

SOTNIKOV, S.G., kapitan meditsinskoy sluzhby.

Anaphylactic shock following intradermal tests for sensitivity
to antibiotics. Voen.-med. zhur. no. 1:73-74 Ja '66
(MIRA 19:2)

A TV Set for Long-Distance Reception

107-12-28/46

Three tv antennas are used for long-distance reception. Double-tier three-element array is tuned to the frequencies of the second tv channel. A four-element director-type array is tuned to the frequencies of the first tv channel. The so-called "skeleton-slot type" antenna is tuned to 42 mc.

On 2, 13, 29 Sept, and 10 Oct, 1956, a number of foreign tv programs were received in Moscow with the above described equipment. A new antenna was built, a two-tier cophased array. It had a negligible back lobe and no sensitivity toward the zenith which improved the reception conditions.

During the summer of 1956 many long-distance tv signals were received due to reflections from the ionized traces of meteors. The signals lasted from 1 sec to 1 hour in duration.

There are 5 figs in the article.

AVAILABLE: Library of Congress

Card 2/2

SOTNIKOV S.K.

107-57-5-26/43

AUTHOR: Ovcharenko, E.

TITLE: Long-Distance VHF Propagation (Dal'neye rasprostraneniye UKV)

PERIODICAL: Radio, 1957, Nr 5, pp 22-23 (USSR)

ABSTRACT: Recently a conference on long-distance vhf propagation was held in Moscow; it was organized by these three organizations: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi imeni A.S. Popova (Scientific and Engineering Society of Radio-Engineering and Electrocommunication), Vsesoyuznyy nauchnyy sovet po radiofizike i radiotekhnike AN SSSR (All-Union Scientific Council for Radiophysics and Radio Engineering, AS USSR), Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics, AS USSR). Over 250 persons took part in the activities of the Conference; among them scientists and professors from Leningrad, Khar'kov, Gor'kiy, Odessa, Tomsk, and other cities. Fifteen reports were delivered and discussed, of which 6 were devoted to vhf tropospheric scatter propagation. Professor A.G. Arenberg, Doctor of Technical Sciences, opened the Conference. A brief outline of today's investigations and uses of tropospheric propagation is presented in the article. Professor A.N. Kazantsev delivered a report on the "Diffused Propagation of Meter Radio Waves in the Ionosphere" in which he briefly reviewed the materials of the Eighth Plenary Conference of the International Consultative Committee for Radio (Warsaw, September 1956). American and Canadian commercial scatter-propagation communication lines were mentioned.

Card 1/3

107-57-5-26/63

Long-Distance VHF Propagation

'Frequency-Separated Reception" by S. F. Mirkotan; "On the Methods of Calculation of Radio-Wave Diffusion on Random Inhomogeneities" by V.A. Zverev.

.The Conference found necessary to organize broad theoretical and experimental investigations of vhf scatter propagation in 1957-1960. Steps toward this end are listed in the article.

There are two Soviet references.

AVAILABLE: Library of Congress

Card 3/3

SOTNIKOV, S., inzh.

Television channel switch and converter. Radio no.11:
28-29 N '65. (MIRA 18:12)

Sotnikov, S

107-8-40/62

AUTHOR: Sotnikov, S.

TITLE: Antennas for "Super-Long" Distance TV-reception (Antenny dlya "sverkhdal'nego" priyema televideniya).

PERIODICAL: Radio, 1957, # 8, pp 34-37 (USSR)

ABSTRACT: In case of long distance TV-reception (1,500-2,500 km), rotating sharp-pointed directional antennas were mostly used till now. The construction of such antennas being too difficult for radio amateurs, the author of this article suggests the construction of new frame antennas suitable for local as well as for long and super-long distance reception.

Figure 1 shows how a half-wave Pistol'kors loop vibrator is transformed into a frame antenna.

Figure 2 shows a two-element antenna, where the vibrator and the reflector have the same dimensions.

Figure 3 shows a three-element antenna (vibrator, reflector and director), the three frames of which have the same dimensions. The tuning of this antenna is effected in adjusting the induction coil and the variable capacitor (see Table 2).

Card 1/3

TITLE: Antennas for "Super-Long" Distance TV-reception (Antenny dlya "sverkhdal'nego" priyema televideniya). 107-8-40/62

A three-element antenna can be designed in such a manner that no alignment will be necessary. In this case, the dimensions of the reflector and the director are to be different (figure 4).

The dimensions of these frame antennas operating in one of the TV-channels are indicated in Table 1.

A multi-element antenna is more suitable for super-long distance TV-reception. Figure 5 shows a three-element frame antenna, the vibrator, reflector and director of which have different dimensions and which is designed for three sections of the frequency band of 41-68 mc:

- I: 41-48.5 mc
- II: 48.5-56.5 mc
- III: 58-66 mc

For this purpose, induction coils are inserted. Their commutation, i.e. their passage from one frequency range to another, is effected by means of a small telephone relay "МРМ-1". The constructional dimensions of this antenna are given in figure 6.

Card 2/3

Sotnikov, S

107-8-41/62

AUTHOR: Sotnikov, S. (Moscow).

TITLE: Long Distance Reception of TV-Broadcasting (Dal'niy priyem televizionnykh peredach).

PERIODICAL: Radio, 1957, # 8, pp 37-40 (USSR)

ABSTRACT: This article gives a review of numerous experiments in long distance TV-reception by the author and several other radio amateurs. They utilized stacked frame-antennas of two to five elements. The three-element antenna of this kind has been described in subject periodical pp 34-37. Current types of half-wave dipoles adjusted to channel I were also utilized. These were pointed in occidental direction, situated at the edge of the roof serving as a reflector.

Many of receptions were carried out with accessory TV-amplifier units.

At the end of winter and in spring 1957, the amateur radio stations were audible at a distance of 3,000 to 4,000 km in the range of 38-40 megacycles. The reception of radio and TV-stations was diurnal in November, December and January.

Card 1/3

6(6)

PHASE I BOOK EXPLOITATION

SOV/2913

Sotnikov, Sergey Kuz'mich

Sverkhdal'niy priyem televideniya (Long-Distance Television Reception) Moscow, Gosenergoizdat, 1958. 62 p. (Series: Massovaya radiobiblioteka, vyp. 312) 50,000 copies printed.

Editorial Board: A. I. Berg, V. A. Burlyand, V. I. Vaneyev, Ye. N. Genishta, I. S. Dzhigit, A. M. Kanayeva, E. T. Krenkel', A. A. Kulikovskiy, A. D. Smirnov, F. I. Tarasov, P. O. Chechik, and V. I. Shamshur.; Ed.: Ye. P. Ovcharenko; Tech. Ed.: N. I. Borunov.

PURPOSE: This booklet is intended for the general reader.

COVERAGE: The author discusses long-distance television reception. He describes an amateur television receiver and discusses the operation of television antennas. He also presents instructions on long-distance television reception useful to television amateurs. No personalities are mentioned. There are no references.

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SOV/2913

Long-Distance (Cont.)

Antennas designed for operation on three channels in a frequency range between 41 and 67 megacycles 35

Ch. 5. Long-distance Television Reception in Moscow 40

Conclusion 59

Appendixes:

1. Basic Television Transmission Characteristics According to Various Standards 61
2. Television Transmission Spectrum Frequency Characteristics 62
3. European Television Centers Operating in the Range of 41-83 Megacycles 62

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SOV/107-59-2-31/55

6(6)

AUTHOR: Sotnikov, S.

TITLE: A Television Receiver of the Type "KVN-49" for Long-Distance Reception (Televizor "KVN-49" dlya sverkhdal'nego priyema)

PERIODICAL: Radio, 1959, Nr 2, pp 36-39 (USSR)

ABSTRACT: The author describes the modernization of the out-dated television receiver "KVN-49", to achieve long-distance reception, i.e. over 1,000 km. In the remodeled receiver an additional PTK unit has been set up, which enables reception on all 12 channels. In the receiver itself the remodeling affects only 1 channel; 2 channels of the receiver are working as before and reception of local transmitters is not disturbed. On the remaining (4-12) channels the reception of local and distant transmitters may be accomplished only via the PTK unit. The essence of the remodeling consists in converting (by the additional PTK unit) the high-frequency amplifier of the

Card 1/2

9(1)

SOV/107-59-4-25/45

AUTHOR: Sotnikov, S., Moscow

TITLE: Loop Antennas for Long-Distance TV Reception (Ramoch-
nyye anteny dlya dal'nego priyema televideniya)

PERIODICAL: Radio, 1959, Nr 4, pp 31 - 32 (USSR)

ABSTRACT: For receiving TV stations located at distances of 150-200 km from the TV set, the author suggests building a square loop antenna as shown in Figure 1. It provides a maximum amplification of frequencies close to the value of the carrier frequency. Further, the author suggests a TV antenna consisting of four square loops, which provides still better TV reception. Radio amateurs in Tambov used such antennas for receiving the Ryazan' TV station. There are 4 diagrams and 1 table.

Card 1/1

SOV/107-59-10-35/51

9(

AUTHOR: Sotnikov, S.

TITLE: A Transistorized Modulator

PERIODICAL: Radio, 1959, Nr 10, pp 48 - 49 (USSR)

ABSTRACT: The author describes a modulator for a portable transmitter. The circuit diagram is shown in Figure 1. It is a two-stage three-transistor l-f amplifier with a class B, push-pull output stage, composed of P4 transistors. A 12 volt power source is required. There are 1 circuit diagram and 3 diagrams. ✓

Card 1/1

TSITOVICH, A.P.; SOTNIKOV, S.K.

[Matrix time-delay analyzer with commutators on memory capacitances for a mechanical neutron selector] Matrichnyi vremennoi analizator s kommutatorami na emkostiakh pamiati dlia mekhanicheskogo neitronnogo selektora. Moskva, In-t atomnoi energii, 1960. 18 p. (MIRA 17:1)

SOTHIKOV, Sergey Kuz'mich; KANAYEVA, A.M., red.; VORONIN, K.P.,
tekhn.red.

[Long-range television reception] Sverkhdal'ni priem tele-
videniia. Izd.2., perer. i dop. Moskva, Gos.energ.izd-vo,
1960. 94 p. (Massovaya radiobiblioteka, no.372). (MIRA 13:11)

(Television--Receivers and reception)

SOTNIKOV, S.

Loop antennas for long-distance reception. Radio no.2:39-41
F '60. (MIRA 13:5)
(Television--Antennas)

SOTNIKOV, S.

Fight against television interference. Radio no. 4:41-44 Ap '60.
(MIRA 13:8)

(Television--Interference)

SOTNIKOV, Sergey Kuz'mich; LOPATIN, K.G., red.; YEMZHIN, V.V.,
tekhn. red.

[Conversion of television receivers] Peredelka televizorov.
Moskva, Gosenergoizdat, 1962. 46 p. (Massovaya radio-
biblioteka, no.446) (MIRA 16:5)
(Television--Receivers and reception)

S/120/62/000/001/017/061
E140/E463

AUTHORS: Tsitovich, A.P., Sotnikov, S.K.

TITLE: Matrix time analyser using capacitive memory switching

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 78-85

TEXT: In matrix spectrum analysers the storage coordinates are selected by switches which are generally controlled by bistable circuits (flip flops). To obtain high speed (high channel resolution, low minimum channel width) it becomes necessary to utilize complicated flip flop circuits with large numbers of tubes and hence low reliability. The authors propose to use a capacitive memory shift register in which a charge is shifted from condenser to condenser through a circuit consisting of two diodes and a triode amplifier, controlled by a two-phase pulse sequence. The charge is shifted at each cycle from an odd to an even numbered condenser or vice versa. Without difficulty the authors bring the minimum channel width to 2 μ s, with special care to 0.6 μ s. A block diagram of the analyser and detailed circuits of the capacitive memory shift register, input circuits, switching circuits and storage matrices are presented and discussed.
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S/120/62/000/001/017/061
E140/E463

Matrix time analyser ...

The analyser is designed to operate with magnetic heads for detecting neutrons in a mechanical neutron selector. Two models have been built and put into operation. In one there are four matrices, two for measuring the "effect" (128 channels) and two for measuring "background" (32 channels). The second model has two matrices of 128 channels each. The output is to a mechanical recorder type $CB-1(M)$ ($SB-1(M)$), which appears to be the main source of unreliability in the system. It is planned to replace the mechanical counter with decade counting circuits. Vacuum tube and diode and crystal diode circuits are used throughout. There are 10 figures.

ASSOCIATION: Institut atomnoy energii AN SSSR
(Institute of Atomic Energy AS USSR)

SUBMITTED: June 30, 1961

Card 2/2

SOTNIKOV, S., inzh.

Television antennas for long-distance reception. Radio no. 3:40-
43 Mr '63. (MIRA_16:2)

(Television--Antennas)

SOTNIKOV, S., inzh.

Television loop antennas. Radio no.8:37-38 Ag '63. (MIRA 16:9)
(Television--Antennas)

L 13376-63

EWT(m)/HDS AFFTC/ASD

ACCESSION NR: AP3002720

S/0120/63/000/003/0058/0060

AUTHOR: Moskalev, S. S.; Adamchuk, Yu. V.; Sotnikov, S. K.TITLE: Multiwire neutron detector¹⁹ with an overloadproof preamplifierSOURCE: Pribery* i tekhnika eksperimenta, ⁸A no. 3, 1963, 58-60

TOPIC TAGS: neutron detector, overloadproof preamplifier, neutron study

ABSTRACT: A multiwire $B^{10}F_5$ -filled new neutron detector is described which is intended for studying total neutron cross-sections on a neutron spectrometer; the neutrons are supplied by an IAR linear electron accelerator (R. M. Voronkov, M. I. Pevzner, N. N. Flerov, A. V. Aref'yev, et al., Atomnaya energiya, 1962, 13, 327). The detector includes 230 proportional counters that have only a 0.25 microsec delay. A simple-circuit overloadproof preamplifier (overload capacity about 1,000) eliminates overloading the electronic devices due to high-power gamma-ray pulses that are set up by the accelerator electron pulses. The preamplifier permitted cutting the channel dead time (after a gamma pulse) down to 5-10 microsec, i. e., permitted studying the total neutron cross-sections from 100 kev on. "In conclusion,

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L 13376-63

ACCESSION NR: AP3002720

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it is a pleasant duty of the authors to thank M. I. Pevzner, N. N. Flerov, A. P. Tsitovich, and D. A. Istomin for their valuable advices and discussions, G. F. Shavkutenko for his part in building the detector, and also Ye. M. Strel'nikov and V. Ye. Charnko for their help in aligning and operating the experimental hookup." Orig. art. has: 7 figures.

ASSOCIATION: Institut atomnoy energii (Institute of Atomic Energy)

SUBMITTED: 04Aug62

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: NS, SD

NO REF SOV: 006

OTHER: 000

Card 2/2

ACCESSION NR: AP4009106

S/0056/63/045/006/1858/1864

AUTHORS: Danelyan, L. S.; Yefimov, B. V.; Sotnikov, S. K; Kakhra-
manov-Dzhazairov, V.

TITLE: Intensities of the Gamma transitions to the ground rota-
tional band in neutron resonances of the reaction $Gd^{155} (n, \gamma) Gd^{156}$

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963,
1858-1864

TOPIC TAGS: gadolinium 155, gadolinium 156, gamma transition,
ground rotation band, neutron resonance, neutron capture by gado-
linium, resonance intensity distribution, Porter Thomas distribution

ABSTRACT: The purpose of the work was to find the variation of the
partial radiation width for the 8.44-MeV transition in Gd^{156} follow-
ing neutron capture at different neutron resonances. This transi-
tion was chosen because it can be readily separated from other tran-

Card 1/3 2

ACCESSION NR: AP4009106

sitions. A crystal scintillation spectrometer was used to measure the relative intensities of the γ transitions to the ground rotational band for 20 resonances in the $Gd^{155}(n, \gamma)Gd^{156}$ reaction. At the measurement accuracy attained in these experiments, the resonance intensity distribution is compatible with a Porter-Thomas distribution with one channel. The possibility remains, however, that there are two groups of such distributions with different mean intensities. The apparatus was based on coincidence circuitry and in addition to separating the 8.44-MeV γ 's it can also measure the γ -ray background at other energies. It is reported that the apparatus is being improved and the measurement of the relative intensities of the 8.44 MeV transition will be continued. "The idea of this measurement was suggested to us by L. V. Groshev and A. M. Demidov to whom we are grateful. We also thank M. I. Pevzner for a truthful discussion of the results and V. A. Kochetkov and A. Ya. Lunin for much work performed." Orig. art. has: 4 figures, 2 formulas, and 1 table.

Card ² 2/7

ACCESSION NR: AR4014746

S/0058/63/000/012/A020/A020

SOURCE: RZh. Fizika, Abs. 12A202

AUTHOR: Tsitovich, A. P.; Bochkov, G. T.; Istomin, D. A.; Sotnikov,
S. K.

TITLE: 2048-channel time analyzer

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radio-
elektronike. T. 2, Ch. 2. M., Gosatomizdat, 1963, 72-95

TOPIC TAGS: analyzer, time analyzer, 2048 channel analyzer, drum
memory analyzer, multichannel time analyzer, nuclear instrumentation

TRANSLATION: A 2048-channel time analyzer with magnetic drum memory
is described. The magnetic drum is superior to other memory devices
in that it uses fewer control elements. However, the magnetic drum
is a relatively "slow" memory unit. In this connection, the mag-

Card 1/2

ACCESSION NR: AR4014746

netic drum is used only to store the total information coming from the input unit of the intermediate memory. To this end, an electrostatic storage-tube memory is used, which has a much larger capacity compared with other systems. The analyzer employs a new method of matching the intermediate and main memory units. The advantages and shortcomings of such an analyzer are analyzed in detail. The question of further increase in the number of channels in a time analyzer of this type is discussed. L. S.

DATE ACQ: 24Jan64

SUB CODE: PH, SD

ENCL: 00

Card, 2/2

SOTNIKOV, Sergey Kuz'mich; KUZ'MINOV, A.I., red.

[Long-distance television reception] Dal'nii priem te-
levideniia. Moskva, Energiia, 1964. 70 p. (Massovaia
radiobiblioteka, no.558) (MIRA 18:7)

L 58329-65 EWT(m)/T IJP(c)

ACCESSION NR: AT5010444

UR/3136/64/000/695/0001/0015

AUTHOR: Sotnikov, S. K.; Yefimov, B. V.; Tsitovich, A. P.

15
13+1

TITLE: Method of stabilization of the amplifier section of a scintillation counter

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 695, 1964. Metod stabilizatsii trakta usileniya atsintillyatsionnogo schetchika, 1-15

19

TOPIC TAGS: scintillation counter, Gamma spectrometer, amplifier stabilization, spectral line stability

ABSTRACT: The authors consider a method of stabilizing the amplifier section of a scintillation counter system, using a reference light pulse, as described first by A. M. Ivanchenko (PTE, 1959, No. 2, 150). Among the advantages claimed for this method are the lack of statistical scatter of pulse amplitude, the possibility of locating the artificial-light line in any position of the spectrum, and the possibility of applying the reference-light pulse at instants of time other than during the main measurements. A distinguishing feature of the method is the use of a current pulse, proportional to the intensity of the flash from the light transmitter, in the comparison circuit. The idea of the method can be understood from

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L 58329-65

ACCESSION NR: AT5010444

examination of the block diagram of the apparatus, shown in Figure 1 of the Enclosure. The control circuit governs the gain of a linear amplifier connected to the photomultiplier load. The circuit and its units are described in detail. The introduction of such a control circuit in a gamma spectrometer has improved the stability of the position of the spectral lines from 3--5% to 0.3--0.4%. "The authors thank V. A. Kochetkov for playing an important part in this work." Orig. art. has: 11 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: OP

NR REF SOV: 006

OTHER: 000

Card 2/3

L 58329-65
ACCESSION NR: AT4010444

ENCLOSURE: 01

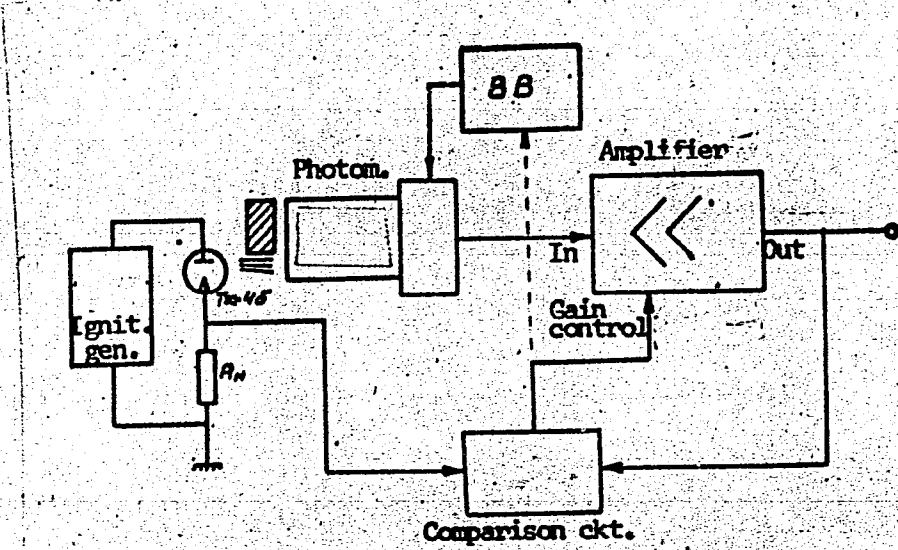


Fig. 1. Block diagram of stabilization

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L 32065-66 EWT(m)/T IJP(c)

ACC NR: AR6016155

SOURCE CODE: UR/0058/65/000/011/A029/A029

AUTHOR: Sotnikov, S. K.; Yefimov, B. V.; Tsitovich, A. P.

TITLE: Method of stabilization of the amplification channel of a scintillation counter

SOURCE: Ref. zh. Fizika, Abs. 11A287

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. I. M., Atomizdat, 1964, 69-80

TOPIC TAGS: scintillation counter, amplifying equipment, stabilization

ABSTRACT: A procedure is described for stabilizing the amplification channel of a scintillation counter with the aid of a reference light pulse. The light-pulse source is a cold-cathode thyatron (TKh4B), in which the light output is proportional to the current through the thyatron. The stabilization is by comparing the current pulse from the output of a photomultiplier with the current pulse through the thyatron, with subsequent regulation of the gain of the amplifier by means of the difference error signal. A slightly modified standard amplifier (VIII-10) and an FEU-49 photomultiplier are used. Introduction of stabilization has improved the time stability of the system by ~10 times (from 3-5% to 0.3-0.4%, as checked relative to the position of the Cs¹³⁷ line). The complete schematic diagrams of the apparatus are given. V. Kharitonov. [Translation of abstract]

SUB CODE: 09

Card

1/100

ACC NR: AR7004326

SOURCE CODE: UR/0271/66/000/011/B043/B043

AUTHOR: Sotnikov, S. K.; Tsitovich, A. P.

TITLE: Multidimensional input device of a 2048-channel analyzer

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 11B333

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 3. Ch. 2. M., Atomizdat, 1965, 7-17

TOPIC TAGS: pulse height analyzer, nuclear research

ABSTRACT: A storage-tube-type intermediate storage device of a 2048-channel magnetic-drum analyzer is shortly described. Investigation of gamma-rays arising when neutrons with energies corresponding to absorption resonances are captured is of practical interest. Hence, the problem can be reduced to measuring the gamma spectra only "inside" these resonances; the number of time and pulse-height channels is reduced, but the time channels of various durations which would correspond to resonance widths become necessary. Such channels can be designed with magnetostriction delay lines. An analyzer for single-dimensional measurements is described. To eliminate the ambiguity in the beginning of the time scale (0.2 microsec), operation with the accelerator synchronized by the crystal oscillator of the analyzer is provided. The analyzer time scale can be delayed for 3.2--7503.6 microsec or 6.4--13007.2 microsec. The analyzer recording dead time is 25.6 microsec. In two-dimensional measurements, a height-to-duration converter is added to the analyzer; its logic-and-programing system includes a magnetostriction delay line. A circuit of signal amplifiers with magnetostriction delay lines is shown. Five figures. Bib. of 3 titles. [Transl'n of abs.]Yu.S.

Card 1/1 SUB CODE: 09, 18

UDC: 681.142.343

L 47075-65 EWT(1)/EWT(m)/T/EWA(h) P1-4/Peb IJP(e)

S/0120/65/000/001/0100/0104

29
27
B

ACCESSION NR: AP5007034

AUTHOR: Sotnikov, S. K.; Yefimov, B. V.; Tsitovich, A. P.

TITLE: Method of stabilization of the amplification channel of a scintillation counter

SOURCE: Pribory i tekhnika eksperimenta, ¹⁰⁻no. 1, 1965, 100-104

TOPIC TAGS: scintillation counter, amplifier, amplifier stabilization 15

ABSTRACT: A method of stabilization by means of a reference light pulse obtained from a cold-cathode gas-discharge tube (TKh-4B) is considered. As the relation between the current pulse and light pulse in the above tube is practically linear, the instability of light flashes does not affect the amplifier gain because a special comparison circuit equalizes the effect of both types of pulses; the comparison circuit controls the gain of the photomultiplier amplifier. The introduction of the above stabilization system into a gamma-spectrometer resulted in

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L 47075-65

ACCESSION NR: AP5007034

2

enhancing the stability of the spectral-line position by one order of magnitude (from 3-5% to 0.3-0.5%). Time testing of the stability showed that the gamma-line position and the light-pulse position remained practically constant over a 12-hr period. "In conclusion, the authors wish to thank V. A. Kochetkov who took an important part in the work." Orig. art. has: 11 figures and 1 table.

ASSOCIATION: Institut atomnoy energii (Institute of Atomic Energy)

SUBMITTED: 14Jan64

ENCL: 00

SUB CODE: NP, EC

NO REF SOV: 005

OTHER: 000

bjp
Card 2/2

SOTNIKOV, S. N.

Cand Tech Sci - (diss) "Principles of the growth of deformations of creep in clayey soils under displacement." Dnepropetrovsk, 1961. 14 pp; (Dnep Inst of Railroad Transport Engineers); 200 copies; price not given; (KL, 7-61 sup, 246)

SOTNIKOV, V.; FADEICHEV, S.

Prospectors of mineral resources. NTO no.9:36 S '59.
(MIRA 13:1)

1. Zamestitel' predsedatelya Verkhne-Donskogo territorial'nogo pravleniya Nauchno-tekhnicheskogo obshchestva Gornoye (for Sotnikov). 2. Uchenyy sekretar' Verkhne-Donskogo territorial'nogo pravleniya Nauchno-tekhnicheskogo obshchestva, Rostov-na-Donu (for Fadeichev).

(Prospecting)

15.8050

L0785

S/110/62/000/006/001/002
I010/I210

AUTHORS: Anikeyenko, V. M., (Engineer) Kevroleva, K. M., Kessenikh, P. M. Cundidater for
Medical Science and Sotnikov, V. (Engineer)

TITLE: Radiation-damage stability of polyvinychloride plastics of insulation and jacket pre-
scriptions

PERIODICAL: Vestnik elektro-promyshlennosti, no. 6, 1962, 16-20

TEXT: 6 insulation type and two jacket type plastics (all prescriptions given in a table) were irradiated with doses from 0 to 220×10^6 rad. The results of the measurements of the electrical and mechanical properties of irradiated samples presented in graphs, show that a substantial decrease of tensile strength and of the respective elongation of the plastic starts at 5×10^6 rad. The biggest change of σ , occurs in the region from $(5 + 50) \times 10^6$ rad. At a dose of 150×10^6 the tensile strength of a plastic containing 40% of plasticizer, decreased by 20% of its initial value; whereas that containing 60% of plasticator by 60% of the initial tensile strength. Irradiation causes chemical changes of the structure and therefore the resistivity decreased at 150×10^6 rad. to 3-37% of the initial one. At a total dose of 10^6 rad. the temperature-frequency change of the $\text{tg } \delta$ was about a 200% increase. The frost-resistance of the polyvinylchloride plastic decreases starting from the dose of 15×10^6 rad. The decomposition temperature starts decreasing from 5 to 15×10^6

Card 1/2

50 ТИТКОУ У.А.

21(8) Vsesoyuznyy Nauchno-Issledovatel'skiy Tsentr po Fizicheskoy Khimii i Metallovedeniyu

Study... Radiometrie i Instrumentirovaniye (Contributions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, Machine and Instrument Manufacturing) Moscow, Izd-vo AN SSSR, 1958. 393 p. 4,500 copies printed.

Sponsoring Agencies: Vsesoyuznyy Nauchno-Issledovatel'skiy Tsentr po Fizicheskoy Khimii i Metallovedeniyu, Akademiya Nauk SSSR.

Editorial Board: V.I. Dikshin, Academician (Resp. Ed.), M.M. Smolovskiy (Deputy Resp. Ed.), Yu. S. Zaslavskiy (Deputy Resp. Ed.), L. E. Zakharenko, M.I. Terpenovskiy, S.T. Muzarov, L.I. Patremak and N.G. Zaslavskaya (Secretary).

Ed. of Publishing House: P.M. Balyunin; Tech. Ed.: T.P. Polenova.

PURPOSE: This book is intended for specialists in the field of machine and instrument manufacture who use radioactive isotopes in the study of materials and processes.

COVERAGE: This collection of papers covers a very wide field of the utilization of tracer methods in industrial research and control techniques. The topic of this volume is the use of radioactive isotopes in the machine- and instrument-manufacturing industry. Individual papers discuss the applications of radioisotopes in the study of metals and alloys, problems of friction and lubrication, metal cutting, engine performance, and defects in metal. Several papers are devoted to the use of radioisotopes in the automation of industrial processes, recording and measuring devices, quality control, flowmeters, level gauges, safety devices, radiolous sources, etc. These papers represent contributions of various scientific institutes and laboratories. They were published as Transactions on the All-Union Conference on the Use of Radioactive and Stable Isotopes in Machine and Instrument Manufacturing in the National Economy and Science, April 8-12, 1957, Moscow. The titles of the papers and References are given at the end of each of the papers.

Chernyakova, R.B. Method for Estimating the Degree of Degradation of Metals 108

Gulayev, B.B., Yu.F. Erotyevskiy, L.M. Postnov, O.M. Magmitskiy. Study of the Processes of Cast Formation in Sand Molds 112

Vitkin, A.I. (Tsentral'nyy nauchno-issledovatel'skiy institut Chernoy Metallurgii - Central Scientific Research Institute of Ferrous Metallurgy) - Study of the Mechanism of the Basic Process in Hot Tin Plating 119

Jordan, G.G., and K.S. Furman (Nauchno-issledovatel'skiy institut Teploenergeticheskogo Priborostroyeniya - Scientific Research Institute of Heat-Power Instruments). Use of Nuclear Radiation for the Measurement of Heat-Power Parameters 124

Verkhovskiy, E.I., V.A. Botnikov, and V.V. Yamshin (Fizicheskii Institut imeni P.M. Lebedeva - Institute of Physics imeni P.M. Lebedeva, Academy of Sciences, USSR). Reduction of Errors in Measurements Performed With Scintillation Counters 127

Kozlovskaya, V.A. (Fizicheskii Institut imeni P.M. Lebedeva - Institute of Physics, Academy of Sciences, USSR). Radiation in Analytical Methods 134

Afanasyev, Y.M. Automation of Measurements and Recording of Radioactive Radiation Intensity 140

Zalichkin, V.G. Study of the Electrical Properties of Ionization Resistors 146

Sezlin, Y.G., and A.A. Rudomovskiy (Vsesoyuznyy nauchno-issledovatel'skiy institut - All-Union Coal Research Institute). Use of Radioactive Isotopes in the Automation of Excavating and Drifting Machines 150

Jordan, G.G., and K.S. Furman (Nauchno-issledovatel'skiy institut Teploenergeticheskogo Priborostroyeniya - Scientific Research Institute for Heat-Power Instrument Making). Measuring the Density of Liquids With Gamma Radiation 153

SOTNIKOV, V. A., BELKIN, G. L.

"The Control of the Contents of Lead in Intermediate Products and Concentrates"

paper presented at the All-Union Seminar on the Application of Radioactive Isotopes in Measurements and Instrument Building, Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

BLOKHIN, M.A.; OVCHARENKO, Ye.Ya.; MYAGKOV, P.I.; SOTNIKOV, V.A.; MAMONOV,
Yu.M.; BELKINA, G.L.

Improving the accuracy of X-ray spectral analysis by a
dual channel method. Zav.lab. 31 no.4:423-426 '65.
(MIRA 18:12)

1. Konstruktorskoye byuro "TSvetmetavtomatika" i
Rostovskiy gosudarstvennyy universitet.

BELKINA, G.L.; KUROYEDOV, V.A.; LAPOVOK, V.I.; LIKHTEROV, I.M.; MERMEL'SHTEYN,
G.R.; OVCHARENKO, Ye.Ya.; PONOMAR', V.I.; SABAYEV, V.I.; SOTNIKOV, V.A.;
FAYNBERG, L.I.; FEOKTISTOVA, N.D.

X-ray spectral analysis of brass in the process of smelting.
Zav.lab. 31 no.4:427-428 '65.

(MIRA 18:12)

1. Konstruktorskoye byuro "TSvetmetavtomatika" i Artemovskiy
zavod tsvetnykh metallov im. E.I.Kviringa.

MAYZIL', E.Ye.; SOTNIKOV, V.A.

Determining the ratio of the content of two elements in a
flow of pulp by the X-ray spectral method. Zav.lab. 31
no.4:429-430 '65. (MIRA 18:1)

1. Konstruktorskoye byuro "TSvetmetavtomatika".

ACC NR: AP6021830

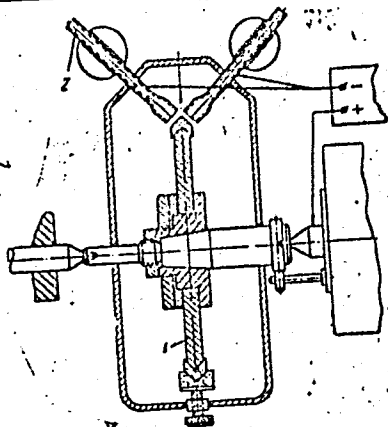


Fig. 1. 1 - tool;
2 - flat electrode

Orig. art. has: 1 figure.

SUB CODE: 13/

SUBM DATE: 22Aug64

Card 2/2

88052

9,9000 (and 2404, 2209, 2109)

S/139/60/000/006/019/032
E032/E414

AUTHORS: Sotnikov, V.G. and Kessenikh, R.M.

TITLE: Determination of the Velocity of Ultrasonic Waves
in Polymers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika,
1960, No.6, pp.126-129

TEXT: Various ultrasonic methods have been used to study the mechanical properties of polymers. The "composite vibrator" method has been used by the present authors at the Tomsk Polytechnical Institute. The composite piezo-quartz vibrator consisted of a quartz rod having a resonance frequency of 125 kc/s and the specimen under investigation which was attached to the quartz rod by means of shellac. The following conditions were observed in the preparation of the specimens: $l \gg h$ and $l \gg b$, where l is the length of the specimen and b and h are the width and thickness respectively of the specimen. The composite vibrator method was used to determine the velocity of ultrasonic waves in the polymer, and Young's modulus was then calculated from the usual formula:

$$v = \sqrt{E/\rho} \quad (1)$$

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S/139/60/000/006/019/032
E032/E414

Determination of the Velocity of Ultrasonic Waves in Polymers

where ρ is the density and E is Young's modulus. The velocity of the ultrasonic waves was calculated from the formula $v = \sqrt{E/\rho}$ where L is the length of the specimen and f is the resonance frequency of the specimen which is given by $f = f_r - (m_r/m_0)(f_r - f_s)$. In the latter formula f_r is the resonance frequency of the quartz rod with the specimen in position, f_s is the resonance frequency of the quartz rod plus the shellac layer, m_r is the mass of the quartz rod and the shellac layer, and m_0 is the mass of the specimen. The above masses were determined with the aid of analytical balances and the density of the polymers was calculated from the geometrical dimensions and the weight of specially prepared specimens. The following Table gives the dynamic Young's moduli obtained experimentally at $t = 20^\circ\text{C}$.

X

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S/139/60/000/006/019/032

E032/E414

Determination of the Velocity of Ultrasonic Waves in Polymers

ASSOCIATION: Tomskiy politekhnicheskii institut imeni S.M.Kirova (Tomsk Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: May 4, 1960

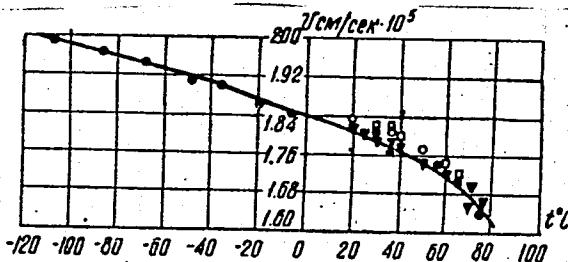


Рис. 1. Зависимость скорости ультразвука от температуры для полистирола.

Fig.1. Velocity of ultrasonic waves ($\text{cm/sec} \times 10^5$) as a function of temperature ($^{\circ}\text{C}$) for polystyrene.

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S/139/60/000/006/019/032
E032/E414

Determination of the Velocity of Ultrasonic Waves in Polymers

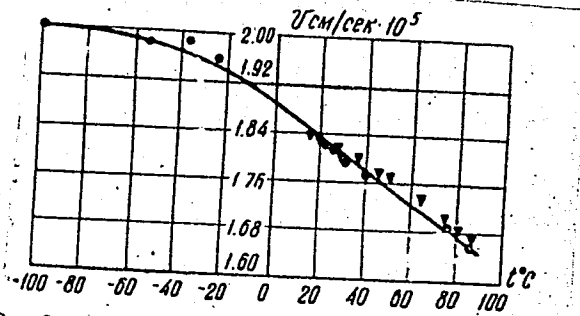


Рис. 3. Зависимость скорости ультразвука от температуры для полимоноклорстирола.

Fig.3. Velocity of ultrasonic waves as a function of temperature for polymonochlorostyrene.

Card 6/6

ANIKEYENKO, V. M.; KEVROLEVA, K. M.; KESSENIKH, R. M.; ~~SOTNIKOV, V. G.~~

Thermal aging of a polyvinyl chloride plastic. Izv. vys. uch.
zav.; fiz. 3:149-152 '62. (MIRA 15:10)

1. Tomskiy politekhnicheskij institut imeni S. M. Kirova.

(Vinyl compound polymers—Thermal properties)

ANIKEYENKO, V.M.; KEVROLEVA, K.M.; KESSENIKH, R.M.; SOTNIKOV, V.G.

Conductance and dielectric loss in polyvinyl chloride plastics.
Izv. vys. ucheb. zav.; fiz. no.5:75-80 '62. (MIRA 15:12)

1. Tomskiy politekhnicheskii institut imeni S.M. Kirova.
(Polymers—Electric properties)
(Dielectric loss)

KESSENIKH, R.M.; SOTNIKOV, V.G.; TRIPEL', V.G.; PETROV, A.V.; POKHOLKOV, Yu.P.;
SHUMILOV, Yu.N.

Some electrophysical properties of the homolog series of novolak-type
phenol-formaldehyde resins. Izv. TPI 126:26-35 '64. (MIRA 18:7)

17793-66 EWT(m)/EWP(j) RM SOURCE CODE: UR/0081/65/000/012/S058/S058
 ACC NR: AR5020054
 AUTHOR: Kessenikh, R.M.; Sotnikov, V.G.; Trippel', V.G.; Shumikov, Yu.N.; 51
Gruzdeva, Yu.G.; Povelichenko, A.P. B
 16.44.54
 ORG: none
 TITLE: Effect of plasticization on the physical properties of polyvinylchloride tar
 SOURCE: Ref. zh. Khimiya, Abs. 128344
 REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 126, 196, 36-45
 TOPIC TAGS: polyvinyl chloride, plasticizer, electric properties, vinyl plastic, 15
 brittleness, thermal stress
 TRANSLATION: A study was made of the effect of low-molecular weight plasticizers (PL) from dioctylphthalate (DOP) and dibutylsebacinate (DBS) on the thermophysical and electric properties of polyvinylchloride (PVC). It was established that PL affects the maximum of dipole elasticity losses and when the content of PL is considerable it displaces the maximum to lower temperature areas and decreases its value; the effect on PVC produced by DBS is stronger than that of DOP. There is a considerable PL effect at 20° on the resistance of specific volume in plasticized PVC when the compound contains >20% of PL. The greatest effect is achieved by DBS, lowering the specific volume resistance by 3 points, as compared to pure PVC. If the compound contains 50% of DBS, the specific volume resistance goes down by 5 points and is further lowered at higher

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ACC NR: AR5020054

temperatures. The introduction of PL lowers the embrittlement temperature (ET): with a content of 5% of PL in the compound, as referred to the ET of PVC, the ET equals 20°; with a 50% content of PL in the compound, the ET equals 4°. DOP and DBS have an almost identical effect on the thermal expansion and the ET in PVC plastics. By means of a roentgenographic analysis it was established that the introduction of PL into PVC ($\leq 20\%$) stimulates a better ordered structure of the material; however, a further increase of PL (50%) will disturb the order of the compound structure.

SUB CODE: 07

Card 2/2 vmb

SOTHIKOV, V.I.

Genesis of banded quartz-molybdenum veins in the Shakhtaminskoye deposit. Izv.vys.ucheb.zav.; geol. i razv. 1 no.5:99-104 My '58.
(MIRA 12:2)

1. Moskovskiy institut tsvetnykh metallov i zolota imeni M.I. Kalinina, kafedra geologii.

(Shakhtamiskiy District--Ore deposits)

SOTNIKOV, V.I.

Metamorphism in ores of the Shakhtama molybdenum complex metal
deposit (eastern Transbaikalia). Geol. i geofiz. no.9:53-61 '60.
(MIRA 14:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.
(Transbaikalia—Ore deposits) (Metamorphism (Geology))

TYCHINSKIY, A.A.; SOTNIKOV, V.I.

Mineralogical composition and genesis of ores in mercury deposits
of the Kuray ore-bearing zone of the Gornyy Altai. Geol. i geofiz.
no.12:57-71 '60. (MIRA 14:5)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

(Altai Mountains--Mercury ores)

SOTNIKOV, V.I.; SHCHERBAN', I.P.; TYCHINSKIY, A.A.

Effect of porosity on the localization of mineralization in some
mercury deposits. Geol. i geofiz. no.10:125-128 '61.
(MIRA 14:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

(Mercury ores)
(Porosity)

TYCHINSKIY, A.A.; SOTNIKOV, V.I.; NIKITINA, Ye.I.

Manifestation of a new type of copper mineralization in the
southeastern Altai. Geol.i geofiz. no.12:70-79 '61.

(MIRA 15:5)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

(Altai Mountains--Copper ores)

SOTNIKOV, V.I.

Some structural characteristics of the Shakhtaminskoye molybdenum
deposit. Trudy IGEM no.41:73-85 '61. (MIRA 14:8)
(Chita Province--Molybdenum ores)

SOTNIKOV, V.I.

Metallocolloidal formations of cinnabar in ores of the Terligkhayskoye mercury deposit (Tuva) and possible status of mercury-containing solutions. Geol. i geofiz. no.1:78-87 '62.. (MIRA 154)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Tuva A.S.S.R.--Cinnabar)

SOTNIKOV, V. I.

Dissertation defended for the degree of Candidate of Geologo-Mineralogical Sciences at the Joint Academic Council on Geologo-Mineralogical, Geophysical, and Geographical Sciences; Siberian Branch (1963)

"Geological Conditions of the Formation of the Shakhtaminskiy Molybdeno-Polymetallic Deposits (In the Transbaykal'ye)."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

NIKITINA, Ye.I.; BERZINA, A.P.; KUZNETSOVA, I.K.; SOTNIKOV, V.I.

Svanbergite in the Gornyy Altai. Dokl. AN SSSR 149 no.4:942-944
Ap '63. (MIRA 16:3)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
Predstavleno akademikom V.S.Sobolevym.
(Altai Mountains—Svanbergite)

BERZINA, A.P.; SOTNIKOV, V.I.

Excrescences on zircon crystals. Dokl. AN SSSR 150 no.4:
885-887 Ja '63. (MIRA 16:6)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN
SSSR. Predstavleno akademikom V.S. Sobolevym.
(Altai Mountains--Zircon crystals--Defects)

SOTNIKOV, V.I.; NIKITINA, Ye.I.

Behavior of accessory minerals and accessory elements in the process
of greisenization. Geol. i geofiz. no.10:58-78 '63. (MIRA 17:1)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novo-
sibirsk.

AFANAS'YEV, A.S.; CHAYKOV, Ye.N.; BURMISTROVA, A.N.; SOTNIKOV, V.I.

Methods for determining the amount of scale formed on
low carbon steel. Zav. lab. 30 no.5:586 '64. (MIRA 17:5)

1. Dnepropetrovskiy metallurgicheskiy institut.

SOTNIKOV, V.I.; IZYUMOVA, L.G.

Tungsten content in granites of typhons of the Gornyy Altai
characterized by varying ore content. Geokhimiya no.2:175-179
F '65. (MIRA 18:6)

1. Institut' geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

АВТОРИ, ИМЯ: СОТНИКОВ, В.И.

Energy (thermal) analysis of greenschist process. Geol. i geofiz.
no. 5:149-58 1968. (MIRA 18:8)

3. Институт геологии и геофизики Сибирского отделения АН СССР,
Новосибирск.

BERZINA, A.P.; SOTNIKOV, V.I.

Some data on the temperatures and pressures accompanying the formation of the Sorsk deposit. Dokl. AN SSSR 163 no.1:179-182 J1 '65.

(MIRA 18:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR. Submitted February 15, 1965.

18(5), 25(5)

SOV/128-59-4-1/27

AUTHORS:

Troshin, N.F., and Sotnikov, V.K., Engineers

TITLE:

Foundries of the Kemerovo Economic Administrative Region

PERIODICAL:

Liteynoye Proizvodstvo, 1959, Nr 4, pp 1-2 (USSR)

ABSTRACT:

In the Kemerovo economic administrative region, the operation of the foundries was examined to determine inner reserves and find ways of specialization and to advance modern working methods. In the foundries of this district which is one of the largest in Siberia, an annual estimate of 38,000 tons of steel, 165,000 tons of cast iron, and several thousand tons of non-ferrous metal castings is produced. In spite of this, the output does not meet requirements. In 1958, steel production could supply only 88% of the demands. The deficit is compensated by supplies from other economic regions. The output was too low for the following reasons: the majority of the foundries are plants with low efficiency which primarily rely on manual labor. Most of the plants were or are now in the

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SOV/128-59-4-1/27

Foundries of the Kemerovo Economic Administrative Region

process of modernization. The present rate of production does not correspond with the originally planned capacity. The supply of materials is organized very inadequately. Planning is generally made according to weight output. This makes it difficult to determine the exact capacity of the plants. On the average, the level of mechanization, concerning the technological working processes within the foundries of the district can be estimated at 30%. As a result, the casting facilities are not fully utilized, and the working areas of the casters are not organized. The transportation of cores and the production of chills has not been mechanized. In all factories, a bottleneck is being created by the drying of forms and cores. The models are built in inadequate and obsolete workshops. Many plants lack elevators. Mechanization of the charging equipment is either deficient or lacking entirely. Cast iron waste is very high in the different foundries and amounts to

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SOV/128-59-4-1/27

Foundries of the Kemerovo Economic Administrative Region

7-10%. To raise production, the following provisions were therefore made: inner reserves are to be used, and production extended without any larger capital investment, by improving the organization of work, by rationalizing the working processes, and by further mechanization. The small, unprofitable enterprises should be dissolved. The foundries should specialize on one sort of metal. New foundries are to be constructed. Quickly drying molding compounds should be introduced. The production of model molding boxes should be centralized.

Card 3/3

18(5), 25(5)

SOV/128-59-9-2/25

AUTHOR:

Troshin N.F. and Sotnikov V.K., Engineers

TITLE:

The Planning of Foundry Production in Conditional Tonnage

PERIODICAL:

Liteynoye proizvodstvo, 1959, Nr 9, pp 2-5 (USSR)

ABSTRACT:

In individual and small-serial foundry production there is, practically, no planning system; hence the superfluous labor and unnecessary raising of the cost of finished products. To remedy this situation, it was, at the end of 1951, decided to introduce a system whereby planning of production could be realized. To bring about this system, all castings were divided into 7 groups: The 1-st group comprised castings up to 10 kg in weight; 2-nd group - 11 to 50 kg; 3-rd group - 51 to 200 kg; 4-th group - 201 to 500 kg; 5-th group - 501 to 1000 kg; 6-th group - 1000 to 3000 kg; and 7-th group - over 3000 kg. At the same time, a method of dividing the castings according to their structure was introduced; three classes for both ferrous and nonferrous metals were considered: simple castings, complex castings,

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SOV/128-59-9-2/25

The Planning of Foundry Production in Conditional Tonnage

and particularly complex castings. In Tables 1 to 10, computation of coefficients of labor capacity is given. Table 11 gives computative figures showing the ratio between the conditional and the actual production tonnage for one year period. As is readily seen, there is only a small difference between the theoretically planned and the actually produced volume of castings. There are 11 tables.

Card 2/2

TROSHIN, N.F.; SOTNIKOV, V.K.

Increasing the output of acceptable products in making AZh 9-4
bronze castings. Lit.proizv. no.7:12-13 Je '60. (MIRA 13:7)
(Bronze founding) (Foundries—Quality control)

TROSHIN, N.F., inzh.; SOTNIKOV, Y.K., inzh.

Casting semisteel rolls for iron mills. Stal' 20 no.11:1051-1052
N '60. (MIRA 13:10)

1. Kuznetskiy metallurgicheskiy kombinat.
(Rolls (Iron mills)) (Steel castings)

TROSHIN, N.F.; SOTNIKOV, V.K.

Preparation of semiblow cast iron in bessemer converters. Lit.
proizv. no. 4:10-11 Ap '61. (MIRA 14:4)
(Cast iron—Metallurgy) (Converters)

SOTNIKOV, V.K.; TROSHIN, N.F.; APON'KIN, V.A.

Remelting magnesium cast iron. Lit. proizv. no. 5:12-13 My '61.
(MIRA 14:5)

(Cast iron--Metallography)

KRASNOV, B.Ya., inzh.; SOTNIKOV, V.M., dots.

Investigating the contact drying of footwear. Izv.vys.ucheb.
zav.; tekhn.prom. no.5:77-84 '59. (MIRA 13:4)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.
Rekomendovana kafedroy tekhnologii obuvnogo proizvodstva.
(Shoe manufacture)

PLATUNOV, K.M., kand.tekhn.nauk, dotsent; SOTNIKOV, V.M., dotsent;
KUPRIYANOV, M.P., inzh.; ZYBIN, Yu.P., doktor tekhn.nauk, prof.

Wear resistance of soles made from various areas of belting leather.
Nauch.trudy MTILP no.18:61-75 '60. (MIRA 15:2)

1. Kafedra tekhnologii izdeliy iz kozhi Moskovskogo tekhnologicheskogo
instituta legkoy promyshlennosti.
(Leather--Testing)

SOROKIN, V.T.; SOTNIKOV, V.M.

Modernization of electric arc steel furnaces. Mashinostroitel'
no.8:17-19 Ag '62. (MIRA 15:8)

(Electric furnaces)

L 1123-66 EWT(1)/EWA(h)

ACCESSION NR: AP5016392

UR/0120/65/000/003/0177/0192
621.383.8

41
57
B

AUTHOR: Demidov, B. A.; Smolkin, G. Ye. Sotnikov, V. M.; Sofiyev, G. N.; Fanchenko, S. D.

TITLE: Internal-noise spectrum and gain dispersion of multistage image-converter tubes

25

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1965, 177-182

TOPIC TAGS: image converter

ABSTRACT: To eliminate the fringe effect in measuring the internal-noise spectrum, a special method was used which permitted opening the input of a multichannel differential analyzer only for the pulses whose images did not extend beyond the isolated area on the type 95 image-tube screen. It was found that: (1) The noise distribution is exponential (curves supplied) and (2) The gain dispersion of an image-converter tube operating on the principle of optical contact between the luminescent screen and the adjacent photocathode is described by a Poisson-type distribution of the output pulses. "The authors wish to thank Ye. K. Zavyazkiy for discussing the work; L. Z. Dzhilavyan for carrying out preliminary

Card 1/2

L 1123-66

ACCESSION NR: AP5016392

measurements, M. M. Butslov for lending image tubes, Yu. L. Sokolov for lending optical instruments, and A. A. Mitin for his assistance in aligning the analyzer. #
Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut atomnoy energii GKAE, Moscow (Institute of Atomic Energy, GKAE)

SUBMITTED: 22Apr64

ENCL: 00

SUB CODE: EC

NO REF SOV: 013

OTHER: 005

Card 2/2

KOSTIN, K.K.; SOTNIKOV, V.P.

Mechanization of counting and checking operations in the Novosibirsk
Post Office. Vest. sviazi 22 no.1:27-28 Ja '62.

(MIRA 14:12)

1. Nachal'nik Novosibirskogo pochtamta (for Kostin).
2. Glavnyy bukhgalter Novosibirskogo pochtamta (for Sotnikov).
(Novosibirsk--Postal service)

The problem of the origin of the forest steppe soils.
V. P. Somikov. *Soviet Agron.* 7, No. 11, 75-80(1940). --
Five soil profiles; light gray forest steppe, dark gray forest
steppe, leached chernozem, and typical rich chernozem
were fractionated and the colloid fraction, less than 1 μ ,
was sepd. and analyzed chemically and mineralogically.
The colloids were sepd. into 2 subfractions; the clay miner-
als when freed of oxides were designated as fraction B
and the assoc. oxides of Si, Fe, Al, and others were de-
signated as fraction A. Data show that the $SiO_2:R_2O_3$
of A was less than 2, whereas in the original colloid frac-
tion it was around 3. The ratio of $SiO_2:Fe_2O_3$ in the
colloid is 13-15 and in fraction A 3-5. This fraction
contains more TiO_2 , P_2O_5 , and MnO than the original
colloid. The compn. of the minerals of the podzolized
forest steppe and that of the typical chernozem was the
same. The similarity is explained on the basis of the
theory that chernozem at one time had gone through a
state of podzolization. Thermal analyses show that
fraction B is montmorillonitic in nature. Conclusion:
Forest steppe soils are transition soils, from podzolized
to chernozem. J. S. Joffe

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E-1

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 860.

Author : Alimarin, I. P., Sotnikow, W. S.

Inst : Not given.

Title : The Use of Organic Derivatives of Sulfuric, Selenium, Tellurous Acids in Analytical Chemistry.

Orig Pub: Chem Analit., 1957, 2, No 3, 222-223.

Abstract: See R. Zh. Khim., 1958, 7533.

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Sotnikov, V.S.

PA - 2912

AUTHOR
TITLE

ALIMARIN I.P., SOTNIKOV V.S.
Investigations of Organic Derivatives of Selenic Acid And Telluric Acid
as Analytic Reagents.
(Issledovaniya organicheskikh proizvodnykh selenistoy i telluristoy kislot
kak analiticheskikh reaktivov -Russian)
Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 105-108, (U.S.S.R.)
Received 6/1957
Reviewed 7/1957

PERIODICAL

ABSTRACT

Investigations hitherto extended only in a small degree to organic reagents which contain As, S and especially P. Compounds of Se and Te were not investigated at all with respect to their application for quantitative analysis. Feigl's statement is said to be wrong according to which only in the case of reagents with a sulphin- or selenin group where the acid rest is immediately bound to the aromatic nucleus quadrivalent metals are precipitated. This capacity was noticed in both cases of reagent types. Furthermore it is Feigl's opinion that the benzol-sulphin-acid is able to bring about a tautomeric conversion. Against this, investigations show that the rot transformed form reacting acids which are not soluble in organic solution-media. Also Feigl's final conclusions turned out to be wrong i.e. that Cer (IV) is able to form a precipitation in an acid solution with berozol-sulphin-acid. We succeeded in proving that in reality an oxidizing-reducing reaction takes place as a consequence of which Cer (IV) is reduced to Cer (III), whereas benzol-sulphin acid (R-SO₂H) is oxidized to benzol-sulphon acid. Furthermore, disulphon

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... precipitation is formed. For the first time the class of the...
... derivatives of selenic acid was produced and investigated...
... which contain a functional-analytic...
... chemical methods with respect to...
... of other elements as well as of bismuth and iron (III) in the...
... presence of other elements in natural and industrial substances. The...
... ability of radiometric titration with the application of radioisotopes of...
... the elements to be determined or of the organic reagents which contain ra-
... dioisotops of selenium or tellurium must further be mentioned.
(5 tables, 18 literature quotations)

Moscow State University M.V.Lomonosovs
24.9.1956
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ALIMARIN, I.P.; SOTNIKOV, V.S.

Gravimetric and radiometric-volumetric methods for determining
iron using benzene- and naphthalene ammonium selenate. Trudy
kom.anal.khim. 9:213-218 '58. (MIRA 11:11)
(Iron--Analysis) (Selenenic acid)

AUTHORS: Alimarin, I.P., Sotnikov, V.S. 75-13-3-14/27

TITLE: Determination of Zirconium by Means of the Ammonium Salt of Benzene- and Naphthalene-Selenic Acid (Opredeleniye tsirkoniya pri pomoshchi benzol- i naftalinseleninata ammoniya)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 3, pp 332-336 (USSR)

ABSTRACT: Besides inorganic reagents organic precipitants are also successfully used for the quantitative determination of zirconium and its separation from other elements (references 1 - 10). These precipitants, however, do not always form compounds of strictly stoichiometrical composition; besides a co-precipitation of foreign ions often occurs. Recently benzenesulfonic acid was suggested for the precipitation of zirconium and its separation from a number of other elements (reference 11). The authors of the present paper synthesized a number of organic reagents containing the SeO_2H group and forming compounds difficult to solve (reference 12) with several tetravalent elements (Ti, Zr,

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Determination of Zirconium by Means of the Ammonium
Salt of Benzene- and Naphthalene-Selenic Acid

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Hf, Ce(IV), Nb, Ta). Benzene- and naphthalene-selenic acid and their ammonium salts were most thoroughly investigated. In highly acid solutions these compounds with zirconium salts yield white amorphous precipitates which furnish pure zirconium dioxide after annealing. The maximum dilution at which zirconium is still precipitated is for ammonium-benzene-seleninate 1:100 000, for ammonium-naphthalene-seleninate 1:1 500 000. The composition of the precipitates dried by air approximately corresponds to the formula $ZrO(R-SeO_2)_2$, but

these compounds cannot be used for gravimetric determination. The quantitative determination is done after annealing by weighing out as ZrO_2 . The nonconstant

composition of these precipitates is caused by the tendency of the zirconium salts to hydrolysis, and the formation of polymeric ions (references 13, 14). The optimum conditions for the precipitation of zirconium are a 1n nitric or hydrochloric solution and a concentration of ammonium-benzene-seleninate of 0.7%, or of ammonium-

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Determination of Zirconium by Means of the Ammonium
Salt of Benzene- and Naphthalene-Selenic Acid

75-13-3-14/27

-naphthalene-seleninate of 0,5% respectively. In a sulfuric acid solution a higher concentration of the precipitant is needed, as complex anions of zirconium form. The determination can be performed in the presence of aluminium, beryllium, rare earths and trivalent iron. In the presence of large amounts of these elements the precipitate must be dissolved and reprecipitated. The disturbing influence of titanium, niobium and tantalum can be removed by the addition of hydrogen peroxide, tin (IV) must be precipitated and removed before the determination of zirconium with hydrogen sulfide. In the presence of large amounts of titanium the precipitate must be dissolved and reprecipitated; for this purpose it is dissolved in concentrated HNO_3 . The described method

cannot be employed for the analysis of samples with a higher than 10-fold excess of niobium and tantalum. When the precipitation of zirconium is performed in the absence of hydrogen peroxide, zirconium can be used as collector for the separation of small amounts of titanium,

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Determination of Zirconium by Means of the Ammonium
Salt of Benzene- and Naphthalene-Selenic Acid

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niobium and tantalum. The determination of zirconium with ammonium-benzene- and ammonium-naphthalene-seleninate was used for the analysis of steels and eudialite. The absolute error of determination at a zirconium content of 2-10% is $\pm 0,01\%$. There are 1 figure, 5 tables, and 17 references, 8 of which are Soviet.

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SUBMITTED: May 23, 1957

1. Zirconium--Determination

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5(2)

AUTHORS: Sotnikov, V. S., Alimarin, I. P.

TITLE: Benzene- and Naphthalene Seleninic Acid Ammonia as Reagents for the Quantitative Determination of Titanium (Benzol- i naftalinseleninovokislyy ammoniy kak reagenty dlya koli- chestvennogo opredeleniya titana)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 296-298 (USSR)

ABSTRACT: Two reagents $C_6H_5SeO_2NH_4$ and $C_{10}H_7SeO_2NH_4$ forming white, flocculent precipitates in 0.5 ordinary nitrohydrochloric acid with titanium are suggested for the determination of titanium and its separation from other elements (aluminum, beryllium, elements of the rare earths, and iron). For the first-mentioned reagent the sensitivity of the reaction amounts to 1 : 750,000, for the second 1 : 1,000,000. The composition of the precipitate corresponds approximately to the formulas $TiO(C_6H_5SeO_2)_2$ and $TiO(C_{10}H_7SeO_2)_2$. For the quantitative determination the precipitates are annealed and titanium is determined as TiO_2 . The presence of Cu, Ag, Be, Mg, Ca, Sr, Ba, Zn, Cd, Al, Mn, Co and Ni does not disturb

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Benzene- and Naphthalene Seleninic Acid Ammonia as Reagents for the
Quantitative Determination of Titanium

the reaction. There are 1 figure, 2 tables, and 3 references,
2 of which are Soviet.

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SUBMITTED: November 17, 1958

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