2/2

GOGUADZE, V.P.; IVANOV, T.N.; VITUL'SKAYA, N.V.; KVESELAVA, V.N.; NATROSHVILI, D.R.; PAIKVELASHVILI, A.G.

Solubility of hydroxylamine sulfate in cyclohexanone ar the separation of the cyclohexanone oxime complex syste Soob. AN Gruz. SSR 37 no.3:567-572 Mr '65. (MIRA 18:5)

1. Institut prikladnoy khimii i elektrokhimii AN GruzSSR, Tbilisi.
Submitted June 15, 1964.

SHAPIRO, L.G., inzh.; PANN, I.A., inzh.

Device for the flooding of ship-raising pontoons on rough waters.
Sudostroenie 29 no.6:47-49 Je '63. (MIRA 16:7)
(Pontoons) (Damping (Mechanics))

ACC NR: AP6035917 (A) SOURCE CODE: UR/0413/66/000/020/0163/0163

INVENTOR: Bogdanov, S. A.; Kaloyev, A. V.; Makeyev, A. D.; Shipilevskiy, G. B.; Ponomarev, V. I.; Simonov, L. P.; Soshnikov, A. A.; Kalinovskiy, N. F.; Vaynshteyn, L. A.; Pann, L. A.; Kudel'skiy, V. A.; Skrypnik, I. A.

ORG: none

TITLE: Device for automatic control of a wheeled vehicle. Class 45, No. 187433 [announced by the State Union Scientific Research Tractor Institute (Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut); Khar'kov Tractor Plant (Khar'kovski. ...ktornyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 163

TOPIC TAGS: agricultural machinery, ~~automatic control~~, automatic control equipment, tractor, motor vehicle

ABSTRACT: An Author Certificate has been issued for a device for the automatic control of a wheeled vehicle, which includes a duplicating feeler, a feeler-deflection transducer, an electric gate valve, and a hydraulic steering-gear amplifier. To simplify the changeover to and from automatic control, it is equipped with a three-way cock with a handle. The cock's input is connected to a pump, one of its outputs is connected to a distributing hydraulic amplifier, and its second output is connected

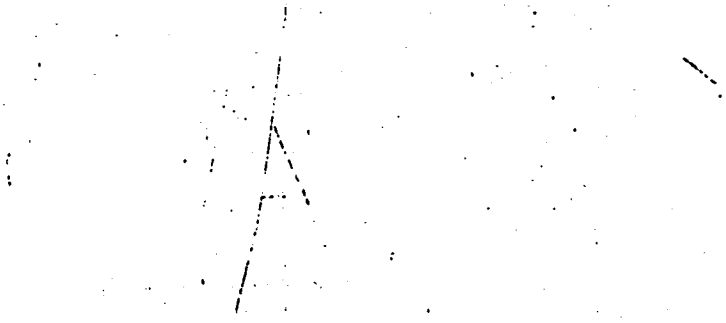
UDC: 631.36:629.114.2-52

Card 1/2

ACC NR: AP6035917

to the electric gate valve. In order to smoothly change the rpm, between the pump and the cock's input is mounted a throttle. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 30Dec65/



Card 2/2

PANNER, N.

Determining magnitude scale for surface waves for the Collmberg Seismic Station. In German. p. 242.

STUDIA GEOPHYSICA ET GEODAETICA. (Ceskoslovenska akademie ved. Geofysikalni ustav) Praha, Czechoslovakia, Vol. 3, no. 3, 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 11, Nov. 1959 uncl.

KIBALENKO, Teresa; PANNERT, Leszek

Studies on the electrophoretic picture of the blood serum in premature infants. Pediat. pol. 38 no.2:145-155 '63.

1. Z Zakladu Wczesniakow Katedry Propedeutyki Pediatrii AM w Warszawie Kierownik Katedry: prof. dr med. Z. Lejmbach Kierownik Zakladu: doc. dr med. I. Bielicka.

(INFANT, PREMATURE)
(BLOOD PROTEIN ELECTROPHORESIS)

B

COUNTRY : HUNGARY
CATEGORY : Physical Chemistry. Molecule. Chemical Bond. Molecular Spectra
ABS. JOUR. : RZKhim., No. 1 1960, No.124

AUTHOR : Pannetier, G.; Guenebaut, H.
INST. : Hungarian AS
TITLE : Explosive Decomposition and Atomic Flames of Normal and Heavy Hydrazoic Acid. The Transition $^3\Pi - {}^3\Sigma$ NH and ND
ORIG. PUB. : Acta chim. Acad. scient. hung., 1959, 18, No 1-4, 347-364
ABSTRACT : No abstract
See RZhKhim., No 20, 1959, No 70361.

CARD: 1/1

PANNIKOV, V.D.

[Tillage] Obrabotka pochv. [Gor'kii] Gor'kovskoe kn-vo, 1953. 149 p. (MLRA 9:8)

(Tillage)

PANNIKOV, Viktor Dmitriyevich

(Gor'kiy Agricultural Inst), Academic degree of Doctor of Agricultural Sciences, based on his defense, 6 April 1955, in the Council of Moscow Forestry-Engineering Inst of his dissertation entitled: "Genesis of forest-steppe soil."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 18, 10 Sep 55, Byulleten' MVO SSR, No. 17, Sep 56, Moscow, pp 9-16, Uncl. JPRS/NY-435

PANNIKOV, Viktor Dmitriyevich, prof.; VASIL'YEVA, O.S., red.; PAVLOVA, O.S., tekhn. red.

[Fundamentals of geology] Osnovy geologii. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 286 p. (MIRA 14:9)
(Geology)

PANNIKOV, V.D., prof.; MINENKOVA, V.R., red.

[Soils, fertilizers, and crops] Pochvy, udobreniia i urozhai. Moskva, Izd-vo "Kolos," 1964. 335 p. (MIRA 17:5)

PANNIKOV, V.D., prof.

For an overall and efficient chemicalization of agriculture.
Zemledelie 26 no.1:2-8 Ja'64. (MIRA 17:5)

PANNIKOV, V.D., prof.

Properties of soils as related to the nutrition of plants and use of fertilizers. Zemledelie 26 no.2:41-52 F '64.
(MIRA 17:6)

PANNIKOV, V.D., prof.; YEGOROV, V.Ye., prof.

Raising farming level is the main problem. Zemledelie 27 no.9:5-11 S '65. (MIRA 18:10)

PANNIKOVA, G.N.

Campaign against hypotrophy and rickets. Zdrav.Turk. 3 no.2: 37-39 Mr-Ap '59. (MIRA 12:8)

1. Glavnyy pediatr Chardzhouskogo oblzdravotdela.
(MALNUTRITION) (RICKETS)

MASLYANSKIY, G.N.; BARKAN, S.A.; PANNIKOVA, R.F.

Methods for the further perfection of the catalytic reforming process. Neftepor. i neftekhim no 9:3-7 '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skoy institut neftekhimicheskikh protsessov, Leningrad.

MASLYANSKIY, G.N.; PANNIKOVA, R.F.; KAMUSHER, G.D.

Production of high-octane catalytic reforming gasolines. Khim. i tekh. topl. i masel 10 no.12:1-6 D '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

MASLYANSKIY, N.G.; ZABRYANSKIY, Ye.I.; KAMUSHER, G.D.; PANNIKOVA, R.F.

Detonation stability of gasolines from catalytic reforming. Khim.i tekh.topl.i masel 8 no.2:49-52 F '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov i Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

ACCESSION NR: AP4018071 S/0080/64/037/002/0393/0399

AUTHORS: Maslyanskiy, G.N.; Kamusher, G.D.; Pannikova, R.F.

TITLE: Catalytic reforming of gasoline fractions in the presence of traces of carbon tetrachloride

SOURCE: Zhurnal prikladnoy khimii, v.37, no.2, 1964, 393-399

TOPIC TAGS: gasoline, gasoline fractions, catalytic reforming, aluminoplatinum catalyst, chloro organic compound addition, catalyst stability, octane number, catalyst regeneration, carbon tetrachloride trace

ABSTRACT: In studying the catalytic reforming of gasoline fractions with a catalyst consisting of 0.6% platinum precipitated with aluminum oxide, it was found that the addition of 0.005-0.01% CCl_4 to the crude oil increases the activity of the catalyst. This increase in activity is shown by the increase in octane number of the product (e.g., from 78.5 to 83), the increase in its aromatic hydrocarbon content (46.3 to 47.5%), and the decrease in its yield (from 81.1 to 75.2%). Introduction of very small amounts of organic chlorine compounds to the reac-

Card 1/2

ACCESSION NR: AP4018071

tion zone with the crude oil signigicantly increases stability of the aluminiplatinum catalyst; activity of the catalyst is constant after 120 hours as compared to reduced activity in 20 hours with "pure" crude oil. After oxidation regeneration, the catalyst shows higher catalytic activity if used on crude oil containing traces of CCl_4 (octane number of 85-87 as compared to 82-83 when used with "pure" crude oil). Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: Vsesoyuzniy*y nauchno-issledovatel'skiy neftekhimicheskiy institut (All-Union Petrochemical Scientific Research Institute)

SUBMITTED: 23Jul62 DATE ACQ: 19Mar64 ENCL: 00

SUB CODE: FL NR REF SOV: 009 OTHER: 003

Card 2/2

S/065/63/000/002/005/008
E194/E484

AUTHORS: Maslyanskiy, N.G., Zabryanskiy, Ye.I., Kamusher, G.D., Pannikova, R.F.

TITLE: The detonation stability of gasoline produced by catalytic reforming

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.2, 1962, 49-52

TEXT: After a review of the motor and research methods of determining the octane number of gasoline and the meaning of sensitivity, the use of these methods to assess the detonation characteristics of gasoline produced by catalytic reforming is described. The gasolines were produced by reforming fractions 85 to 180 and 105 to 180°C, produced by rectification of straight run gasoline in the Ufimskiy ordena Lenina neftepererabatyvayushchiy zavod (Ufa Order of Lenin Petroleum Refinery). A study was first made of the influence of the aromatic content of the gasoline which was varied by altering the process temperature; raising the aromatics content increased both the octane number and the sensitivity. Tests made with reforming pressures of 20 and 40 kg/cm^2 showed that this variable had very little effect on the

The detonation stability ...

detonation characteristics of the gasoline of given aromatics content. Tests of the influence of reformed gasoline yield on octane number would yield a similar picture, the higher the yield and, therefore, the lower the aromaticity and octane number the lower the sensitivity. The addition of 0.5 ml t.e.l. concentrate P-9 (R-9) per kg gasoline raised both the motor and research octane numbers by about four points. There are 4 figures and 2 tables.

ASSOCIATION: VNIINeftekhim, VNII NP

Card 2/2

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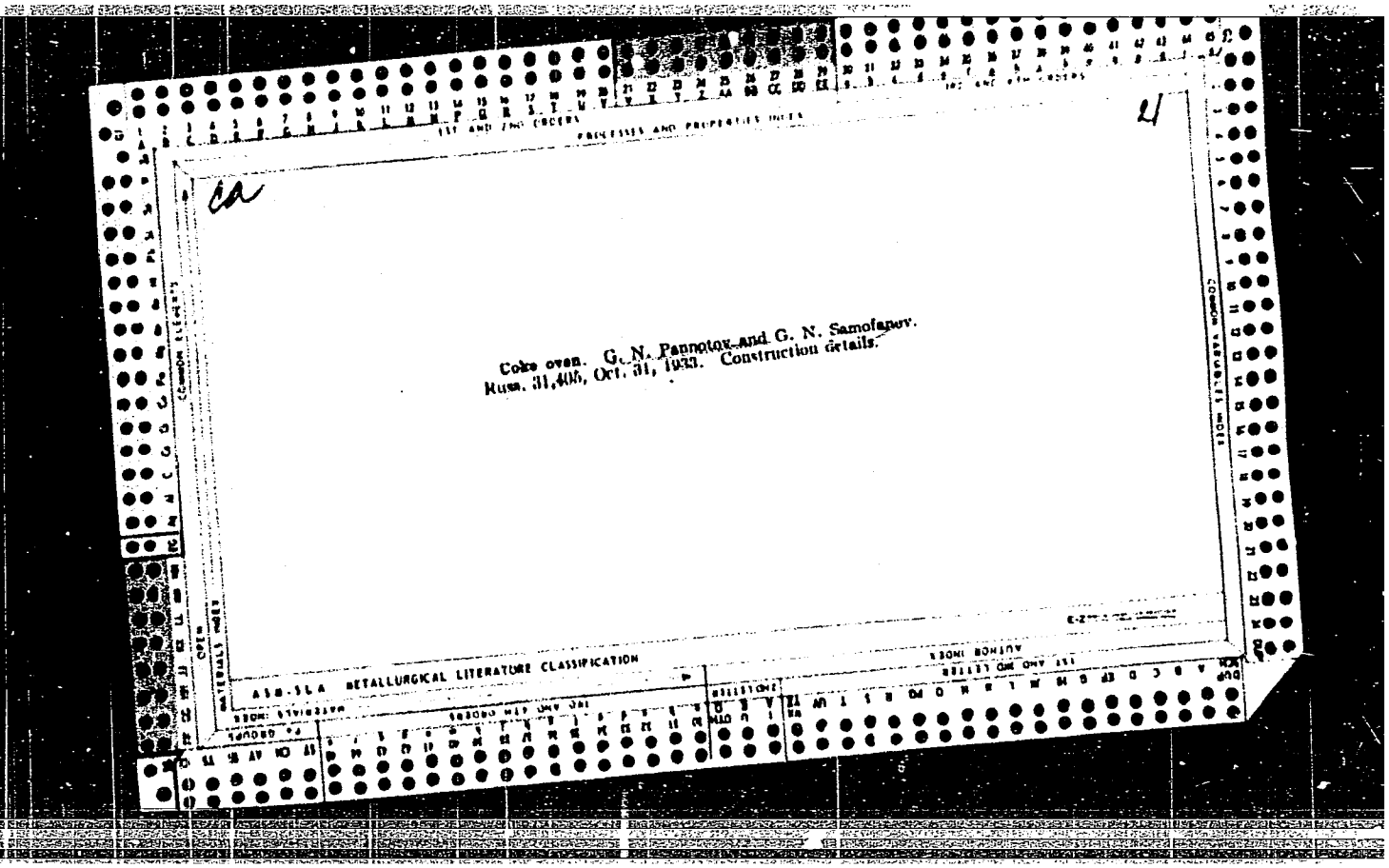

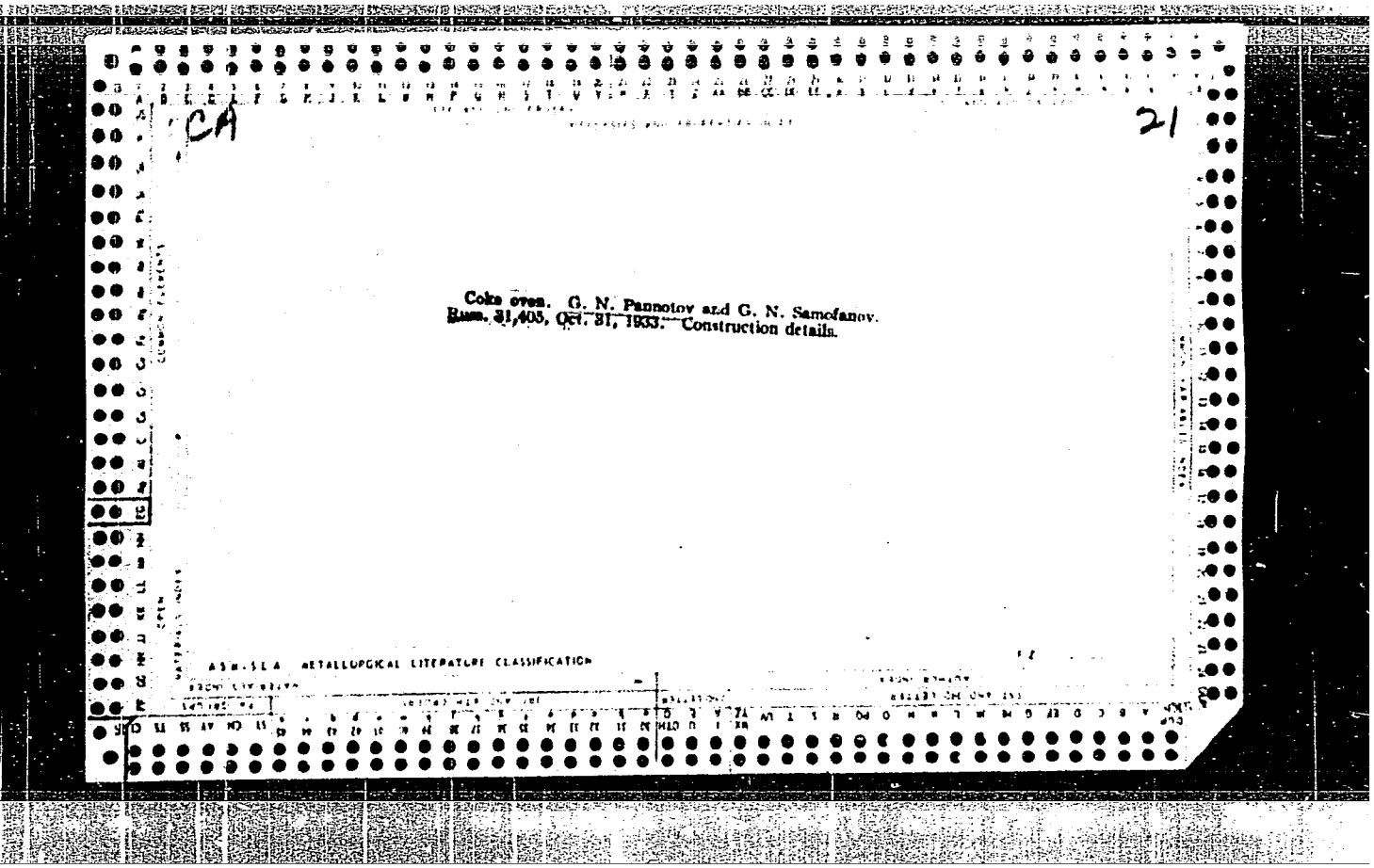

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