AUTHOR: Kremena, P. A., Economics Engineer

TITLE: The Problems of Cost Calculation in the Ore Mining Industry (Voprosy uchëta sebestoimosti v gornorudnoy promyshlennosti)

SOV/127-59-1-11/26

PERIODICAL: Gornyy zhurnal 1959, Nr 1, pp 40-42 (USSR)

ABSTRACT: N. N. Patrikeyev's article on a new method of cost calculation in the ore mining industry is discussed. N. N. Patrikeyev's critiques on the existing calculation form in mining industry are quoted as being correct and well timed, however, not complete. The author proposes his own cost calculation method.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva, Khar'kov. (The Ukrainian Scientific Research Institute for Organization and Mechanization of Mining Construction, Khar'kov)

Card 1/2

KREMENA, P.A., starshiy nauchnyy sotrudnik

Considerable improvement is needed in capital assets accounting and amortization. Ugol' Ukr. 5 no.1:42-43 Ja '61. (MIRA 14:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Coal mines and mining—Accounting)

KRETSMAR, L.

We fly in the night. p. 154.
KRIDLA VLASTI, Praha, No. 7, Apr. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

AUTHORS: Mal'nev, A. F., Yesel'son, M. P., Kremenchugskiy, L. S. SOV-120-58-1-1/43

TITLE: The Main Principles of Recording of Spectra, Using Infra-Red Spectro-Photometers (A Review) (Osnovnyye printsipy registratsii spektrov v infrakrasnykh spektrofotometrakh - Obzor)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 3-16 (USSR)

ABSTRACT: In recent years infra-red spectroscopy has become important in connection with the solution of industrial and analytical problems. The possibility of application of infra-red spectroscopy to analytical problems was first established in 1881, when Ebney and Festing discovered that all the hydrocarbons absorb radiation of wavelength ~3.4 μ. During the years 1905 to 1908 investigations of hydrocarbons have led to the discovery of other bands characteristic of the functional groups (c-H, OH etc). However, experimental difficulties prevented further development of the methods of infra-red analysis. The prototype of contemporary infra-red spectrometers and spectrophotometers is the "ultra-red spectrograph" constructed by P. N. Lebedev (Refs.1-3). Because of their sensitivity, speed and accuracy, the methods of infra-red analysis were applied from the very outset to the solution

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of chemical problems and were then widely used in industrial laboratories. At the same time infra-red analysers of the non-dispersive and dispersive types were developed for work in industry, where they were used for continuous control purposes and the control of the manufacturing cycle. Fast operating spectrometers and spectrophotometers were produced which were used to study reaction kinetics which recorded spectra over time intervals comparable with the time taken by the process (10-5 - 1 sec). Considerable attention was given to the construction of spectrophotometers. In these instruments the radiation from the source was divided into two beams, one of which (the "specimen beam") is passed through a vessel containing the specimen under investigation and the other (the "comparison beam") is passed through a comparison vessel containing a substance whose spectrum it is desired to exclude from the spectrum of the specimen. The ratio of the intensities of the two beams or their logarithms

are then recorded either by a pen recorder or on a CRO screen. The advantage of spectrophotometers as compared with spectrometers is their independence of changes in the intensity of the radiation emitted by the source, the sensitivity of the receiver and the measuring apparatus. In the present paper the main methods of recording of spectra using spectrophotometers are described and are classified as follows:
(1) The compensation method or "null method", as used by Hardy (Ref.37), White and Liston (Refs.8-11), Malyshev et al (Refs.20, 21, 27 and 55), Terenin et al (Ref.53), and others;
(2) The "two beam" method as used by Daniel and Brackett (Ref.72), Savitsky and Halford (Ref.65), and others;
(3) The phasometric method suggested by Bianov-Klyukov (Refs. 99-103), and also by Golay (Ref.104);
(4) The method using a memory-device, as used by Avery (Ref. 106), Donner (Ref.109), Mal'nev et al (Ref.107), and others.
The problem of accuracy and reproduceability has been considered by many authors (Refs.141-164) but there is a need for fundamental work on the comparison of different types of spectrophotometers. Generally speaking, spectrophotometers based on different principles give relatively the same results

The Main Principles of Recording of Spectra, Using Infra-Red Spectrophotometers (A Review) SOV-120-58-1-1/43

(Refs.189 and 190). It is generally believed that the spectrophotometers using the "null" method are the most reliable. At the present time there is a noticeable tendency to replace mechanical parts in the measuring part of the spectrophotometer by the equivalent electrical circuits. However, this group is not very numerous as yet (Refs.77, 89, 97 and 99). There are 17 figures, no tables and 195 references, most of which are Western.

ASSOCIATION: Institut fiziki AN USSR (Institute of Physics of the Academy of Sciences USSR)

SUBMITTED: May 9, 1957.

1. Infrared spectrophotometers--Development 2. Infrared spectrophotometers--Applications 3. Infrared spectrophotometers--Performance 4. Infrared spectrophotometers--Equipment

Card 4/4

MAL'NEV, A.F. [Mal'niev, A.F.]; KREMENCHUGSKIY, L.S. [Kremenchuhs'kyi, L.S.]

Infrared analyzers and their application to the automation of production processes. Ukr. fiz. zhur. 4 no.3:277-292 My-Je '59. (MIRA 13:2)

1. Institut fiziki AN USSR.
(Infrared rays--Industrial applications)

MAL'NEV, A.F.[Mal'niev, A.F.]; KREMENCHUGSKIY, L.S. [Kremenchugs'kyi, L.S.]

Device for measuring the parameters of electromagnetic radiation receivers. Ukr.fiz.zhur. 4 no.4:522-523 Jl-Ag '59. (MIRA 13:4)

1. Institut fiziki AN USSR.
(Electromagnetic waves--Measurement)

7 (3), 24 (7)

AUTHORS: Mal'nav, A. F., Yesel'son, M. P., Kremenchugskiy, L. S.

SOV/48-23-10-28/39

TITLE: A Measuring Device for the Infrared Spectrometer

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1246-1247 (USSR)

ABSTRACT: Infrared spectrometers are being used to an increasing extent in chemistry, petroleum refineries (automatic control of the technological cycle) and for research work in works laboratories. In the present paper a measuring system for such a device is briefly described. The device consists essentially of a bolometer bridge, a pre-amplifier, the main amplifier with synchronous detector, a modulator-generator with phase inverter and a feeding block. Radiation is first interrupted by a modulator (constructed together with S. Z. Shul'ga) (20 cycles), after which it passes through a monochromator and reaches the receiver. The latter is a nickel bolometer developed at the Institut fiziki AN SSSR (Institute of Physics of the AS USSR). The next stage is the preamplifier, from which the pulses reach the main amplifier block the elements of which are briefly discussed. The emerging signals may be

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A Measuring Device for the Infrared Spectrometer SOV/48-23-10-28/39

transmitted either to a recorder or to an oscillograph. A block scheme of this measuring system is given. After half an hour's pre-heating the amplification coefficient of the system remains constant (variation ≤ 0.5%). For research work the measuring device is used together with a spectrometer of the type VIKS-M3, and for periodical controls in industry, together with a spectrometer of the type VIKS-M4 (both devices were constructed at the IFAN UkrSSR). There are 1 figure and 4 Soviet references.

Card 2/2

24.3400 26594 S/185/60/005/003/009/020
D274/D303

AUTHORS: Mal'nyev, A.F., Yesel'son, M.P. and Kremenchugs'kyy, L.S.

TITLE: A measuring device for spectral investigations of low energies

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 3, 1960, 380-385

TEXT: A device is described which is used with spectrometers and other spectral instruments for the measurement of energies of the order of 10^{-9} watt. (Second part of the article). In the first part of the article, the most effective ratio is found for resistances of the bolometer bridge arms. This optimum ratio has not been dealt with in literature. An equivalent circuit is shown of a bolometer bridge with transformer. In the case of optimum matching, the amplification factor of the transformer increases with decreasing R_{out}. In choosing the ratio between the bridge arms,

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one ought to reduce R_{out} and increase the transfer constant K_t. R_{out} can be reduced, with fixed K_t, if R_2 is reduced (i.e. $R_2 < R_1$). A detailed study of this problem shows that the conditions for maximum amplification of a system bridge-transformer and a maximum transfer constant of the bridge circuit are given by the same relationships, viz. $R_2 \ll R_1$: $R_3 \gg R_1$ (i.e. $K_t \to 1$, $R_{out} \to R$); these conditions give the optimum connection of the bolometer (with resistance R_1) to the bridge circuit; R_2 and R_3 denote the resistances of the bridge arms. The total value of $R_1 + R_2$ should be chosen so as not to overload the current source; in practice, R_3 = (3 to 5) R_1 and R_2 = (0.1 to 0.3) R_1. Hence a bolometer with two equal arms does not lead to optimum performance of circuit. The measuring device is described then. A nickel bolometer of 20 Ohm resistance is placed at the focus of a monochromator mirror. The balancing resistors are in the same unit with the pre-amplifier and transformer. The total amplification of the input unit is 2.10^5. The natural noise-level of the device is several times below that of

the bolometer. The main amplifier includes a synchronous rectifier and an oscillator. The device is supplied by a stabilizer with a two-stage d.c. amplifier. The spectrum of water vapor and carbon dioxide, as registered by the spectrometer VIKS-3 by means of the device, is shown in a figure. The device is used in laboratory investigations in conjunction with the spectrometer VIKS-3 and in plants with the spectrometer VIKS-4. It can be also used in the spectrometers IKS. There are 4 figures and 4 Soviet-bloc references.

ASSOCIATION: Instytut fizyky AN USSR (Physics Institute AS Ukr SSR)

SUBMITTED: November 12, 1959

MAL'NEV, A.F. [Mal'niev, A.F.]; KREMENCHUGSKIY, L.S. [Kremenchuhs'kyi, L.S.]; SKACHKO, M.A.

Comparing several receivers of heat radiation. Ukr. fiz. zhur. 5 no. 5:634-639 S-O '60. (MIRA 14:4)

1. Institut fiziki AN USSR.
(Heat—Radiation and adsorption)

9.4173

S/051/60/009/004/024/034
83924
E201/E191

AUTHORS: Mal'nev, A.F., and Kremenchugskiy, L.S.

TITLE: A Low-temperature Receiver of Thermal Radiation

PERIODICAL: Optika i spektroskopiya, 1960, Vol 9, No 4, pp 530-531

TEXT: Lowering of the working temperature of metallic bolometers improves their characteristics. Such a low-temperature bolometer was constructed by the authors. It was made of nickel and cooled with liquid nitrogen. Its construction is shown in a figure on p 530, where 1 is a cryostat window, 2 is the bolometer, 3 is a heat-conducting rod, 4 is the internal wall of a liquid-nitrogen container, 5 is the external wall of this container, 6 is a handle, and 7 is an inlet. At the boiling point of liquid nitrogen the temperature coefficient of the bolometer was 8 x 10-3 deg-1, i.e. twice as large as at room temperature. The ohmic resistance of the nickel plate was three times smaller at the temperature of liquid nitrogen than at room temperature. The threshold sensitivity was 20 times lower at 77 °K than at 300 °K. The bolometer was of quality comparable

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E201/E191

A Low-temperature Receiver of Thermal Radiation

with some of the superconducting devices but the best of such devices had better characteristics. The bolometer can be used in infrared radiation receivers, and for studies of emission by low temperature sources.

There are 1 figure, 1 table and 2 references: 1 Soviet and 1 German.

SUBMITTED: April 27, 1960

Card 2/2

X

23469

S/115/61/000/006/005/006
E073/E535

9,6150 (1482)

AUTHORS: Mal'nev, A.F. and Kremenchugskiy, L. S.

TITLE: Experimental Apparatus for the Determination of the Parameters of Thermal Radiation Receivers

PERIODICAL: Izmeritel'naya tekhnika, 1961, No.6, pp. 26-30

TEXT: An apparatus is described for the investigation of the parameters of the thermal radiation receivers in the frequency range 3-70 c.p.s. at signal levels of the order of 10^{-10} V. The parameters which can be measured are 1) the mean-square value of noise; 2) the sensitivity to modulated radiation; 3) the threshold sensitivity; 4) the time constant; 5) the spectral density of noise. A block diagram of the apparatus is given in Fig.1. The standard source of radiation 1 is a cylindrical artificial black body consisting of a tube with an electrically heated nichrome spiral. The radiator operates in the temperature range 400-500°K. The heater spiral is wound so as to ensure uniformity of temperature in the cavity. At 450°K the cavity temperature is uniform to within ±5°C. The ratio of the depth of the cavity to the radius of the radiating aperature is 32. The front wall of the radiator

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Experimental Apparatus for ... S/115/61/000/006/005/006
E073/E535

is water cooled and its temperature does not rise by more than 1.5°C. The radiation is modulated by means of a vibrating chopper 7 and falls upon the receiver 9. The receiver circuit is connected to the amplifier by means of tuned matching transformers 2 with a number of primary windings. Amplification is by means of a valve preamplifier 3 and a main valve feedback amplifier 4. The noise level of the measuring apparatus with short-circuited input is 1.1×10^{-10} V at a frequency of 9 c.p.s. with an effective pass band of 0.1 c.p.s. The gain of the preamplifier is 190 and the frequency characteristics. The frequency characteristic of both amplifiers is constant within ±5% over the frequency range 3-100 c.p.s. The output of the amplifiers is fed to a phase sensitive detector in the frequency range 3-70 c.p.s. An R.C. oscillator 5 is used to operate the chopper and supplies the reference signal to the detector. At high frequencies a disc chopper is used and the reference signal to the detector is supplied by the photocell 8. An ancillary oscillator at a frequency of 1000 c.p.s. acts as a supply for bolometer bridges. The detector output is recorded by means of a recording millivoltmeter or potentiometer 6. A valve voltmeter 10 and oscillograph 11 are used for monitoring

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purposes. Power to the devices is supplied by means of an electronically stabilized power supply. The apparatus is mounted on a single base with arrangements to position the radiator appropriately with respect to the receiver. In receiver tests the sensitivity is computed as the ratio of the effective magnitude of the first harmonic of the receiver output signal to the effective magnitude of the first harmonic of the radiation flux with square wave modulation. The radiation input power is calculated from the Stefan-Boltzman law and multiplied by $\sqrt{2}/\pi$. The output is calculated from the apparatus output and the known gain. It is essential to measure under actual conditions of operation the ratio of the input to the preamplifier to the output of a voltage generator equivalent to the receiver. The mean-square noise of the receivers may be measured for low resistance bolometers by one of two methods. In the first, the noise under conditions of operation first with the bolometer in circuit and then with a resistor of equal resistance substituted for the bolometer. It must be taken into account that for the same current the bolometer temperature is higher than that of the

Experimental Apparatus for ... S/115/61/000/006/005/006
E073/E535

resistor which leads to errors of up to ≈ 10%. Thus, the ratio of the receiver noise to that of an equivalent resistor can be measured and the absolute value of noise computed by Nyguist's formula. In the second method an arrangement with high load resistance enables noise to be more accurately measured directly or by comparison with resistors. With thermoelectric devices noise measurement takes place directly. Noise is evaluated from the graph of the recorder or if noise is measured by comparison with a resistor it may be measured from the variation of the indication of the output of an indicating instrument. Threshold sensitivity - the radiation flux producing a signal equal to the noise is estimated from the noise with an error of not more than ±30%. The time constant is measured from the rise of receiver signal after a step input. Square wave modulation is used, with a period about 6-8 times the time constant. The time constant may be measured from frequency characteristics using a 1000 c.p.s. signal for the bridge supply and measuring the output by the valve voltmeter. The time constant τ is determined from the formula $\tau = 1/2f_o$, where f_o is the frequency at which the signal is

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0.465 its value at zero frequency. If the frequency characteristic follows the law $[1 + (2\pi f\tau)^2]^{-\frac{1}{2}}$ the time constant may be determined from measurements at two frequencies. The error in time constant determination is ±10%. Spectral density of noise is determined at various frequencies and currents. Use of the device makes it possible to select optimum conditions of test for the receiver that is to find values of current and frequencies corresponding to the lowest sensitivity threshold. Acknowledgments are expressed to M. P. Yesel'son and V. I. Mel'nikov for their assistance. There are 5 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The references to English language publications read as follows: White, I.U., Liston, M.D., J.O.S.A. 1950, 40, No.2, 93.; Milton, R.M. Chemical Review, 1946, 39, No.3, 419.

YESEL'SON, M.P. [IEsel'son, M.P.]; KREMENCHUGSKIY, L.S. [Kremenchuhs'kyi, L.S.]; MAL'NIEV, A.F. [Mal'niev, A.F.]

Temperature variations of the characteristics of input transformers of low-resistance thermal receivers. Ukr. fiz. zhur. 6 no.3:420-422 My-Je '61. (MIRA 14:8)
(Electric transformers--Thermal properties)

KREMENCHUGSAIY L. T

S/185/61/006/006/028/030
D299/D304

26.5300

AUTHORS: Kremenchuhs'kyy, L.S., and Mal'nyev, A.F.

TITLE: Contactless measurement of temperature of bodies below the red-hot temperature

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961, 876 - 878

TEXT: The contactless method involves measuring the intensity of heat radiation. The authors developed a device for measuring low energies in the infrared region of the spectrum. A block diagram of the device is shown. The radiation from the investigated surface of the rotor (of an electromotor), arrives at a nickel bolometer, after passing a vibration modulator. The signal, produced by the bolometer, is applied to a preamplifier, then to an amplifier, a synchronous detector and the output device. The synchronous detector is the main selection element of the circuit which separates from the signal spectrum a narrow frequency band (close to the modulation frequency). For higher accuracy, feedback with a calibrated signal is used. If the investigated surface is small, the tempera-

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ture of the object can be determined by the approximate formula

$$T_1 = \sqrt{\left(\frac{\pi^2 W}{\sqrt{2\sigma s_1 s_2}} + \frac{\varepsilon_0 T_0^4}{d_0^2}\right) d_1^2 \varepsilon_1} \qquad (1)$$

where T_1 and T_0 are the absolute temperatures of the rotor surface and of the modulator respectively; ε_1, ε_0 - the coefficients (of blackening) of the rotor and of the modulator, W - the effective values of the power of the first harmonic of the modulated radiation which arrives at the bolometer. The sensitivity of the device to changes in the surface temperature of the rotor, can be estimated by the formula

$$\Delta T_1 = \left(\frac{\pi^2 \Delta W}{\sqrt{2\sigma s_1 s_2}} + \frac{4\varepsilon_0 T_0^3 \Delta T_0}{d_0^2}\right) \frac{d_1^2}{4T_1^3} \qquad (2)$$

where ΔW - is the threshold sensitivity and ΔT_0 - temperature fluc-

tuations of the medium. By means of formula (2), it is possible to estimate the influence of each parameter on the accuracy of measurement. By calibrating the scale of the output device directly in temperature degrees of the rotor, higher accuracy of measurment can be achieved. A figure shows the heating- and cooling curves of the electromotor, the power of the radiation, incident on the bolometer being plotted as a function of the time of operation of the electromotor. After 1 hour, the rotor temperature attains 334°K, and changes but little afterwards. The temperature was measured to an accuracy of 1 %, and the sensitivity to temperature changes of the rotor, is 0.1°C. There are 2 figures and 2 Soviet-bloc references.

ASSOCIATION: Instytut fizyky AS UkrRSR (Institute of Physics of the AS UkrRSR, Kyyiv)

X

MAL'NEV, A.F. [Mal'niev, A.F.]; YESEL'SON, M.P. [IEsel'son, M.P.]; KREMENCHUGSKIY, L.S. [Kremenchuhs'kyi, L.S.]

Characteristics of measuring devices for IKS-11 and IKS-12 spectrometers with modulation of the radiation flux. Ukr. fiz. zhur. 6 no.6:881-883 N-D '61. (MIRA 16:5)

1. Institut fiziki AN UkrSSR, Kiyev.
(Spectrometer)

MAL'NEV, A.F.; KREMENCHUGSKIY, L.S.; BEREZKO, B.N.; SHEVTSOV, L.N.; BOGDEVICH, A.G.; KIRILLOV, G.M.; CHASHECHNIKOVA, I.T.; YARMOLENKO, N.A.; OFENGENDEN, R.G.; SERMAN, V.Z.; DALYUK, Yu.A.; BEREZIN, F.N.; KONENKO, L.D.; SHALEYKO, M.A.; SHEVCHENKO, Yu.S.; STOLYAROV, V.A.; KIRILLOV, G.M.; BOGDEVICH, S.F.; LYSENKO, V.T.; BRASHKIN, N.A.; SKRIPNIK, Yu.A.; GRESHCHENKO, Ye.V.; TUZ, R.M.; SERPILIN, K.L.; GAPCHENKO, L.M.

Abstracts of completed research works. Avtom. i prib. no.3:90-91 Jl-S '62. (MIRA 16:2)

1. Institut fiziki AN UkrSSR (for all except Skripnik, Greshchenko, Tuz, Serpilin, Gapchenko). 2. Kiyevskiy politekhnicheskiy institut (for Skripnik, Greshchenko, Tuz, Serpilin, Gapchenko).

(Research)

KREMENCHUGSKIY, L.S.

35096

9.2510 (1040,1159,1532)

S/185/62/007/001/006/014
D299/D302

AUTHORS: Yesel'son, M.P., Kremenchugs'kyy, L.S., and Nal'nyev, A.F.

TITLE: Noise characteristics of signal pre-amplifiers of low-ohmic thermal receivers

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 1, 1962, 46 - 52

TEXT: Low-frequency noises were investigated of certain practical pre-amplifier circuits with an input tube operating under floating-grid conditions. The following types of tubes were studied: 6Ж1П (6ZhIP), 6С4П (6S4P), 6Н14П (6N14P), and 6Х16Б (6X16B). The last 2 types were investigated in negative-feedback pre-amplifier circuits. A noise analyzer, operating at the fixed frequencies of 5, 9, 15 and 20 cycles, was used. The noise analyzer consisted of a pre-amplifier, selective amplifier, detector, low-frequency filter and millivoltmeter. Background noises of tubes were investigated as a function of the filament current and the value of the negative feed-

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back; by using negative feedback it is possible to reduce the noise level two- to threefold. If fairly large transformers are used, the noise of the input tubes can be easily covered (at frequencies of 15 - 20 cycles); if however, miniaturized input transformers, operating at very low frequencies, are used, this becomes much more difficult. A figure shows the gain factor of transformers with permalloy core. By comparing the obtained data, it was found that the tube 6S4P yielded lowest noise-level. The following graphs are given: Frequency dependence of the gain factor of a transformer, dependence of optimum gain of transformer on its output noise-level, dependence of background noise of transformer on the number of primary windings, and the frequency dependence of pre-amplifier noises (with one of the transformers). The deviation of the measured noise-values from the calculated ones, did not exceed 15 %. Conclusions: It is feasible to design a measuring device with background noise-level of the order of 1 - 2·10-10v at a frequency of 9 - 20 cycles with Δf = 1 cycle. From the tabulated data and the graphs it is possible to estimate the noises in actual cases. There are 6 figures, 1 table and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-

Card 2/3

Noise characteristics of signal ... S/185/62/007/001/006/014
D299/D302

language publication reads as follows: J.U. White, M.D. Liston, JOSA, 40, no. 1, 36, 1950.

ASSOCIATION: Instytut fizyky AN URSR (Institute of Physics of the AS UkrRSR), Kyyiv

SUBMITTED: March 14, 1961

X

Card 3/3

KREMENCHUGSKIY, L.S. [Kremenchuhs'kyi, L.S.]; MAL'NEV, A.F. [Mal'niev, A.F.]; ROYTSYNA, O.V. [Roitsyna, O.V.]

Dynamic characteristics of vacuum metallic bolometers. Ukr. fiz. zhur. 7 no.12:1298-1308 D '62. (MIRA 15:12)

1. Institut fiziki AN UkrSSR, Kiyev.
(Bolometer)

KREMENCHUGSKIY, L.S.; MAL'NEV, A.F.

Apparatus for studying the dynamic characteristics of receivers of heat radiation. Prib. i tekh. eksp. 8 no.5:182-185 S-O '63. (MIRA 16:12)

1. Institut fiziki AN UkrSSR.

L 18944-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3/IJP(C) Pad GG/JD/HW

ACCESSION NR: AP3003818 S/0185/63/008/007/0762/0767

AUTHOR: Kremenchugs'ky*y, L. S.; Mal'nev, A. F.; Samoylov, V. B.

TITLE: Investigation of the temperature dependence of current noise of thin metal film

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 8, no. 7, 1963, 762-767

TOPIC TAGS: current noise, thin metal film, nickel, gold, liquid nitrogen temperature, metal film

ABSTRACT: The authors give the electrical diagram of the setup they developed and describe the procedure they used in their investigation of current noises of thin metallic films. They investigated nickel and gold films at a temperature range of 77 to 400 K. The temperature dependence of current noise was established. When temperature was decreased from room temperature to that of liquid nitrogen the mean square of the current noise was reduced by 100. This may not be explained by a decrease in the film resistance during cooling. An empirical equation was developed showing the change in current noise taking place in thin metallic films over a wide range of temperatures. "The authors are grateful to comrades B. N. Ber'ozko and L. N. Shats for their help in adjusting and preparing the installation." Orig. art.

Card 1/

L 18944-63
ACCESSION NR: AP3003818

has 4 figures and 4 formulas.

ASSOCIATION: Insty*tut fizy*ky* AN URSR, Kiev (Physics Institute of the Academy of Sciences, UKrSSR, in Kiev)

SUBMITTED: 19Dec62 DATE ACQ: 08Aug63 ENCL: 04

SUB CODE: PH NO REF SOV: 002 OTHER: 001

Card 2/2

ACCESSION NR: AP4012789 S/0170/64/000/002/0003/0009

AUTHOR: Kremenchugskiy, L. S.; Ly*senko, V. S.; Mal'nev, A. F.; Roytsina, O. V.

TITLE: The determination of the thickness, heat capacity, and thermal conductivity of thin miniature films

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 2, 1964, 3-9

TOPIC TAGS: thin film, film thickness, heat capacity, thermal conductivity

ABSTRACT: Thin miniature films are widely used as sensing elements for heat radiation detectors and for circuits measuring the power of ultra high frequencies. The essence of the new method for determining the physical characteristics of such films is the determination of the heat capacity C of the bolometer layer from its time constant which, in turn, is found from the frequency characteristics and the effective coefficient of thermal losses of the layer, as shown in Equation (8)

$$C = \frac{\sqrt{3}}{2\pi f_{\frac{1}{2}}} \frac{i^2 R_0^2 \alpha}{R - R_0}. \qquad (8)$$

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(i = excitation current; R, R_0 = bolometer layer resistance during the passage of current, and its initial resistance, respectively; α = temperature coefficient of resistance; $f_{\frac{1}{2}}$ = frequency corresponding to the half-maximum of intensity on the frequency characteristics). From the known heat capacity and the surface of the layer one gets Equation (9) which gives the thickness d_c of the layer

$$d_c = C/c_{sp} A \gamma . \qquad (9)$$

(c_{sp} = specific heat capacity; A = area of the layer; γ = density). Using further the equation of the heat balance of the layer, one gets an expression for the coefficient of thermal conductivity given in Equation (13)

$$K = \frac{\alpha i^2 R_0^2 l}{12 (R - R_0) S} \left[1 - \frac{2 (8\varepsilon\sigma T_0^3 bl - \alpha i^2 R_0) (R - R_0)}{\alpha i^2 R_0^2}\right]. \qquad (13)$$

(l, b = length and width of the layer, respectively; S = cross sectional area of the layer; ε = coefficient of absorption of the layer; σ = Stephan-Bolzmann constant;

ACCESSION NR: AP4012789

T_o = temperature of the surrounding medium). The heat capacity of bolometric elements was determined earlier by Jones, Smith, and Chesner (Determination and Measurement of Infrared Radiations) using the time constant and the volt-watt sensitivity. Since they assumed ε to be zero, this led to significant errors because ε actually varies between 0.05 and 1.00. Other researchers (see e.g., G. Barth and W. Maier, Ann. d. Phys., 7, 260, 1959) utilized the heat-loss coefficient in absence of radiations, which reduced the accuracy of measurements by a factor R/R_o. The authors determined the heat capacity, thickness, and thermal conductivity coefficients of free 4 x 0.4 mm^2 Ni layers obtained electrolytically. The experimental results are summarized in the Table of Enclosure 1. Experiments carried out down to the temperature of liquid nitrogen did not produce any significant changes in the heat capacity of thin Ni layers, while the thermal conductivity increased by a very small amount. The authors applied the same method to determinations of the heat capacity of thin layer coatings deposited on film, by subtraction of the film's capacity from the total measured amount. A maximum heat capacity of Au coating of $(0.35\text{-}0.45)\cdot10^{-6}$ watt·sec/°K (corresponding to a maximum relative sensitivity of the coated bolometer) was obtained with a $(3.0\text{-}4.5)\cdot10^{-6}$ kg gold coating. The Au layer contributed to a 50-70% absorption of the 4-15 μ radiation. Orig. art. has 13 equations, 2 figures and 1 table.

Card 3/4

ACCESSION NR: AP4012789

ASSOCIATION: Institut fiziki (Institute of Physics), AN UkrSSR, Kiev

SUBMITTED: 20Feb63 DATE ACQ: 26Feb64 ENCL: 02

SUB CODE: PH, SP NO REF SOV: 002 OTHER: 005

Card 4/64

ARTYUKHOVSKAYA, L.M. [Artiukhovs'ka, L.M.]; KREMENCHUTSKIY, L.S. [Kremenchuhs'kyi, L.S.]; MAL'NEV, A.F. [Mal'niev, A.F.]; ROYTSINA, O.V. [Roitsyna, O.V.]

Effect of the size of the receiving area on the principal characteristics of metal vacuum bolometers. Ukr. fiz. zhur. 9 no.11: 1240-1247 N '64 (MIRA 18:1)

1. Institut fiziki AN UkrSSR, Kiyev.

L 32700-65 EEO-2/EWT(1)/EED-2 Pn-4/Pae-2/P1-4 IJP(c) CC

ACCESSION NR: AP5007047 S/0120/65/000/001/0153/0157

27

AUTHOR: Kremenchugskiy, L. S.; Roytsina, O. V. 26 B

TITLE: Calculation and experimental investigation of the zone sensitivity of metal bolometers 15 B

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1965, 153-157

TOPIC TAGS: bolometer design, bolometer sensitivity, metal bolometer, bolometer

ABSTRACT: The methodology, experimental setup, and conclusions drawn from zone-sensitivity measurements in vacuum and gas-filled bolometers are presented. Relationships of zone sensitivity S to such parameters as dimensions and position of the detection area, modulation frequency of the incident radiation, and type of material are derived. The effects of heat loss on sensitivity and the selection of optimum operating current are considered. Radiation from an incandescent lamp was focussed on 0.15-mm segments of nickel, gold, and bismuth specimens 0.1 μ thick. Specimen length ℓ was 1.5—8 mm; specimen width, 0.2—1 mm; radiation modulation frequencies, 5—200 cps; pressure, 10^{-3} and 760 mm Hg. Curves of relative zone sensitivity versus detection-area dimensions and modulation frequency were plotted and compared with curves of relative temperature distribution along the bolometer

Card 1/2

L 37700-65
ACCESSION NR: AP5007047

sensing element heated solely by its own current. At $\ell < 30/f$, the curves were similar, and proper operating current could therefore be determined from zone-sensitivity curves. It was also concluded that the intensity of incident radiation could be determined from zone-sensitivity curves. Heat loss as the result of the thermal conductivity of the sensing element tended to cause nonuniformity of zone sensitivity. Orig. art. has: 4 figures and 3 formulas. [PW]

ASSOCIATION: Institut fiziki AN UkrSSR (Physics Institute, AN UkrSSR)

SUBMITTED: 18Dec63 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 002 ATD PRESS: 3218

Card 2/2

L 10247-66 EWT(1)/EWP(e)/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WW/WH

ACC NR: AP5028133 SOURCE CODE: UR/0048/65/029/011/2110/2112

AUTHOR: Artyukhovskaya, L.M.; Kremenchugskiy, L.S.; Mal'nev, A.F.; Samoylov, V.B.; Yatsenko, A.F.

ORG: Institute of Physics, Academy of Sciences, UkrSSR (Institut fiziki Akademii nauk UkrSSR)

TITLE: Use of the pyroelectric effect of barium titanate ceramics to record low fluxes of thermal radiation /Report, Fourth All-Union Conference on Ferroelectricity held at Rostov-on-the-Don 12-18 September, 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2110-2112

TOPIC TAGS: pyroelectricity, pyroelectric detector, barium titanate, ceramic material, transducer, thermal radiation, heat flux pickup

ABSTRACT: A number of thin barium titanate ceramic wafers were produced and tested as pyroelectric detectors of minute, rapidly changing thermal fluxes. Details of the preparation of the detectors are not given. The sensitivity and the noise level were both inversely proportional to the frequency, and the minimum detectable power was nearly independent of frequency for frequencies up to 2 kc. The intrinsic noise of the pyroelectric detector exceeded the Johnson noise of the equivalent RC circuit by not more than 50%. The intrinsic noise of the detector decreased more rapidly with increasing frequency than did the noise level of the input circuit; in designing input circuits for use with pyroelectric detectors, therefore, it is desirable to take par-

Card 1/2

L 10247-66

ACC NR: AP5028133

ticular pains to reduce the noise level at frequencies above 100 cps. The temperature dependence of the dynamic pyroelectric constant was determined by the method of A.G. Chinoweth (J. Appl. Phys., 27, No.1, 78, (1956)). An aging effect was observed when cycling the detectors between room temperature and 70C; the aging was completed within a few cycles, however, and thereafter the temperature dependence of the pyroelectric constant was reproducible within 5%. The pyroelectric constant reached a maximum at about 90C of from 2.5 to 3 times its room temperature value. Since the dielectric constant also increases with temperature, however, the detectors were only slightly more sensitive at 90° than at room temperature. A preliminary investigation of the stability of the detectors showed no significant changes over a period of six months. The sensitivity threshold of the detectors was between 2×10^{-9} and 5×10^{-9} W/cps, the time constant was less than 50 μsec, and the Jones figure of merit M_2 was greater than 0.5. Orig. art. has: 3 figures. [15]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 006/ ATD PRESS: 4164

Card 2/2

L 22934-66 EWT(1) IJP(c) CC

ACC NR: AP6012850 SOURCE CODE: UR/0368/66/004/004/0298/0301

AUTHOR: Kremenchugskiy, L. S.; Lysenko, V. S.; Mal'nev, A. F.; Roytsina, O. V.

ORG: none

TITLE: Improvement of spectral characteristics of high-resistance thermal radiation detectors

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 4, 1966, 298-301

TOPIC TAGS: thermal radiation detector, IR radiation, IR sensor, IR detection

ABSTRACT: An improved method is proposed for the construction of high-resistance thermal-radiation detectors which use gold-black as the infrared absorber. Because of its poor adhesive properties, gold-black cannot be deposited directly on the sensitive material, but must be deposited on an interleafing layer, which causes high heat losses. Calculations are presented to demonstrate that these losses can be reduced to an insignificant amount if the interleafing layer is made of dielectrics such as beryllium- or aluminum-oxides, which are good heat conductors, and if the layer's thickness is much less than the length of the incident heat wave. Experimental data are in good agreement with the theory. Orig. art. has: 4 formulas, 2 tables, and 1 figure. [ZL]

SUB CODE: 20/ SUBM DATE: 02Apr65/ ORIG REF: 001/ OTH REF: 004/ ATD PRESS: 4237

Card 1/1 UDC: 621.317.794

ACC NR: AP7001958 SOURCE CODE: UR/0120/66/000/006/0169/0171

AUTHOR: Kremenchugskiy, L. S.; Mal'nev, A. F.; Samoylov, V. B.
ORG: Institute of Physics, AN UkrSSR (Institut fiziki AN UkrSSR)
TITLE: Large-area pyroelectric radiation detector
SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1966, 169-171
TOPIC TAGS: thermal radiation detector, thermoelectric phenomenon
ABSTRACT:

High-speed, large thermal radiation detectors with a high threshold sensitivity, a small time constant, and a relatively uniform zonal sensitivity are described.

An equivalent circuit and a cutaway view of such a detector are shown in Fig. 1. Thermoelectric current I is determined by the speed with which polarization of the crystal is changed under the effect of irradiation. Time constant τ of the detectors does not exceed 50 μsec. The mean-square value of the noise current is frequency

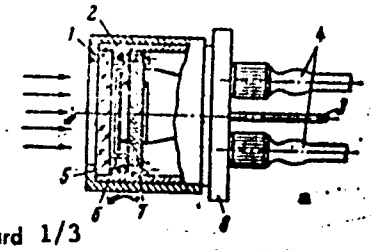
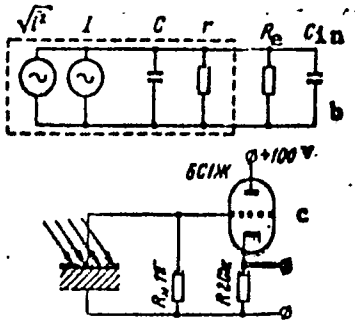


Fig. 1. Large thermal detector

a) Structure of the detector: 1 - Protective jacket; 2 - body; 3 - vacuum inlet; 4 - output terminals; 5 - KBr window; 6 - sensitive element; 7 - support; 8 - lid.

Card 1/3 UDC: 621.384.326.22:536



b) Equivalent circuit of the detector:
$\sqrt{i^2}$ - noise current generator; I - thermoelectric current generator; C - crystal capacitance; 4 - equivalent loss resistance in the crystal; R_e - load resistance; C_{in} - input capacitance of the tube.

c) Circuit diagram of the detector.

independent over a wide range, and the S/N ratio of the detectors therefore remains practically constant at $f < \tau^{-1}$ and constant radiation flux.

Sensitive elements of the detectors are made of crystals in the form of flat capacitors. Deposited layers (~1000 Å) of silver serve as the electrodes. To obtain a relatively uniform spectral characteristic of a detector in the near and central infrared regions of the spectrum, the electrodes are coated with black gold. The thickness of the crystals (100 μ) is uniform within $\pm 3\%$.

ACC NR: AP7001958

The zonal sensitivity of detectors made of $BaTiO_3$ single crystals and ceramics and triglycinsulfate crystals were investigated. Sensitive areas of the samples ranged in size from 80 to 100 mm^2. Sensitivity distribution over these areas was measured by a light probe 0.15—1 mm in diameter. When measured with a 0.15-mm probe, sensitivity varied from its maximum value by up to 25% for ceramics and up to 75% for single crystals at isolated points.

These studies also showed that large detectors made of $BaTiO_3$ ceramics exhibited the most uniform sensitivity (threshold sensitivity, 5×10^{-9} w/cps$^{1/2}$). Thermoelectric detectors made of triglycinsulfate single crystals had a greater, although less uniform, sensitivity (2×10^{-9} w/cps$^{1/2}$).

It is noted that these thermal radiation detectors have significant advantages over other types when large-area sensitive elements are required. Orig. art. has: 3 figures. [FSB: v. 3, no. 2]

SUB CODE: 20 / SUBM DATE: 24Nov65 / ORIG REF: 004 / OTH REF: 003

Card 3/3

L 20248-65 EED-2/EEO-2/EWT(1) Pu-4/Pl-4/Pae-2 IJP(c)/SSD/AFWL/ASD(a)/
ESD(ge) CC
ACCESSION NR: AP5000629 S/0185/64/009/011/1240/1247

AUTHOR: Artyukhova'ka, L. M. (Artyukhovskaya, L. M.); Kremenchugs'ky*y, L. S. (Kremenchugskiy, L. S.); Hal'nyev, A. F. (Hal'nev, A. F.); Roytsy*na, O. V. (Roytsina, O. V.)

TITLE: Effect of the size of the detection area on the basic characteristics of metal vacuum bolometers

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 11, 1964, 1240-1247

TOPIC TAGS: metal vacuum bolometer, bolometer, thermal radiation measurement

ABSTRACT: The effect of the size of the detection area of nickel bolometers on the sensitivity and the inertia was investigated. The general case of heat removal from the bolometer either by radiation or by conduction of the film was discussed. It was found that the dependence of bolometer sensitivity on the width of the detecting element is much stronger than it is on the length of the element;

Card 1/2

L 20248-65
ACCESSION NR: AP5000629

for the inertia factor, the opposite is true. Orig. art. has: 5 figures, 2 tables, and 7 formulas.

ASSOCIATION: none

SUBMITTED: 03Mar64 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 003 ATD PRESS: 3162

Card 2/2

GITSEVICH, M.A.; BOYARSHINOVA, K.P.; KREMENCHUK, G.A.

Use of the phage increase reaction in the examination of objects in the external environment. Report No.1: Use of the phage increase reaction in water analysis. Zhur.mikrobiol.epid.i immun. 32 no.3: 43-44 Mr '61. (MIRA 14:6)

1. Iz laboratorii Dorozhnoy sanitarno-epidemiologicheskoy stantsii Vostochno-Sibirskoy zheleznoy dorogi, Irkutsk.
(WATER--MICROBIOLOGY) (BACTERIOPHAGE)
(SALMONELLA TYPHOSA)

KREMENCHUK, G.A.; GITSEVICH, M.A.; BOYARSHINOVA, K.P.

Use of the phage titer growth reaction for studying objects in the external environment. Report No.2: Use of the phage titer growth reaction in the analysis of water. Zhur.mikrobiol. epid. i immun. 32 no.7:124 Je '61. (MIRA 15:5)

1. Iz Dorozhnoy sanitarno-epidemiologicheskoy stantsii Vostochno-sibirskoy zheleznoy dorogi, Irkutsk.
(BACTERIOPHAGE) (WATER--MICROBIOLOGY)

KREMENCHUK, G.A.; GITSEVICH, M.A.

Phage titer growth reaction in the study of external environment. Zhur. mikrobiol., epid. i immun. 40 no.11:146 N '63.
(MIRA 17:12)

KREMENCHUK, G.A.; MYSHLINA, N.D.

Comparative characteristics of glycerin mixture and borate buffer solution as preservatives of diphtheria bacilli. Trudy Irk. NIIEM no. 7:349-353 '62 (MIRA 19:1)

1. Iz bakteriologicheskoy laboratorii dorozhnoy sanitarno-epidemiologicheskoy stantsii Vostochno-Sibirskoy zheleznoy dorogi.

KREMENCHUTSKIY, N.F.

NEKRASOVSKIY, Ya.E., professor; KREMENCHUTSKIY, N.F., kandidat tekhnicheskikh nauk; BOZHKO, I.L., redaktor; KOROVENKOVA, Z.A., tekhnicheskiy redaktor; ALADOVA, Ye.I., tekhnicheskiy redaktor.

[Mining steep coal strata in the Donets basin] Razrabotka krutopadaiushchikh plastov Donbassa. Moskva, Ugletekhizdat, 1954. 303 p.(MLRA 8:1)
(Donets Basin--Coal mines and mining)

NEKRASOVSKIY, Ya.E., professor; KREMENCHUTSKIY, N.F., kandidat tekhnicheskikh nauk.

Use of cutter-loaders for the extraction of steeply pitching coal seams in mines of the central part of the Donets Basin. Izv. DGI no.24:143-172 '55. (MLRA 10:2)

(Donets Basin--Coal mines and mining)
(Coal mining machinery)

BALYKOV, V.M., inzhener; GERSHENOVICH, S.Ye., inzhener.

Valuable aid for engineers and technicians working on pitching seams in the Donets Basin. "Mining pitching seams in the Donets Basin." E.IA. Nekrasovskii, N.F. Kremenchutskii. Reviewed by V.M. Balykov, S.E. Gershenovich. Ugol' 31 no.5:44-45 My '56. (MLRA 9:8)

(Donets Basin--Coal mines and mining)
(Nekrasovskii, E.IA.)
(Kremenchutskii, N.F.)

KREMENCHUTSKIY, N.F., dotsent, kandidat tekhnicheskikh nauk.

Readers' response to I.V.Plavel'skii's article "Determining the length of the extraction area and that of the panel on strike in mining flat Karaganda Basin seams." N.F.Kremenchutskii. Ugol' 31 no.12:33-34 D '56. (MLRA 10:2)

1. Dnepropetrovskiy gornyy institut.
(Karaganda Basin--Coal mines and mining)
(Plavel'skii, I.V.)

KREMENCHUTSKIY, N.F., dots.; TIMOFEYEV, P.A.

About the article "Increase cross sections of haulageways". Bezop. truda v prom. 2 no.11:18-19 N '58. (MIRA 11:11)

1. Dnepropetrovskiy gornyy institut (for Kremenchutskiy). 2. Glavnyy inzhener Stalingiproshakhta (for Timofeyev.).
(Mining engineering)

KREMENCHUTSKIY, N.F., kand.tekhn.nauk, dotsent

Determining the most advantageous distance between cross headings considering ventilation expenses. Izv. DGI 31:69-80 '58.
(MIRA 11:7)

(Mining engineering) (Mine ventilation)

KREMENCHUTSKIY, N.F., dotsent, kand.tekhn.nauk

Determining energy losses for straightening the flow beyond the ventilation opening. Izv. DGI 31:155-163 '58. (MIRA 11:7)
(Mine ventilation)

KREMENCHUTSKIY, A.F., dots.

Formulas should be more accurate; response to S.M. Lipkovich's and K.F. Sapitskii's article entitled: "Determination of long-wall length by the ventilation factor." Ugol' Ukr. 3 no.3:46 Mr '59. (MIRA 12:5)

1. Dnepropetrovskiy gornyy institut.
(Coal mines and mining)
(Mine ventilation)
(Lipkovich, S.M.)
(Sapitskii, K.F.)

KREMENCHUTSKIY, N.F., dotsent

Optimum extent of the mine area in calculating ventilation. Izv. vys. ucheb. zav.; gor. zhur. no.9:39-46 '59. (MIRA 14:6)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy rudnichnoy ventilyatsii i tekhniki bezopasnosti.
(Mine ventilation)

KREMENCHUTSKIY, Nikolay Feofanovich; BURCHAKOV, A.S., kand. tekhn. nauk, retsenzent; OREKHOV, V.S., kand. tekhn. nauk retsenzent; KLEBANOV, F.S., kand. tekhn. nauk, otv. red.; ZAKHAROV, M.I., red. izd-va; SABITOV, A., tekhn. red.; KONDRAT'YEVA, M.A., tekhn. red.

[Ventilation of coal mines] Provetrivanie ugol'nykh shakht. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 239 p. (MIRA 15:1)
(Mine ventilation)

KREMENCHUTSKIY, N.F., dotsent

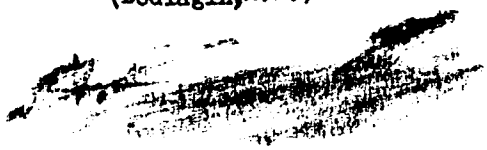
Method of determining the amount of air in a mine. Izv.vys.ucheb. zav.; gor.zhur. no.3:79-82 '61. (MIRA 15:4)

1. Karagandinskiy politekhnicheskiy institut; rekomendovana kafedroy rudnichnoy ventilyatsii i tekhniki bezopasnosti Karagandinskogo politekhnicheskogo instituta.
(Mine ventilation)

KREMENCHUTSKIY, N.F., kand.tekhn.nauk

"Mine ventilation" by M. N. Bodiagin. Reviewed by N.F. Kremenchustkii. Bezop.truda v prom. 5 no.7:35 Jl '61. (MIRA 14:6)

1. Karagandinskiy politekhnicheskiy institut.
(Mine ventilation)
(Bodiagin, M.N.)



GRASHCHENKO, N.F., kand. tekhn. nauk; KREMENCHUTSKIY, N.F., dotsent; MALYAREVSKIY, V.M., dotsent; AMANBAYEV, D.A., inzh.

Ways of improving mine ventilation in the Karaganda Basin. Izv. vys. ucheb. zav.; gor. zhur. no.12:55-60 '61. (MIRA 16:7)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy rudnichnoy ventilyatsii.
(Karaganda Basin--Mine ventilation)

KREMENCHUTSKIY, N.F., kand. tekhn. nauk; GUMENYUK, T.Ye., kand. tekhn. nauk; IVANOV, V.A., inzh.; YATSENKO, I.S., inzh.

Preventing spontaneous fires in mines of the Promyshlennyy Section of the Karaganda Basin. Izv. vys. ucheb. zav.; gor. zhur. no.12:61-67 '61. (MIRA 16:7)

1. Karagandinskiy politekhnicheskiy institut (for Kremenchutskiy, Gumenyuk). 2. Karagandinskiy sovet narodnogo khozyaystva (for Ivanov). 3. Kombinat "Karagandaugol'" (for Yatsenko). Rekomendovana kafedroy rudnichnoy ventilyatsii i tekhniki bezopasnosti Karagandinskogo politekhnicheskogo instituta.
(Karaganda Basin--Coal mines and mining--Fires and fire prevention)

ALEKHIN, F.K.; ALOTIN, L.M.; ALTAYEV, Sh.A.; ANTONOV, P.Ye.; BEVZIK, Yu.Ya.; BELEN'KIY, D.M.; BRATCHENKO, B.F., gornyy inzh.; BRENNER, V.A.; BYR K[illegible] V.F.; VAL'SHTEYN, G.I.; YERMOLENOK, N.S.; ZHISLIN, I.M.; IVANOV, V.A.; IVANCHENKO, G.Ye.; KVON, S.S.; KODYK, G.T.; KREMENCHUTSKIY, N.F.; KURDYAYEV, B.S.; KUSHCHANOV, G.K.; MASTER, A.Z.; PREOBRAZHENSKAYA, Ye.I.; ROZENTAL', Yu.M.; RUDOY, I.L.; RUSHCHIN, A.A.; RYBAKOV, I.P.; SAGINOV, A.S.; SAMSONOV, M.T.; SERGAZIN, F.S.; SKLEPCHUK, V.M.; USTINOV, A.M.; UTTS, V.N.; FEDOTOV, I.P.; KHRAPKOV, G.Ye.; SHILENKOV, V.N.; SHNAYDMAN, M.I.; BOYKO, A.A., retsenzent; SUROVA, V.A., ved. red.

[Mining of coal deposits in Kazakhstan] Razrabotka ugol'nykh mestorozhdenii Kazakhstana. Moskva, Nedra, 1965. 292 p. (MIRA 18:5)

ABRAMOV, F.A., prof.; KREMENCHUTSKIY, N.V., dotsent

Calculation of the aerodynamic resistance of ventilation "windows" in complex ventilation systems. Izv.vys.ucheb.zav.; gor.zhur. 7 no.12:48-51 '64. (MIRA 18:2)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema. Rekomendovana kafedroy rudnichnoy ventilyatsii i tekhniki bezopasnosti.

ACCESSION NR: AP3003622 Z/0055/63/013/005/0396/0398

AUTHOR: Kremenek, J.; Skrivankova, M.; Simkova, J.

TITLE: Measurement of angular distribution of elastically scattered protons from aluminum atoms with mass number 27

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 13, no. 5, 1963, 396-398

TOPIC TAGS: proton scattering, proton elastic scattering, proton inelastic scattering, proton scattering spectrum, proton scattering distribution

ABSTRACT: The angular distribtuion of elastically scattered protons and five groups of inelastically scattered protons from Al has been measured with the help of a Sc detector with a barrier corresponding to a proton energy of 7.0 Mev and protected with a 16-μ-thick Al foil to absorb the α particles produced at the target. The range of measurements was 30—170° at an incident proton energy of 6.5 Mev. The measured groups correspond to -Q values of 0.842, 1.015, 2.21, 2.73, 2.98 and 3.00 Mev, of which the first three groups were resolved.

Card 1/2

ACCESSION NR: AP3003622

The angular distribtuion of inelastically scattered protons obtained in measurements repeated several times for each angle are given in a table. The continuation of the studies of inelastic processes on aluminum is announced. Orig. art. has: 2 tables.

ASSOCIATION: Ustav jadernehe vyzkumu CSAV, Prague (Institute of Nuclear Physics, CSAV), Katedra fyziky fakulty strojni, CVUT (Faculty of Machinery, Physics Department, CVUT)

SUBMITTED: 27Aug62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NO REF SOV: 001 OTHER: 004

Card 2/2

KREMENEK, O.

Some examples of use of dischargetube rectifiers. p.23.
ELEKTROTECHNIK, Prague, Vol. 11, no. 1, Jan. 1956.

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

KRÁLÍK, O.

Small transformers with automatic control. p. 318.

ELEKTROTECHNIK. Vol. 11, no. 10, Oct. 1956

Praha, Czechoslovakia

SOURCE: East European List (EEAL) Library of Congress, Vol. 6, No. 1, January 1957

KREMENETS, Yu., inzh.; SIL'YANOV, V., inzh.

Limit the upgrade length in designing the longitudinal highway profile. Avt. dor. no.10:11-12 O '64. (MIRA 17:12)

KUZOVSHCHIKOV, N.I., inzh.; KREMENETS, Yu.A., inzh.

Technological and economic efficiency of major repairs on mountain roads. Avt. dor. 27 no. 3:19-20 Mr '64. (MIRA 17:5)

KREMENETS, Yu.A., inzh.; SIL'YANOV, V.V., inzh.

Design of long ascents and descents. Avt.dor. 28 no.10:10-11 O '65. (MIRA 18:11)

KREMENETS, Yu.A., aspirant

Graphic determination of basic parameters of the free running of a motor vehicle. Izv. vys. ucheb. zav.; mashinostr. no. 10: 129-133 '65 (MIRA 19:1)

1. Submitted October 22, 1964.

1. [illegible], . . .; [illegible], Ye. Y.

2. USSR (600)

4. Libraries, Governmental, Administrative, etc.

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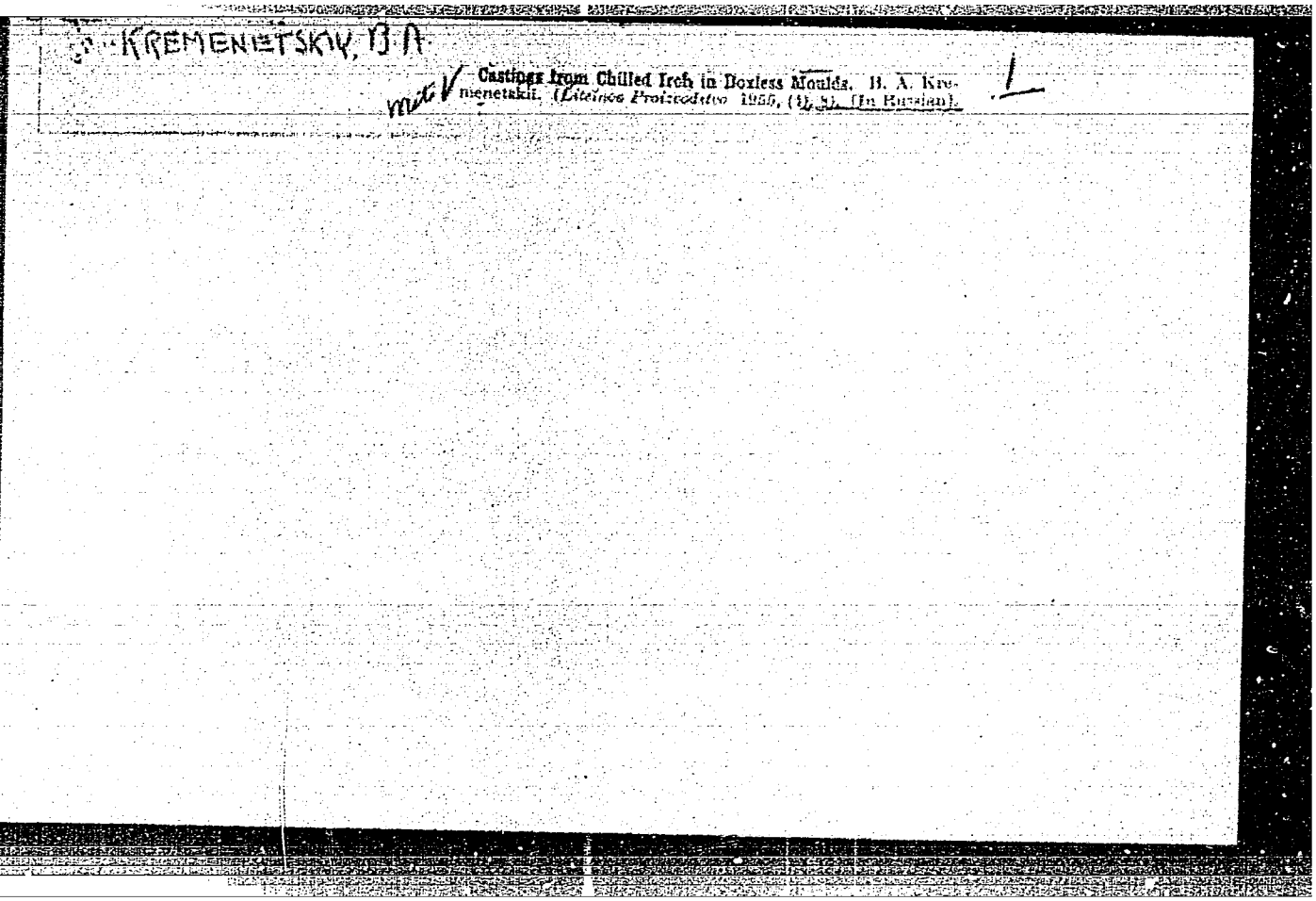

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