

ACC NR: AP7001398

insert between the elements being welded. To improve the weld quality, the welding current is fed to only one element being welded (see Fig. 1), and the insert in the form of a comb is insulated from this element and is shifted as the welding of the elements progresses. Orig. art. has: 1 figure. [MS]

SUB CODE: 13/ SUBM DATE: 10Sep65/ ATD PRESS: 5110

Card 2/2

ACC NR: AP7004759 (A) SOURCE CODE: UR/0413/67/000/001/0056/0056

INVENTOR: Lebedev, V. K.; Potap'yevskiy, A. G.

ORG: None

TITLE: A power supply for arc welding. Class 21, No. 189972

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 56

TOPIC TAGS: arc welding, power supply, power welding equipment

ABSTRACT: This Author's Certificate introduces a power supply for consummable electrode arc welding. The unit contains a three-phase rectifier or DC generator together with a capacitor and a resistance-shunted diode both connected in parallel with the arc. Metal sputtering is reduced and seam shaping conditions are improved by connecting a variable inductance in series with the capacitor.

SUB CODE: 13, 09/ SUBM DATE: 03Dec64

ard 1/1

UDC: 621.791.75.03.621.314.632.4(083)

S/032/61/027/008/004/020
B107/B206

AUTHORS: Shuykin, N. I., An, V. V., and Lebedev, V. L.

TITLE: Analysis of mixtures of furan homologs and tetrahydrofuran homologs by gas-liquid chromatography

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 8, 1961, 976-977

TEXT: The following mixtures were investigated: 1) α -methyl furan, α -ethyl furan, α -n-propyl furan, α -n-butyl furan, α -n-amyl furan; 2) tetrahydrofuran, α -methyl tetrahydrofuran, α -ethyl tetrahydrofuran, α -n-propyl tetrahydrofuran, α -isobutyl tetrahydrofuran; 3) α -methyl furan, α -methyl tetrahydrofuran. The chromatographic device used was previously described in detail (Ref. 1: B. A. Rudenko, S. S. Yufit, L. N. Ivanov, and V. F. Kucherov. Izvestiya AN SSSR, 1147 (1960)). The 2 m long column was filled with diatomite of from 0.25 to 0.5 mesh, soaked with 30% tricresyl phosphate. The mobile phase was hydrogen, passed through at an excess pressure of 0.2 kg/cm² and at a rate of 40 ml/min. The maximum temperature was 95°C. The mixtures may be well separated under these conditions; by means of standard mixtures, the absolute contents may be

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S/032/61/027/008/004/020
B107/B206

Analysis of mixtures...

determined to within $\pm 2.5\%$. The determination takes about two hr. Tetrahydrofuran with α -methyl tetrahydrofuran, which are not separated under the conditions mentioned, are an exception. The logarithm of the volume maintained constant is a linear function of the number of carbon atoms; this was already previously ascertained for other series of homologs (Ref. 2, 3; see below). The relation is temperature-dependent: The logarithm of the volume maintained constant is directly proportional to the reciprocal value of the absolute temperature. This relation holds up to 100°C and more (Ref. 4; see below). The authors checked it for α_1 , α_1 -methyl-ethyl furan and α_1 , α_1 -methyl-ethyl tetrahydrofuran between 70 and 95°C. There are 4 figures, 2 tables, and 4 references: 1 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: Ref. 2: A. T. James, A. J. P. Martin, Biochem. J. 50, 679 (1952); Ref. 3: N. H. Ray. J. Appl. chem., 4, 21 (1954); Ref. 4: A. B. Littlwood, C. S. G. Phillips, D. T. Price. J. Chem. Soc., 1480 (1955).

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR im. N. D. Zelinskogo (Institute of Organic Chemistry of the Academy of Sciences USSR imeni N. D. Zelinskiy)

Card 2/2

LEBEDEV, V.L.; VIRGILIYAN, Yu.L.; SOBOLEVA, G.A.; SHURIKOV, Yu.S.

Changes in the submicroporosity of a thermosetting resin
material depending on the temperature of heat treatment.
Konstr. zapovedn. mat. no. 1:137-142, 1961.

(MIRA 17:11)

L 38085-65

FD-4/PB-4

ACCESSION NR: AT5003518

ZWC(j)/EWP(e)/EWT(m)/EWP(w)/EPP(c)/EWA(d)/EPR/T/EAF(t)/EAF(b)
JD/WW/EM/GS/WH

S/000G/64/000/001/0237/0242

AUTHOR: Lebedev, V. L.; Virfil'yev, Yu. S.; Subbotin, O. A.; Churilov, Yu. S.

TITLE: Change in submicroscopic porosity as a function of processing temperature in materials based on thermal anthracite

SOURCE: Konstruktsionnyye uglegrafitovyye materialy (Carbon and graphite construction materials); sbornik trudov, no. 1. Moscow, Izd-vo Metallurgiya, 1964, 237-242

TOPIC TAGS: material stability, ceramic material, structural strength, heat treatment, reactor moderator, graphite

ABSTRACT: Submicroscopic pores and cracks play an important part in the theory of the strength of metals and alloys. The authors determined the nature of the change in the submicroscopic porosity of material based on thermal anthracite in relation to the processing temperature by studying the diffusion scattering of x-rays at small angles. A method was used which had been worked out by S. M. Astrakhansev for studying submicroscopic porosity which take place during heat treatment of carbon and graphite materials. Submicroscopic pores in material based on thermal anthracite may be divided according to size into three groups with average diameters of: 70-125 Å (group I); 260-310 Å (group II); 600-750 Å (group III). The

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ACCESSION NR: AT5003518

pores in group I are closed while the others are open. As the processing temperature is increased, the closed pores are opened and grow to a size of 260-310 Å, while the sizes and volume of the large pores (600-750 Å) tend to decrease. There is an increase in the total volume of submicroscopic pores as the processing temperature is increased. Orig. art. has: 4 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 20Dec63

ENCL: 00

SUB CODE: MT, NP

NO REF SOV: 006

OTHER: 005

Card 2/2

LEBEDEV, V. L.

PA 19T29

USSR/Regeneration
Nyquist's theorem

Sep 1946

"Stability of Regenerative Systems," Engr V. L.
Lebedev, 10 pp

"Radiotekhnika" Vol I, No 6

A new basis for Nyquist's criterion is presented,
making possible its clear interpretation, and estab-
lishing the relation between the Nyquist and Hurwitz
criteria.

19T29

LEBEDEV, V. I.

"Radio Receivers" Bk 1948

LEBEDEV, V. L.

Lebedev, V. L. -- "Several Questions of Impulse and Fluctuation Influence on Radio Receiving Apparatus." Cand Tech Sci, Moscow Power Engineering Inst, Moscow 1953. (Referativnyy Zhurnal--Fizika, January 54)

SO: SU: 168, 22 July 1954

~~LEEDEV, Vsevolod Leonidovich; CHISTYAKOV, N.I., otvestvennyy redaktor;~~
~~SOLOLOVA, H.I.A., tekhnicheskiy redaktor.~~

[Radio receivers] Radiopriemnye ustroistva. Izd.2-s perer. i
dop. Moskva, Gos.izd-vo lit-ry po voprosam svyazi i radio, 1955.
365 p. (MLRA 8:9)
(Radio--Receivers and reception)

LEBEDEV, V. L.

"Radio Receiver Equipment," Third Edition, Sterotyped. Svyazizdat, Moscow
1956 139 pages.

The book discusses the basic physical processes of a radio receiving installation
The book has been accepted as textbook for radiotechnical schools for communications.

LEBEDEV, V. L.

"Transient Processes in the Detection of Radio Impulses," pp 62-71.
ill, 8 ref

Abst: The circuits compensated in the region of high frequencies used in the practice of pulse radio-reception are discussed.

SOURCE: Trudy Moskovskogo Energeticheskogo In-ta im. V. M. Molotova (Works of the Moscow Energetics Institute imeni V. M. Molotov), No 21 -- Radio Engineering, Moscow-Leningrad, Gosenergoizdat, 1956

Sum 1854

24(3)

PHASE I BOOK EXPLOITATION

SOV/1693

Lebedev, Vsevolod Leonidovich

Sluchaynyye protsessy v elektricheskikh i mekhanicheskikh sistemakh (Random Processes in Electrical and Mechanical Systems) Moscow, Fizmatgiz, 1958. 176 p. 10,000 copies printed.

Ed.: A.I. Kostiyenko; Tech. Ed.: S.N. Akhlamov.

PURPOSE: The book may be useful to electronics engineers engaged in designing electric circuits, taking into account random disturbances.

COVERAGE: The author discusses stationary and non-stationary random processes in linear and inertialess nonlinear systems with single and multiple inputs and outputs. He also describes the theory of electrical and mechanical systems with lumped constants acted upon by external disturbances. A discussion of random functions and their linear transformations is also presented. The author thanks Professor S.M. Rytov, A.M. Yaglom, Doctor of Physical and Mathematical Sciences, and A.I. Kostiyenko, Candidate of Physical and Mathematical Sciences, for reviewing the manuscript. There are 42 references of which 40 are Soviet (including 5 translations), and 2 English.

Card 1/5

Random Processes in Electrical and Mechanical Systems SOV/1693

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Bibliography

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5-28-59

Card 5/5

LEBEDEV, V.L.

Discriminator-circuit theory. Nauch.dokl.vys.shkoly; radiotekh. i
elektron. no.4:185-188 '58. (MIRA 12:6)

1. Kafedra radiopriemnykh ustroystv Moskovskogo energeticheskogo
instituta.

(Radio frequency modulation--Receivers and reception)

66322

SOV/162-59-1-21/27

~~9 (2, 3)~~ 9.3240

AUTHORS: Lebedev, V.L., Nezhel'skaya, L.Ya.

TITLE: The Wideband h-Type Neutralization in Transistorized High-Frequency Amplifiers

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 182-187

ABSTRACT: The authors analyze two simple wideband-h-type neutralization circuits in transistorized high-frequency amplifiers. They present formulas for the calculation of these circuits and the results of an experimental investigation of one of these circuits. A general block diagram of the h-type neutralization circuits is shown in Fig 1. One of the possible h-type neutralization circuits is shown in Fig 2. As it was shown by a number of other investigators, the y-parameters for a junction transistor with a common emitter may be represented with sufficient accuracy by equivalent circuits as shown in Fig 3. The authors present formulas for calculating the influence of the neutralization circuit on the output

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66322

SOV/162-59-1-21/27

The Wideband h-Type Neutralization in Transistorized High-Frequency Amplifiers

of an amplifier stage. The neutralization circuit shown in Fig 2 was investigated experimentally using a P1Ye transistor. The relative value of the parameter $|H_{12*}|$ of neutralized P1Ye transistor is shown graphically in Fig 4. The authors state in their conclusion that the analysis and experimental investigation confirm that the simple neutralization circuits considered in this paper provide a sufficiently effective wideband neutralization of the internal feedback in a transistor. However, its application may lead to an essential loss of amplification of an amplifier stage. There are 1 block diagram, 1 set of circuit diagram, 2 circuit diagrams and 1 graph.

ASSOCIATION: Kafedra radiopriyemnykh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Receivers of the Moscow Power Engineering Institute)

Card 2/3

4

The Wideband h-Type Neutralization in Transistorized High-Frequency Amplifiers

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SOV/162-59-1-21/27

SUBMITTED: September 30, 1958

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Card 3/3

LEBEDEV, V.L.

Method of calculating the spectrum of nonstationary random processes.
Nauch. dokl. vys. shkoly; radiotekh. i elektron. no.2:27-31 '59.
(MIRA 14:5)

1. Kafedra radiopriyemnykh ustroystv Moskovskogo energeticheskogo
instituta.

(Information theory)

9(2)

AUTHOR:

Lebedev, V.

SOV/107-59-4-19/45

TITLE:

The Application of a Stabilizing Diode (Primeneniye stabiliziruyushchego dioda)

PERIODICAL:

Radio, 1959, Nr 4, p 23 (USSR)

ABSTRACT:

Soviet industry now produces silicon voltage stabilizers of type D808-D813. Such diodes may find widespread application for stabilizing low voltages in amateur radio equipment. Figure 1 shows an example of such an application, where a diode D813 is included in the bias circuit of a 6PLP tube. Provisions must be made for the cooling of the diode, thus the heat does not exceed the maximum permissible value. There is 1 circuit diagram.

Card 1/1

SIFOROV, V.I., doktor tekhn.nauk, prof.; GUTKIN, L.S., doktor tekhn.nauk,
prof.; LEBEDEV, V.L., kand.tekhn.nauk, dotsent

Development of radio engineering in the Soviet Union. Trudy
MEI no.33:243-266 '60. (MIRA 15:3)

1. Chlen-korrespondent AN SSSR (for Siforov).
(Radio)

GUTKIN, L.S.; LEBEDEV, V.L.; SIFOROV, V.I.; ARENBERG, N.Ya., red.; SVESHNIKOV, A.A., tekhn. red.

[Radio receiving systems] Radiopriemnye ustroistva. By L.S.Gutkin, V.L. Lebedev, V.I.Siforov. Moskva, Izd-vo "Sovetskoe radio." Pt.1. 1961. 702 p. (MIRA 14:12)

(Radio--Receivers and reception)

S/058/61/000/011/021/025
A058/A101

AUTHOR: Lebedev, V. L.

TITLE: Spectral analysis of unsteady random processes in linear systems with many inputs and outputs

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1961, 283, abstract 11Zh206 ("Tr. Mosk. energ in-ta", 1961, no. 34, 192-196)

TEXT: The results pertaining to the calculation of unsteady random processes in linear systems by the spectral method, which were published in one of the author's previous works, are generalized to systems with many inputs and outputs. Thanks to the use of matrix representation, final relations are presented in a compact, easy-to-read form.

[Abstracter's note: Complete translation]

Card 1/1

S/194/61/000/011/065/070
D271/D302

9.2520

AUTHORS: Lebedev, L. and Makarova, N.A.

TITLE: Neutralizing g-type circuits in high frequency transistor amplifiers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 15, abstract 11 K111 (Tr. Mosk. energ. in-sta, 1961, no. 34, 197-205)

TEXT: General information is given on Type g neutralizing circuits. Four neutralizing circuits with four parameters and four circuits with three parameters are considered. General characteristics of electrical coefficients of circuits and their design formulae are given. Neutralizing circuits with three parameters differ from those with four parameters in that they allow full neutralization only in one point of the range. Their application is worth while only when effective neutralization is required over a comparatively narrow band of frequencies. Results are shown of experiment-

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Neutralizing g-~~type~~ circuits...

S/194/61/000/011/063/070
D271/D302

al checking of Type g neutralizing circuits with four and with three parameters, utilizing transistors type П1Е (P1Ye). Recommendations are made regarding the adjustment of neutralizing circuits. Theoretical analysis and experiments show that Type g neutralizing circuits effectively reduce internal feedback in transistors while their parameters are only slightly deteriorated. The accuracy of design formulae is sufficient for engineering purposes. The neutralization is stable and the adjustment of the neutralizing four-pole is not complicated. 2 references. [Abstracter's note: Complete translation]

Card 2/2

BASHARINOV, A.Ye.; LEBEDEV, V.L., red.

[Principles of signal detection in noise] Printsipy
seleksii signalov v shumakh; konspekt lektsii. Red. V.L.
Lebedev. Moskva, Mosk. energ. in-t, 1962. 40 p.
(MIRA 16:10)

(Radar) (Radio--Receivers and reception)

GUTKIN, L.S.; LEBEDEV, V.L.; SIFOROV, V.I.; Primalni uchastiye:
VASIL'YEV, D.V.; SVISTOV, N.K.; LYUBIMOVA, T.M., red.;
BELYAYEVA, V.V., tekhn. red.

[Radio receiving devices] Radiopriemnye ustroistva. Pod
red. V.I.Siforova. Pt.2. 1963. 399 p. (MIRA 16:11)
(Radio--Receivers and reception)

LEBEDEV, Vsevolod Leondovich; SHCHUTSKOY, K.A., otv. red.;
VENGRENYUK, L.I., red.; SHEFER, G.I., tekhn. red.

[Radio-receiving devices] Radiopriemnye ustroistva. Izd.
4., perer. i dop. Moskva, Sviaz'izdat, 1963. 407 p.
(MIRA 17:1)

(Radio--Receivers and reception)

SHCHUTSKOY, K.A., dots.; LEBEDEV, V.I., dots., red.

[Pulse receiver design] Proektirovanie impul'snykh priem-
nikov. Moskva, Energ. inst., 1964. 71 p. (MIRA 18:1)

L 12066-66 EWT(1)

ACC NR: AP5021484

AUTHOR: Lebedev, V. M.

SOURCE CODE: UR/0046/65/011/003/0402/0403

ORG: Acoustics Institute AN SSSR, Moscow (Akusticheskiy institut AN SSSR)

TITLE: Non-specular reflection of sound from plates in air

SOURCE: Akusticheskiy zhurnal, v. 11, no. 3, 1965, 402-403

TOPIC TAGS: acoustic reflection, acoustic property

ABSTRACT: The author investigated the reflection of sound from three-ply and five-ply plywood and from duraluminum plates. The experiments were made in a soundproof chamber by a pulse method. The radiator and the receiver were fixed at a distance 1.95 m from the plate, which rotated at constant speed around its longitudinal axis. The pulse repetition frequency was 50 cps and the pulse duration was 5 msec. A short section of 0.5 msec duration was cut out from the stationary part of the signal reflected from the plate. The signal was recorded with a logarithmic level recorder. In the case of the duraluminum plate (2 mm thick, 30 x 85 cm), the non-specular reflection was due to flexural oscillation of the plate. The amplitude of the non-specular reflection turned out to be smaller than the amplitude of the reflected signal at normal incidence by a factor $\cos^2 \theta / 4$, in agreement with the theory of L. M. Lyamshev (Otrazheniye zvuka tonkimi plastinkami i obolochkami v zhidkosti [Reflection of Sound by Thin Plates and Shells in Liquids], M., 1955). This relation remained in force when the pulse duration was decreased to 3 msec. Further decrease of the pulse

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31
B

Card 1/2

UDC: 534.241

L 12066-66

ACC NR: AP5021484

duration caused the non-specular reflection to decrease rapidly and to practically disappear at a pulse duration of 1 msec. The dependence of the flexural-wave velocity on the frequency satisfied the theoretical square-root law in the case of dur-
 aluminum but not in the case of plywood. No non-specular reflection connected with longitudinal oscillations in the plates was observed. It is pointed out that the frequency region where the non-specular reflection is manifest in most materials used in architectural acoustics lies above 5 kcs. The author is grateful to L. M. Lyan shev and G. A. Gol'dberg for a discussion of the results. Orig. art. has: 2 figures.

SUB CODE: 20/ ⁴⁴⁷⁵ SUBM DATE: 19Jul64/ ORIG REF: 001/ OTH REF: 001

1-10
 Card 2/2

LEBEDEV, V.L.

Concerning the water exchange of the Black Sea. *Metero.i gidrol.*
no.4:59-61 Ap '53. (MIRA 8:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Black Sea)

LEBEDEV, V.L.

Dense currents in straits and their effect on the water and salinity balance
of the sea. Vest.Mosk.un. 8 no.8:161-170 Ag '53. (MLRA 6:11)

1. Kafedra okeanologii.

(Sea water)

LEBEDEV, V. L.

Antarktika i yeye problemy [The Antarctic and its problems], 1955.
[Photographically reproduced typescript.]

LEBEDEV, Vladimir L'vovich; GRISHINA, L.I., redaktor; GLEYKH, D.A.
tekhnicheskij redaktor

[The Antarctic] Antarktika. Moskva, Gos. izd-vo geogr.
lit-ry, 1957. 191 p. (MLRA 10:5)
(Antarctic regions)

LEBEDEV, V.L.

Calculating convection streams in sea straits on the basis of
hydraulic relations. Vest.Mosk.un.Ser.biol., pochv., geog. 12
no.2:229-232 '57. (MIRA 10:10)

1.Kafedra okeanologii Moskevskogo universiteta.
(Bosperus--Stream measurements)

LEBEDEV, V.L.

Measuring objects in the open sea by means of photography.
Trudy GOIN no.40:156-162 '57. (MLRA 10:7)
(Photography--Scientific applications)

LEBEDEV, V.I.

Classification of Antarctic icebergs. Probl.Sev. no.2:80-90
'58. (MIRA 12:4)

1. Moskovskiy Gosudarstvennyy universitet imeni Lomonosova,
Kafedra okeanologii.
(Antarctic regions--Icebergs)

LEBEDEV, V.L., kand.geograf.nauk

Coastal drainage in the Mirnyy area. Inform. biul. Sov. antark.
eksp. no.16:16-17 '60. (MIRA 13:12)

1. Tret'ya kontinental'naya ekspeditsiya.
(Mirnyy region, Antarctica—Ice)

LEBEDEV, V.L., kand.geograf.nauk

Wind drift of icebergs. Inform. biul. Sov. antark. eksp. no.17:16-17
'60. (MIRA 13:12)

1. Tret'ya kontinental'naya antarkticheskaya ekspeditsiya.
(Icebergs)

LEBEDEV, V.L., kand.geograf.nauk

Effect of temperature and swell on ice field disintegration. Inform.
biul. Sov. antark. eksp. no.21:38-41 '60. (MIRA 13:10)

1. Tret'ya kontinental'naya ekspeditsiya, Antarktika.
(Antarctic regions--Sea ice)

LEBEDEV, V.L., kand.geograf.nauk

Measuring the settlement of icebergs in the Mirnyy roadstead in
February-March 1958. Inform. biul. Sov. antark. eksp. no.22:46-
47:60. (MIRA 14:5)

1. Tret'ya kontinental'naya ekspeditsiya.
(Mirnyy region, Antarctica--Icebergs)

LEBEDEV, V.L.

Russians in Antarctica. Mezhdunar. geofiz. god no.9:64-66 '61.
(MIRA 14:3)

(Antartic regions--Russian exploration)

LEBEDEV, V.L., kand.geograf.nauk (Moskva)

"In the Antarctic snow" by A.M. Gusev. Reviewed by V.L.
Lebedev. Priroda 50 no.9:120-121 S '61. (MIRA 14:8)
(Antarctic regions—Russian exploration)
(Gusev, A.M.)

LEBEDEV, Vladimir L'vovich, kand. geogr. nauk; OSTREKIN, Mikhail Yemel'yanovich, kand. geogr. nauk; red.; TOLSTIKOV, Yevgeniy Ivanovich, kand. geogr. nauk, red.; KAPLINSKAYA, L.G., red.; KOTLYAKOVA, O.I., tekhn. red.

[Transactions of the Soviet Antarctic Expedition]Trudy Sovetskoy antarkticheskoy ekspeditsii]Leningrad, Izd-vo "Morskoi transport." Vol.16.[Third continental expedition, 1957-1959; general description and scientific results]Tret'ia kontinental'naya ekspeditsiia, 1957-1959 gg; obshchee opisanie i nauchnye rezul'taty. Pod red. M.E.Ostrekina i E.I.Tolstikova. 1962. 327 p. (MIRA 15:9)

1. Sovetskaya antarkticheskaya ekspeditsiya, 1955-. 2. Nachal'nik Tret'yey kontinental'noy ekspeditsii, 1955- (for Tolstikov). (Antarctic regions--Geophysical research)

DMITRIYEV, A.V.; LEBEDEV, V.L.; NAZARENKO, A.A.

Testing methods of connection linking by hydraulic fracturing
of the coal seam at the Kamensk "Podzemgaz" Plant. Trudy
VNIIPodzemgaza no.12:46-52 '64. (MIRA 18:9)

1. Laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo
nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii
ugley.

ACC NR: AP7003189

(N)

SOURCE CODE: UR/0213/66/006/006/1023/1029

AUTHOR: Lebedev, V. L.; Saf'yanov, G. A.

ORG: Moscow State University im. M. V. Lomonosov. Geography Division (Moskovskiy gosudarstvennyy universitet. Geograficheskiy fakul'tet)

TITLE: Effect of solid and gaseous suspensions on the hydrostatic pressure of sea water

SOURCE: Okeanologiya, v. 6, no. 6, 1966, 1023-1029

TOPIC TAGS: oceanography, ocean dynamics, sea water, hydrostatic pressure

ABSTRACT: Direct aerometric measurements carried out with distilled water and with fresh water containing various amounts of suspended solid particles were used to confirm the growth of hydrostatic pressure in a fluid with an increase in the concentration of suspended solid particles. A slow precipitation of each suspended particle creates an additional pressure on a horizontal plane below the particle, which can be determined by integrating Ozeen's differential equation for the pressure upon an arbitrary surface element in a plane at a known distance from the particle. Experiments proved that the presence of vigorous currents, and particularly of turbidity currents near the bottom, accompanied variations in the hydrostatic pressure of a water layer with local oversaturation of solid suspensions. The increase of hydrostatic pressure in water is also ascertained by the presence of bubbles, which

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UDC: 551.463.1(26)

ACC NR: AP7003189

appear under national conditions due to the oversaturation of the water by dissolved gases. Orig. art. has: 2 figures and 9 formulas.

SUB CODE: 08/ SUBM DATE: 18Sep65/ ORIG REF: 010/ OTH REF: 006

Card 2/2

LEBEDEV, V. M.,

15(O)

AUTHORS:
TITLE:

PERIODICAL:
ABSTRACT:

307/151-59-1-9/12

Karklit, A. E., Potemkin, P. S.

Conference of Young Specialists (Konferentsiya molodykh spetsialistov)

Ogneupory, 1959, Nr 1, pp 41-47 (USSR)

This conference of young specialists of the Refractory Institute of the USSR Academy of Sciences (All Union Institute of Refractories) was held in Leningrad on November 11-14, 1958, with the participation of representatives of the Czechoslovak Republic, the Ukrainian Institute of Refractories, and the Ukrainian Institute of Refractories. The conference should represent a show of young engineers and technicians. The work of the Institute, outlined in the opening speech the work of young specialists of various special branches, designating it successful. Further, the following reports are mentioned:

V. G. Yeger spoke about manufacturing methods of superstable panicles made of boron siliceous rocks (borovitcheskaya krescovka).

M. V. Meshalkina reported on test results of the properties of magnesium solutions of liquid glass.

I. V. Vishnevskiy (USSR) reported on the dynamic method of determination of the modulus of elasticity at temperatures up to 1300-1400.

G. G. Melnikova spoke about the examination of the charges of glass composition of warm-out refractory aggregate-chrome products.

M. V. Samkina reported on elaboration results of spectroscopic methods for the lucina content in types of clay.

V. G. Skovshina stated the causes of the fracture of the press CM-14 by means of tenacometer.

G. A. Kozlov used a tenacometer transmitter for the control of mold charging on the press CM-14.

L. M. Lebedev reported on the working out of the design for a new working cart.

V. Z. Shron reported on electric taking devices of a new design.

A. M. Levin reported on the design of water supply and heating system.

M. Z. Perel'man dealt with questions of air dust collection.

M. M. Perekhurov, P. A. Zakhneva and others submitted a new variant for the formation of a turret design.

A. Z. Yerdel' reported on the beginning of construction and installation of a rotary furnace at the Borovitcheskaya plant.

As a principal defect it was stated that part of the young specialists are still insufficiently familiar with the production. The measures provided for by the Party and Government to reform the universities should strengthen their relations to work in operation and improve the training of specialists.

Card 1/3

Card 2/3

ASSOCIATION: Refractory Institute of the USSR Academy of Sciences

Card 3/3

1. LEVADIN, V. M.
2. USSR (600)
4. Dynamos
7. Demonstrating the reactive power produced by non-regulatable generators of rural hydroelectric power stations operating in a system. *Elektr. stantsii*, No. 1, 1953.

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

AUTHOR: LEBEDEV, V.M.
Lebedev, V.M.

93-57-7-15/22

TITLE: Methods for Eliminating the Pollution of Open Streams
by Waste Waters from Tank Farms (Puti ustraneniya
zagryazneniya vodoyemov stochnymi vodami neftebaz)

PERIODICAL: Neftyanoye khozyaystvo, 1957, Nr 7, pp 52-55 (USSR)

ABSTRACT: This article deals with the pollution problem presented by the petroleum industry and specifically by the tank farms. The volume of waste water requiring disposal is proportionally much greater for refineries and oilfields than for tank farms. Until recently, the Novokuybyshev refinery alone used to dump daily into the Volga River some 72,000 cu. m. of waste water containing 325-350 mg/liter and even as much as 885-900 mg/liter. But, the total volume of waste water dumped daily by several of the larger tank farms along the Volga River amounts only

Card 1/2

Methods for Elimination the Pollution (Cont.)

93-57-7-15/22

to 1,000 cu. m. and the oil content to 11-50 mg/liter or in some instances to 95-100 mg/liter. The author states that pollution of open streams due to dumping of waste water with oil content can be minimized or entirely checked by chemical treatment, filtration, or flocculation, as well as by the installation of suitable oil traps, and skimming and water purifying units. However, since the construction of such installations may take a number of years, he calls on the tank farms to stop water pollution by any available means and makes 20 suggestions which he considers helpful in the solution of this problem. There are 8 Soviet references.

AVAILABLE: Library of Congress

- Card 2/2 1. Water-Pollution 2. Water-Purification 3. Oil-Control systems

LEBEDEV, V.M.

Discharging paraffin from tank cars. Neftianik 5 no.10:17-18 0
'60. (MIRA 13:10)

1. Sotrudnik Glavneftesnaba RSFSR.
(Paraffins) (Tank cars)

LEBEDEV, V.M., inzh.

Redesigning of the AK-24-1 LMZ turbine glands. Energetik 10
no.2:17-18 F '62. (MIRA 15:2)
(Steam turbines)

KISELEV, G.A., kand. tekhn. nauk, dotsent; GULENKOV, V.Yu., inzh.;
LEBEDEV, V.M., inzh.

Investigating the design of miniature oil-hydraulic power
heads. Izv. vys. ucheb. zav.; mashinostr. no.6:172-177 '65.
(MIRA 18:8)

LEBEDEV, V.M., inzh.

Modernization of an industrial thermal electric power plant with
medium pressure rating. Teploenergetika 12 no.6:47-51 Je '65.
(MIRA 18:9)

1. Tsentral'naya ekspluatatsionnaya sluzhba Magnitogorskogo
metallurgicheskogo kombinata.

LEBEDEV, V.M., inzh.

Increase in the efficiency of medium pressure thermal electric power
plants. Elek. sta. 34 no.11:84-85 N '63. (MIRA 17:2)

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; LEBEDEV, V.M.

Reaction of the substitution of magnesium and aluminum ions
for hydrogen ions in vermiculite. Pochvovedenie no.8:68-72
Ag '63. (MIRA 16:9)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

IVASHKOVA, V.K., kand.tekhn.nauk; Primali uchastiye: KOROL'KOVA, Ye.A.,
starshiy inzh.; LEBEDEV, V.M., laborant; VILKOV, G.N., red.izd-va;
EL'KINA, E.M., tekhn.red.

[Using electric models to study the Thermal properties of the
enclosing elements of buildings] Issledovanie teplotekhnicheskikh
svoistv ograzhdaiushchikh konstruktsii zdaniy metodom
elektromodelirovaniya. Moskva, Gos.izd-vo lit-ry po stroit.,
arkhit.i stroit. materialam, 1960. 135 p. (Akademiya stroitel'stva
i arkhitektury SSSR. Institut stroitel'noi fiziki i
ograzhdaiushchikh konstruktsii. Nauchnoe soobshchenie, no.1)
(MIRA 15:1)

(Walls--Electromechanical analogies)

S/186/63/005/001/002/013
E075/E436

AUTHORS: Nikolayev, V.M., Bagretsov, V.F., Lebedev, V.M.
TITLE: Sorption of microquantities of strontium and cesium by
vermiculite

PERIODICAL: Radiokhimiya, v.5, no.1, 1963, 32-37

TEXT: The sorption of Sr^{90} and Cs^{134} by vermiculite from alkali and alkali-earth metal chloride solutions was studied. The sorption by cation exchanger KY-2 (KU-2) was investigated for comparison. The sorption on vermiculite did not depend on the pH of the solutions in the range of 3 to 11. The results of the experiments are satisfactorily expressed by S.Yu.Yelovich and L.G.Kuz'mina's equation (Kolloidn. zhurn., v.18, no.3, 1956, 268) made more accurate by the authors (Radiokhimiya, v.2, no.6, 1960, 734). The results for the sorption in the presence of ions belonging to group I and II confirm its ion-exchange character, the sorption being governed by the law of mass action. Ce was sorbed by vermiculite exceptionally strongly, which is explained by the high polarizability of Ce ion and the volume of hydrated Ce ion being similar to that of hexagonal voids in the vermiculite
Card 1/2

Sorption of microquantities ...

S/186/63/005/001/002/013
E075/E436

lattice. There are 5 figures and 5 tables.

SUBMITTED: December 6, 1961

Card 2/2

LEBEDEV, V. M.; BASIONOK, V. D.

Centrifugal casting of large brass lids. Lit. proizv. no.10:42
0 '62. (MIRA 15:10)

(Centrifugal casting)

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; LEBEDEV, V.M.

Sorption of microquantities of strontium and cesium by
vermiculite. Radiokhimiia 5 no.1:32-37 '63. (MIRA 16:2)
(Strontium) (Cesium) (Vermiculite)

LEBEDEV, V.M., inzh.

Increasing the efficiency of a turbine system. Energetik 12
no.12:9-10 D '64 (MIRA 18:2)

LEBEDEV, V.M.

All-Union Conference on the Prospects for the Development of
Petroleum Storage, Petroleum Products Pipelines, and Service
Stations. Transp. i khran. nefti i nefteprod. no.14:21-22 (MIRA 18:2)
'64.

1. Glavnoye upravleniye po transportu i snabzheniyu neftyu i
nefteproduktami RSFSR.

Lebedev, V.N.

Cultivable Plants - Grains.

8-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 19581 E.

Author : Lebedev, V.N., Lavitskiy, K.M., Yankovskiy, I.V.

Inst : -

Title : Grains Crops.

Orig Pub : Kif, 1958, 19581 E. USSR, 1958. 200 pp., illus, 3 tabs
50 kg.

Abstract : No abstract.

Card 1/1

SOV/99-59-11-13/15

30(1)

AUTHOR: Lebedev, V.N., EngineerTITLE: Some Peculiarities in Computing the Water Head
In Blocking Small RiversPERIODICAL: Gidrotekhnika i melioratsiya, 1959, Nr 11, pp 56-57
(USSR)

ABSTRACT: This short article deals with some of the factors involved when blocking small rivers and streams with soil and brush. In particular the author treats the behavior of the head of water above the dam as it reaches a certain critical depth and rate of flow, at which point further increasing the height of the earth dam becomes impossible. An expression for this critical depth is presented, and the phenomenon is illustrated (Fig 1, 2). The process of increasing the depth of water above the dam, thereby decreasing the rate of flow of water over the dam and increasing the volume of water diverted through the draining equipment, is briefly described, and an expression for this increase in the depth of the current (Fig 2) is presented. The decrease in the rate of flow over the

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SOV/99-59-11-13/15
Some Peculiarities in Computing the Water Head in Blocking
Small Rivers

dam permits raising it to the point where the flow
of water is entirely diverted. There are 3 drawings.

Card 2/2

LEBEDEV, V.N.; ZHOVNITSKAYA, Yu.A.

Clarification of sludge waters from metallurgical factories in sludge collectors. Gig. i san. 25 no.4:85-88 Ap '60. (MIRA 13:8)

1. Iz Zaporozhskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(ZAPOROZH'YE---INDUSTRIAL WASTES)

NASYROV, Yu.S.; GILLER, Yu.Ye.; LOGINOV, M.A.; LEBEDEV, V.N.

Using C^{14} for studying the photosynthetic balance in the plants
of phytocoenoses. Bot.zhur. 47 no.1:96-99 Ja '62. (MIRA 15:2)

1. Laboratoriya fiziologii i biofiziki rasteniy AN Tadzhikskoy SSR,
Dushanbe.

(Plant communities) (Photosynthesis)

CHUMAKOV, P.T., inzh.; RUBENCHIK, Yu.I., inzh.; LEBEDEV, V.N., inzh.

Behavior of nonmetallic inclusions and gases in the process
of smelting and pouring of steel. Stal' 22 no.6:504-507 Je '62.
(MIRA 16:7)

(Steel--Inclusions)
(Steel--Hydrogen content)

LEBEDEV, V. N.,

"Some problems of optimal flight theory"

report to be submitted for the 14th Congress Intl. Astronautics Federation
Paris, France, 25 Sep-1 Oct 63

S/796/62/000/003/017/019

AUTHORS: Lebedev, V.N., Salatskaya, M.I.

TITLE: A scintillation counter for ultrahigh-speed nucleons.

SOURCE: Moscow. Inzhenernofizicheskiy institut. Pribory i metody analiza izlucheniya. no.3. 1962, 164-180.

TEXT: Many of the most highly sensitive and highly resolving detectors of ultrahigh-speed neutrons are made of scintillation plastics which register the neutrons by recoil protons. A shortcoming of such detectors is their sensitivity to γ -radiation, which renders them incapable of neutron and γ -component separation in the mixed radiation field of a synchrotron. The activation method may be usefully employed; for example, C^{12} will be transformed into radioactive C^{11} via the $C^{12}(n, 2n)C^{11}$ reaction, if the impinging neutrons exceed a threshold energy level ($E_{thr}=20.6$ mev), whereas its sensitivity to γ -radiation is appreciably smaller (integral cross-section two orders of magnitude smaller than for neutron reaction). The relatively low sensitivity of the C detector has stimulated several attempts to improve it (brief survey provided). The objective of the present project is the development of a more sensitive device which affords a higher effectiveness of C^{11} -decay-positron registration than those described in the literature. Description

Card 1/4

A scintillation counter for ultrahigh-speed nucleons. S/796/62/000/003/017/019

of counter: The activity sensor utilized is one of various p-terphenyl-based liquid scintillators housed in a light-tight 1,000-ml metallic container. Liquid luminophores permit changing the scintillator without removing the photomultiplier (PhM) voltage or disturbing the optical contacts. The diam of the cavity is 110 mm, the inter-photocathode distance is 105 mm (cross-section shown). The PhM is ducted directly into the scintillator to avoid the (appx. 50%) losses usually associated with glass or plexiglas windows. Details of the container, including the light-retaining drainage and filling valves for the liquid scintillator and the external steel and Pb shield, are set forth, and the effectiveness of the shielding is illustrated by tabulated background data. A block diagram depicts the equipment for the registration of the C^{11} -decay-positron pulses. The light flashes within the scintillator are picked up by two coincident Q3Y-29 (FEU-29) PhM's. The pulses are taken off the 1,000-ohm anode load and enter a cathode repeater matched to a coaxial cable whereby the pulses enter the counter. The counter circuitry, comprising the coincidence-separation block (resolution time 10^{-8} sec, sensitivity 0.2 v), the discriminator, the scaler, the logarithmic intensimeter, and the mean-counting-rate meter, is described and depicted. Maximum counting rate: 10^4 pulses/sec. Stable operation is achieved within 30 min. Maximum variations in counting effectiveness during continuous operation did not exceed $\pm 5\%$; the deviation of the effectiveness from the nominal value could at all times be verified by means of an auxiliary radioactive

Card 2/4

A scintillation counter for ultrahigh-speed nucleons. S/796/62/000/003/017/019

source with an accuracy of $\pm 5\%$. The recording equipment is described and depicted photographically. Experimental data: The counting effectiveness of p-terphenyl in toluene was determined on the neutron beam of the synchrocyclotron of the Laboratory of Nuclear Problems under simultaneous irradiation of C cylinders, the activation of which served as a measure of the neutron flux. An effectiveness of 51% was measured and verified to within $\pm 5\%$ by means of a Co^{60} control source. The activation of the scintillator was determined either by the recorded decay curve of the C^{11} and by its extrapolation to the end of the irradiation, or by the integral count over some time t . The latter is analytically found to be more sensitive. The use of neutron fluxes near the sensitivity-threshold value of the counter is advisable. The automatic-recording method, for fluxes above 5 neutrons/ $\text{cm}^2 \cdot \text{sec}$ is no less accurate than the integral-count method, but is incomparably more convenient. An optimal measurement time exists; beyond a limiting duration the rapid decay permits the background fluctuations to adduce a disturbingly large error contribution; an analytical expression is derived and graphed to determine the optimal measurement time in terms of the background intensity and the number of atoms decaying per unit time. The optimal time is found to decrease and the error to increase with increasing relative background intensity. The comparative evaluation of the effectiveness of several scintillators concludes with the selection of p-terphenyl in toluene, which is also little subject to aging under month-long

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A scintillation counter for ultrahigh-speed nucleons. S/796/62/000/003/017/019
counting with a Co60 control source. There are 10 figures, 3 tables, and 13
references (6 Russian-language Soviet and 7 English-language, of which one is
cited in its Russian-language translation).

ASSOCIATION: None given.

Card 4/4.

42552

S/089/62/013/005/004/012
B102/B104

27,4000
24,6830
AUTHORS:

Zolin, L. S., Lebedev, V. N., Salatskaya, M. I.

TITLE: Use of nuclear emulsion of type K (K) for individual fast-neutron dosimetry

PERIODICAL: Atomnaya energiya, v. 13, no. 5, 1962, 467-471

TEXT: K-type nuclear emulsions 20 μ thick on triacetate backing designed for recording protons of 0.3-150 Mev were used to check 0.15-15-Mev neutron doses. An individual method was devised using a system of 13 layers: cellulose cardboard (58), Al(83); triacetate film (34.4); Al (27.7); black cellulose paper (13.3); emulsion backing (17.2); emulsion (6.9); triacetate film (17.2); black cellulose paper (13.3); Al (27.7); triacetate film (34.4); Al (83), and cellulose cardboard (58). The data in the brackets are the layer thicknesses in mg/cm². On each side the emulsion is covered by 6 layers, arranged symmetrically, the arrangement being so chosen that the dependence of the number of tracks in the emulsion on the neutron energy is analogous to the dose absorbed in the biological tissue. This was checked by determining the contribution of
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J

Use of nuclear emulsion of type ...

S/089/62/013/005/004/012
B102/B104

each layer to the total number of tracks. A comparison of the dose curves as calculated shows that in the case of perpendicular irradiation, and for $E_n > 3$ Mev, the curve of the layer packet lies higher. The calculations were verified experimentally with monochromatic neutrons (2.5, 3.6, and 14 Mev). It was found that in the case of perpendicular neutron irradiation the number N of tracks per cm^2 of emulsion is equal to the calculated number within the error limit. In the case of parallel irradiation N is by 50% smaller than with perpendicular irradiation. If a rotating packet of layers is irradiated, then N is 25% smaller than with perpendicular irradiation; in this case $N(E_n)$ agrees with the dose curve of biological tissue to within $\pm 15\%$. The dose D (in rad) is calculated according to $D=AN$ where $A=(1.11\pm 0.08)\cdot 10^{-5}$ rad/mrek. cm^{-2} . The photoemulsions were treated according to the NIKFI standards, the films were scanned with an MEB-3 (MBI-3) microscope (950x). The nuclear emulsion was rendered sensitive to thermal neutrons by the presence of nitrogen; $N^{14}(n,p)C^{14}$ has a $\sigma=1.75$ b which decreases as $E_n^{-1/2}$ with increasing E_n . At 200 kev $\sigma=1.5$ mb and $E_p=0.56$ Mev. Hence this method

Card 2/3

Use of nuclear emulsion of type ...

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makes it possible to measure the total thermal and the fast neutron dose; a Cd-filter is used to separate the two components. The γ -background becomes important only at doses above 5 r. At high γ -intensity the emulsion types A(D), T-3 (T-3) or Ya-2 (Ya-2) are used that are less sensitive to γ -radiation. The track regression was studied on K-type emulsions in a 70-day Po-Be-irradiation and it was found to lie within the error limits. It is the higher the less sensitive an emulsion to (recoil) protons. The K-type emulsion in the "correction packet" proves to be rather reliable (root-mean-square error in the determination of the monthly admissible dose +20%) and allows comparatively rapid scanning (85 films can be scanned by 1 person within 36 hrs). At present these packets are used for dosimetric monitoring of personnel in the Laboratoriya vysokikh energii Ob'yedinennogo instituta yadernykh issledovaniy (High-energy Laboratory of the Joint Institute of Nuclear Research). There are 3 figures and 2 tables.

SUBMITTED: February 10, 1962

Card 3/3

LEBEDEV, V. N.

"Some Problems of Optimal Flight Theory by V. N. Lebedev."

Report presented at the 11th International Astronautical Congress,
Paris, 25 Sept.-2 Oct. 1963.

LEBEDEV, V.N.; MOROZOV, V.S.; MURIN, G.F.; NIKITIN, M.D.; SALATSKAYA, M.I.

Cosmic radiation doses in biocameras of the spaceships "Vostok-3"
and "Vostok-4". Kosm. issl. 1 no.2:309-311 S-0 '63.
(MIRA 17:4)

LEBEDEV, V.N. (Moskva)

Variational problem of the escape of a cosmic vehicle from a circular orbit. Zhur. vych. mat i mat fiz. 3 no.6:1126-1130 N-D '63. (MIRA 17:1)

LEBEDEV, V.N.; RUMYANTSEV, B.N.

Variational problem of the flight between two points in a
central field. Isk. sput. Zem. no.16:252-256 '63.
(MIRA 16:6)

(Mechanics, Celestial)
(Artificial satellites)

ZHUKOV, A.N.; LESEDEV, V.N. (Moscow)

"The variational problem of transfer between heliocentric circular orbits using a solar sail"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

VATEL', I.A.; VOL'FSON, I.YE.; YERESHKO, F.I.; LEBEDEV, V.N. (Moscow)

"Some problems of the theory of optimum transfers"

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 January - 5 February 1964

BAT', G. A.; GRIGOR'YEVA, Ye. A.; LEBEDEV, V. N.

"Calculation of thermal neutrons utilization coefficient in cells with complex fuel elements."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

ACCESSION NR: AP4033132

S/0120/64/000/002/0133/0135

AUTHOR: Lebedev, V. N.

TITLE: Applicability of the method of paired light pulses is extended over the investigation of photomultiplier time characteristics

SOURCE: Pribo^y* i tekhnika eksperimenta, no. 2, 1964, 133-135

TOPIC TAGS: photomultiplier, photomultiplier time resolution, FEU-33 photomultiplier, FEU-36 photomultiplier, paired light pulse method

ABSTRACT: Paired-light-pulse methods used heretofore were inapplicable in cases of time difference below 10 nanosec between the pulses. The modification, suggested in this article permits measuring the time resolution of photomultipliers below 10 nsec. Instead of 2 pulsed-light sources, one source — a hydrogen flashlamp — is used; the photomultiplier receives one direct (attenuated) pulse and one reflected from a mirror. The anode-current shapes of FEU-36

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ACCESSION NR: AP4033132

(experimental) and FEU-33 (1959 make) photomultipliers were investigated; the former showed a resolution under, and the latter over, 9-10 nsec. "The author thanks L. G. Leyteyzen for lending the FEU-36 photomultiplier, and O. F. Obukhovskaya for her help in preparing a composition noninductive resistor." Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 16May63

DATE ACQ: 11May64

ENCL: 00

SUB CODE: GE

NO REF SOV: 002

OTHER: 002

Card 2/2

ACCESSION NR: AP4026233

S/0293/64/002/001/0046/0050

AUTHOR: Zhukov, A. N.; Lebedev, V. N.

TITLE: Variation problem of flight between heliocentric circular orbits using a solar sail

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 1, 1964, 46-50

TOPIC TAGS: artificial satellite, artificial satellite orbit, artificial satellite heliocentric orbit, solar sail, space flight, interplanetary flight

ABSTRACT: Analysis of studies of the possibilities of the solar sail for space flight made by Tsu (ARS Journal, 6, 422, 1959), London (ARS Journal, 2, 198, 1960) and others indicates that the most effective use of the solar sail requires investigation of other types of trajectories than those proposed so far. This paper considers the problem of finding the most effective means for flight from the earth's orbit to the orbits of other planets of the solar system. The key parameter is orientation of the sail relative to the sun's rays. It is assumed that the planetary orbits are circular and coplanar. It is assumed further that the resistance of the cosmic medium is small in comparison with solar pressure. This problem, applying the L. S. Pontryagin maximum principle, reduces to the boundary problem for a system of 8 differential equations which are solved on an electronic

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ACCESSION NR: AP4026233

computer; selection of the lacking initial conditions is accomplished by Newton's method. The results show that by means of a solar sail it is possible to make flights from an artificial earth satellite orbit to artificial satellite orbits of other planets without expenditure of fuel, since the propulsion of a spaceship with a solar sail is also feasible in the gravitational field of a planet. The number of years required for flight to the orbits of other planets with a solar sail is: Mercury -- 0.53, Jupiter -- 6.6, Saturn -- 17, Uranus -- 49, Neptune -- 96 and Pluto -- 145. For flight to Mars the following ratios apply (acceleration in mm/sec²/time in days): 1/405, 2/405, 3/286, 4/264, 5/248. "The authors thank N. N. Moiseyev for useful advice and discussion of the results of the work".
Orig. art. has: 11 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 19Jun63

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: AS

NO REF SOV: 004

OTHER: 003

Card 2/2

L 25384-65 , ENG(j)/EJT(m)
ACCESSION NR: AP5002153

S/0120/64/000/006/0073/0076 -

AUTHOR: Zel'chinskiy, M.; Lebedev, V. N.; Salatskaya, M. I. B

TITLE: An instrument for measuring the recommended relative biological effectiveness of radiation

SOURCE: Pribory i tekhnika eksperimenta¹⁹, no. 6, 1964, 73-76

TOPIC TAGS: relative biological effectiveness of radiation, RBE

ABSTRACT: A new instrument is described which is intended for measuring the relative biological effectiveness of radiation (RBE) as defined by the International Commission on Protection from Radioactive Radiations. Two tissue-equivalent ionization chambers are placed in the field being explored. One chamber receives a high voltage sufficient for its operation under saturation conditions. The high voltage for the other chamber is so selected that its ion collection is a linear function of RBE. A 3-stage electrometric amplifier is connected to each

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L 25384-65

ACCESSION NR: AP5002153

chamber. The output scale of the saturated-chamber electrometer is graduated in rads. RBE is a single-valued function of the ratio of currents of the two chambers. Hence, a simple discrete division circuit with 20 miniature relays and a pointer-type instrument is used for measuring RBE.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Nuclear Research Institute)

SUBMITTED: 21Nov63

ENCL: 00

SUB CODE: PH, NP

NO REF SOV: 001

OTHER: 004

Card 2/2

T. 21780-66 EMT(m) IJP(c)
ACC NR: AP6014390

SOURCE CODE: UR/0391/66/000/004/0009/0014

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TITLE: Clinical and dosimetric data derived from observation of personnel operating a 10-Gev OIYAI synchrophasotron (Analysis of results of dosimetric monitoring from 1956—1962) 19

SOURCE: Gigiyena truda i professional'nyye zabolevaniya, no. 4, 1966, 9-14

TOPIC TAGS: radiation effect, industrial hygiene, medical examination, systole, diastole, bradycardia

ABSTRACT: Workers operating a 10-Gev synchrophasotron at the high-energy laboratory of the Joint Institute of Nuclear Research in the period of 1955—1962 were examined, and clinical test results were correlated with data derived from ¹⁴dosimetric monitoring. Levels of influence of x-rays, gamma radiation, beta radiation, and fast neutron radiation (the latter in the energy range of 0.5—200 Mev) were determined by various methods. Workers were divided into three groups according to the kind

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and level of radiation to which they had been habitually exposed. It was found that the first group, consisting of people directly involved in the operation and repair of the synchrotron, in servicing of linear accelerators, etc., received doses from 2-3 rem (the maximum permissible dose was set at 5 rem/yr). The second group, consisting of physicists and engineers conducting the experiments, together with technicians and mechanics, received about the same amounts of radiation. The third group, auxiliary personnel such as electricians and janitors exposed to radiation only occasionally, averaged less than 0.5 rem/yr. Two hundred and fifty-four workers (all groups) were given thorough physical examinations in the course of the 8-yr observation period. Eighty-five percent of the subjects were men, 95% were under 40, and 67% had periods of service from 4-10 yr. Two hundred and two control subjects were given the same tests. The following functional shifts, all within physiological norms, were noted in the experimental group: 1) Seventeen percent of the experimental group had a systolic pressure of 100 mm or lower, as compared with 5% of the controls, and 35% had a systolic pressure of 105 mm or lower, as against 21% of the controls. 2) Diastolic pressure was also decreased in the experimental group, but to a lesser extent. 3) Pulse pressure in the experimental group averaged 40.6 mm as against 44 mm in the controls. 4) In the experimental group, tonus of blood vessels in the lower extremities was somewhat decreased. 5) Bradycardia was noted in 45% of the experimental group as compared with 28% of the controls. It must be noted that these variations did not hinder work capacity or seriously detract from the overall health of the subjects investigated. Orig. art. [JS]

has: 2 figures and 1 table.
 SUB CODE: 06/ SUBM DATE: 15Dec64/ ORIG REF: 008/ ATD PRESS: 4270
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L 55201-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4 JD/HW

ACCESSION NR: AP5015827

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621.984

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AUTHOR: Lebedev, V. N.; Korovina, V. M.; Varakin, P. I.; Grinyuk, A. I.

TITLE: Production of heavy gauge pipes from headless ingots

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 6, 1965, 7-10

TOPIC TAGS: steel industry, metal broaching, headless ingot, shrinkage head,
pipe manufacture

ABSTRACT: Present methods of heavy gauge pipe rolling are uneconomical. The pipes are rolled on pilger mills from special blanks which are forged from an ordinary ingot. 17-20% of the metal is wasted in the shrinkage head. Since the central part of the ingot is full of defects, pores, etc., a method was developed at the Volgograd factory for making heavy gauge pipes from headless ingots by broaching. The ingots are broached on a vertical press and then drawn in rings on a horizontal press. There is a 17-28% savings in metal through reduction of the ingot weight in comparison with usual methods. Machine time per forging is

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reduced by a factor of approximately 10. Headless ingots have the following advantages when compared with ordinary ingots which have shrinkage heads:
1) A dense macrostructure; 2) The absence of highly developed chemical non-uniformities and liquation defects in the ingot; 3) A smaller number and more even distribution of nonmetallic inclusions. The manufacture of pipe forgings by the broaching and drawing method is highly productive and economically feasible. Blanks made from headless ingots are completely satisfactory with respect to macrostructure, metal purity and mechanical properties for making heavy gauge pipes. Orig. art. has: 5 figures, 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

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OTHER: 000

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