VERESS, S. ; VEGH, G.

Modern pregnancy care record card or general health record booklets. Orv. hetil. 105 no.27:1293 5 Jl '64

VERESS, S.

Modern drug therapy and obsolete Forint-prices. Orv. hetil 105 no.17:812-813 26 Ap'64

*

VERES, Sandor, dr.

Pregnancy tests with vitamin A combined with sex hormones.
Orv. hetil. 105 no.34:1605-1606 23 Aug 64.

1. Balassagyarmati Jaraasi Fanacs Szulooothona, Bercel.

VERESS, Sandor

Examinations with Richardson's pregnancy test. Magy. noorv. lap. 21 no. 4:240-242 Aug 58.

1. A Szegedi Orvostudomanyi Egyetem Szuleszeti es Nogyogyaszati klinikajanak kozlemenye (Igazgato: Batizfalvy Janos dr. egyetemi tanar)
(PREGNANCY TESTS
Richardson's color reaction for determ. of urinary free estrogens, evaluation (Hun))

VERESS, S.

On a form for medical records. Orv. Hetil. 105 no. 10:951-952 My 17 '64.

PROCESSES AND PROPERTIES INDEX

CA

1

Apparatus for purifying gases. Z. Vrabely. *Magyar Chem. Folyoirat* 35, 156–7 (1929).—The current of gas drives the solvent into an absorption tower, whence it returns dropwise into the original container.
H. C. A

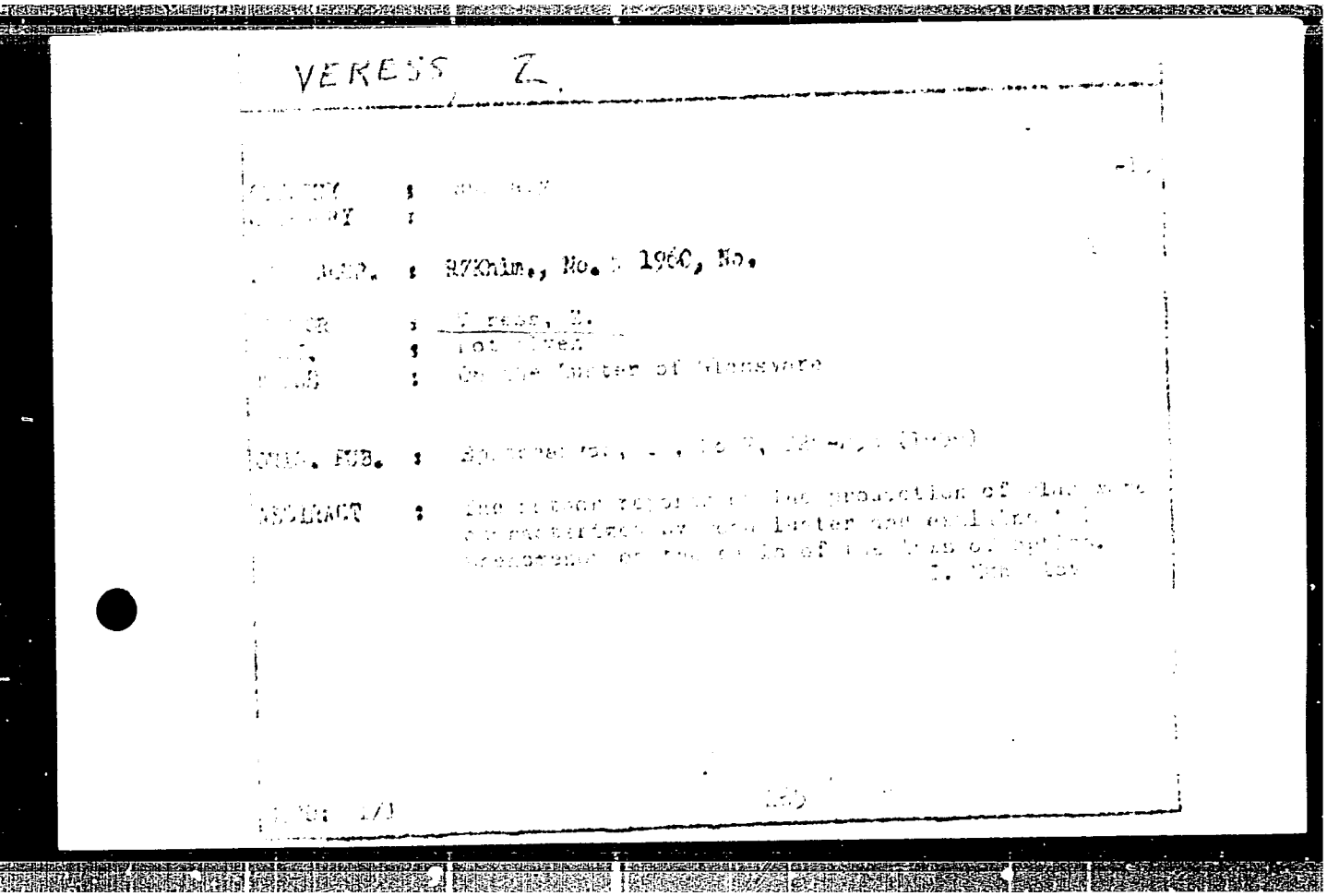
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VERESS, Z.

Glittering glass objects. p.229.

EPITOANYAG. Budapest, Hungary. Vol. 11, no. 7, July 1959.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.



VERESS Z.

AUTHOR : [illegible]

TITLE : [illegible]

PERIOD. : RZKhim., No. [illegible] 1960, No.

AUTHOR : [illegible]

TITLE : On the Matter of Glassware

ORIG. PUB. : [illegible]

ABSTRACT : [illegible]

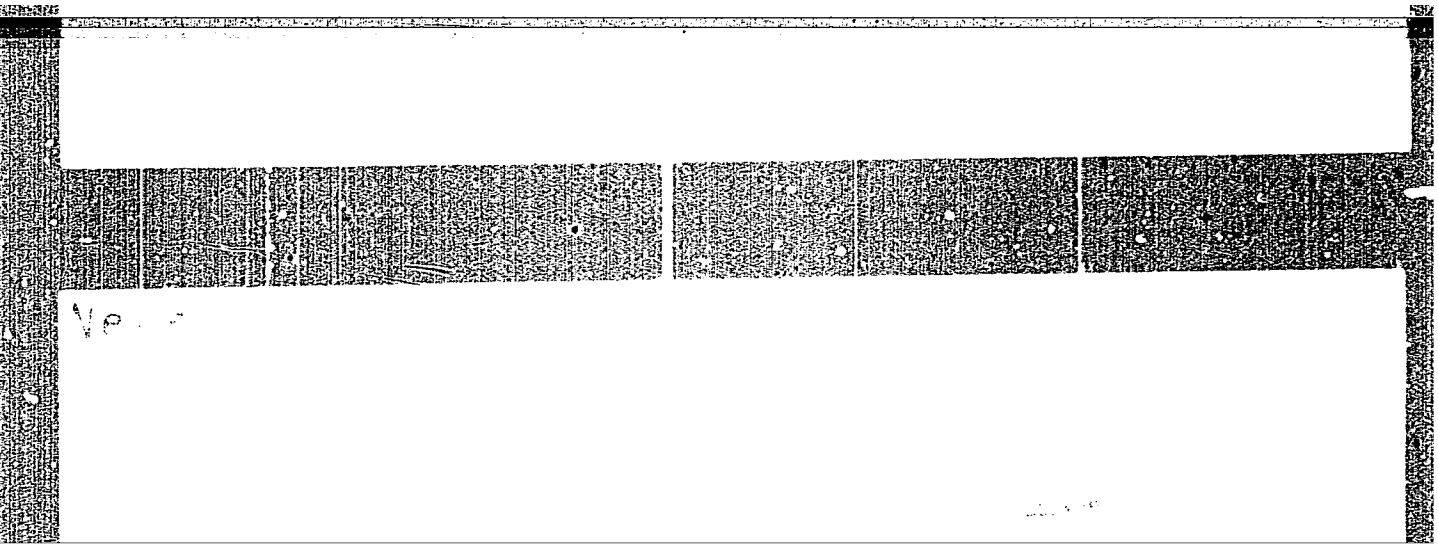
CARD: 1/1

VERESS, Z.

Industrial burners. p. 266.

ENERG TICA. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din Romînia si Ministerul Energiei Electrice si Industriei Electrotehnice) Bucuresti, Rumania
Vol. 7, no. 7, July 1959.

Monthly list of Eastern European Accession Index (EEAI) LC vol. 8, No. 11 November 1959
Uncl.



BRUCHER, Erno; SZALAY, Sandor, dr., egyetemi tanar; VERESS Zoltanne, intezeti onallo laborans

Linkage of quadrivalent uranium U/IV/ on humus substances. ATOMKI kozl 3 no. 1:11-15 '61.

1. Magyar Tudomanyos Akademia levelezo tagja; Magyar Tudomanyos Akademia Atommag Kutato Intezete igazgatoja; "ATOMKI Kozlemenyek" felelos szerkesztoje es felelos kiadoja, Debrecen (for Szalay).

HUNGARY/General Biology. Genetics. B-4

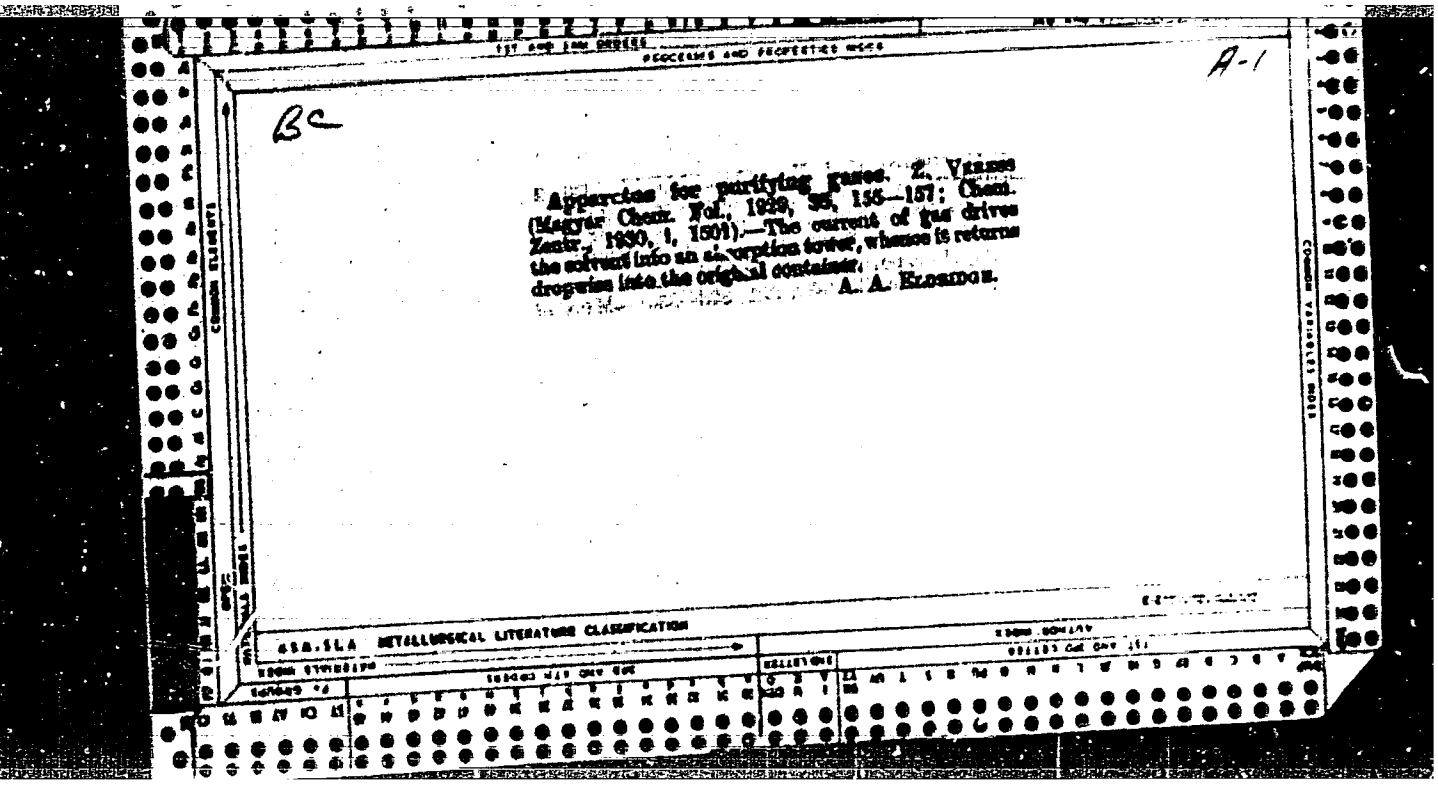
Abs Jour : Ref Zhur - Biologiya, No 1, 1957, 220 K.

Author : Vereshsh, Chorba.
Inst :
Title : Derivation of Hybrid Seeds in Vegetables.

Orig Pub : Bukarest, Mezogazdasagi es Erdeszeti Allami Konyvkiado, 1955, 65 l., ill.,

Abst : No abstract.

Card 1/1

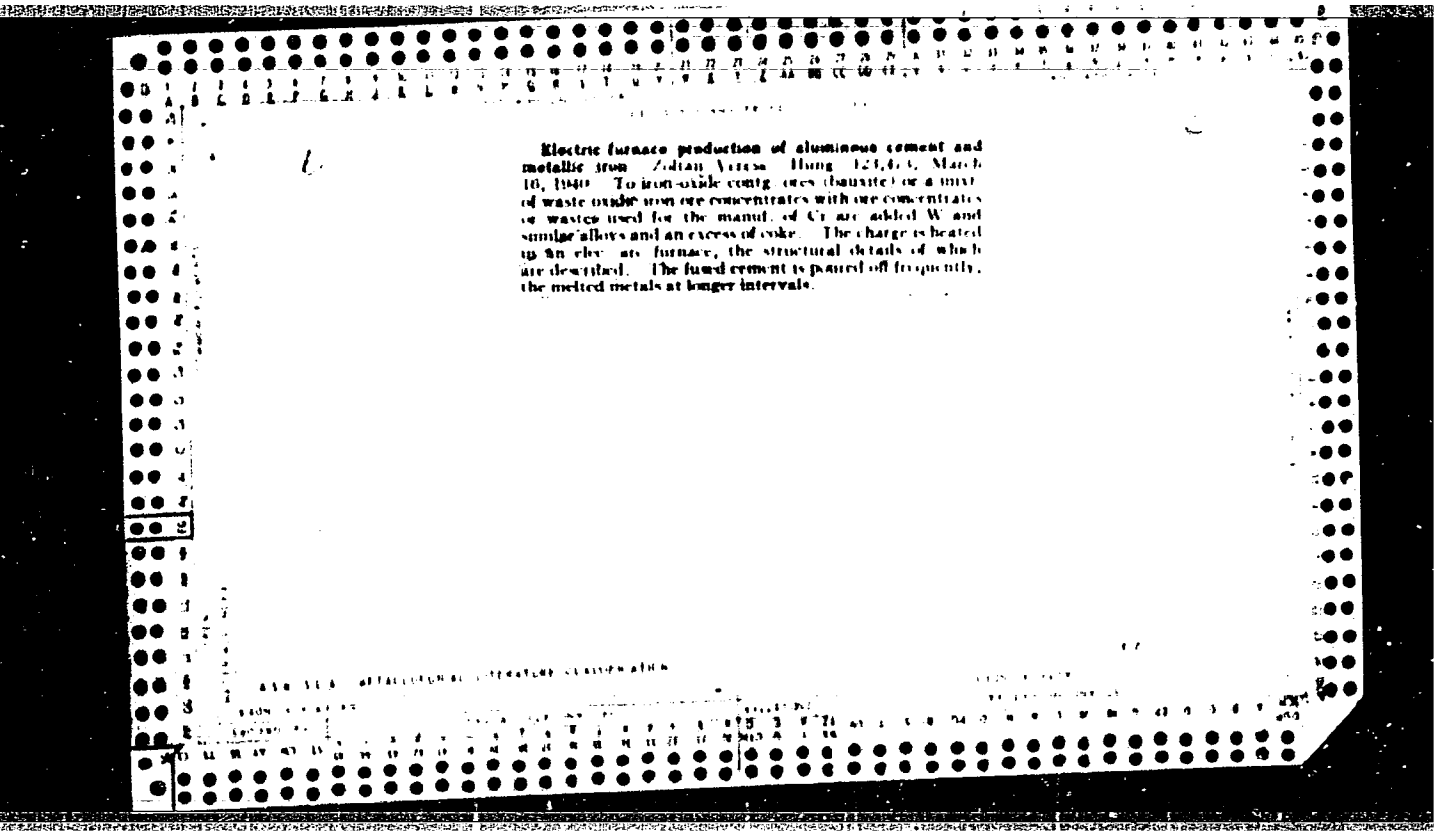


B-c

A-1

Apparatus for purifying gases. Z. Verein (Magyar Chem. Vol., 1929, 35, 155—157; Chem. Zentr., 1930, 1, 1501).—The current of gas drives the solvent into an absorption tower, whence it returns drop-wise into the original container.

A. A. Eldridge.



Electric furnace production of aluminous cement and metallic iron. Zoltán Varga. Hung. 124,616, March 16, 1940. To iron-oxide contg. ores (bauxite) or a mixt. of waste oxide iron ore concentrates with ore concentrates or wastes used for the manuf. of Cr are added W and similar alloys and an excess of coke. The charge is heated in an elec. arc furnace, the structural details of which are described. The fused cement is poured off frequently, the melted metals at longer intervals.

PA40T83

VERESTETSKIY, V. B.

Jan 1946

USSR/Physics
Particles

"New Neutral Particle," V. B. Berestetskiy, 1½ pp

"Priroda" No 1

Author discusses his opinions on data which he found in an article by Groetzinger, Kruger, and Smith, "Physical Review" Vol XVII, No 1/2, 1945, in which they describe their discovery of a hitherto unknown neutral particle. Briefly discusses some of the characteristics of this new particle.

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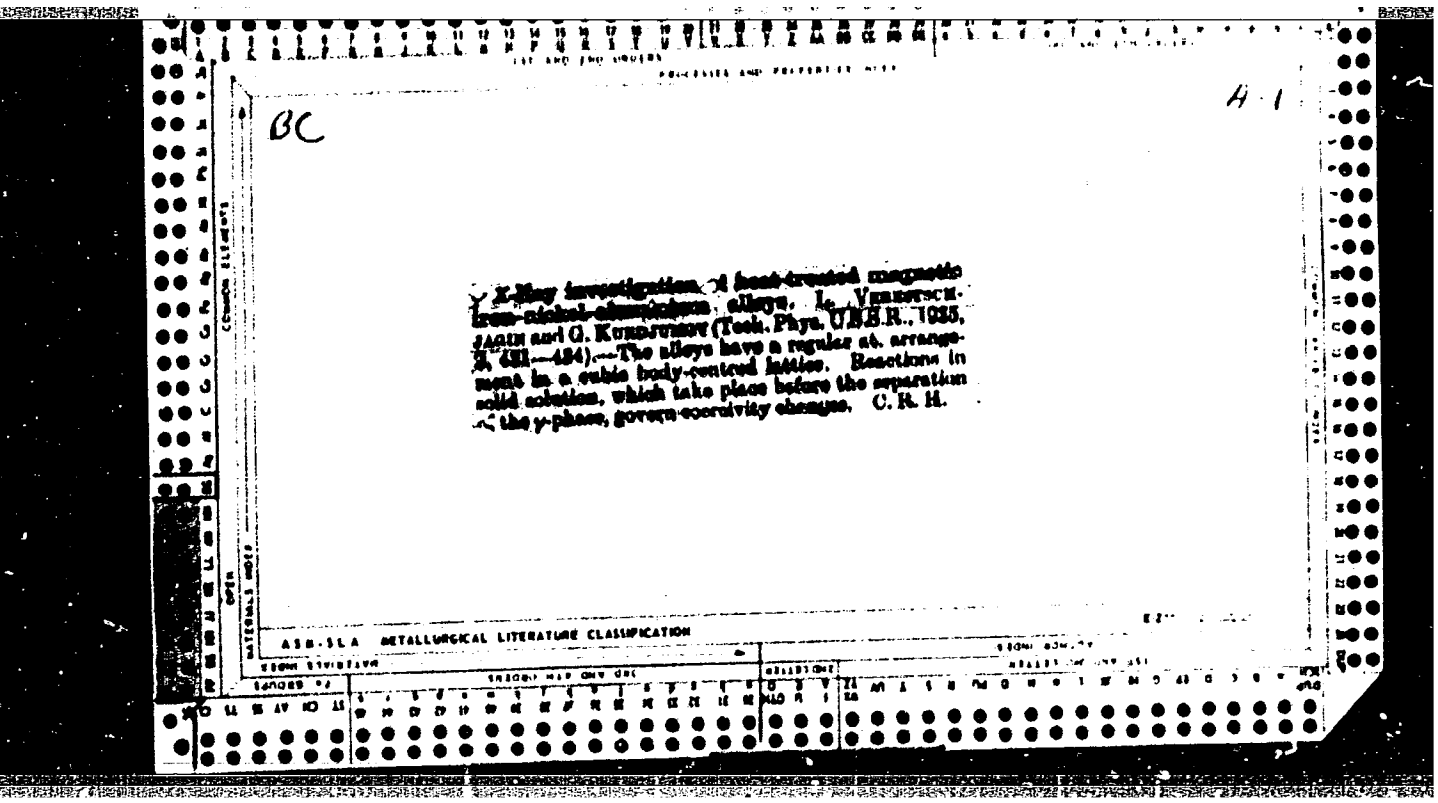

VERESKUNOV, N.G.

New equipment for coal mines. Bez.truda v prom. 6 no.1:17-18 Ja '62. (MIRA 15:1)

1. Glavnyy inzh.Dongiprouglemasha.
(Donets Basin--Coal mining machinery)

39232
S/218/62/027/003/004/005
I018/I218

27 1100

AUTHOR: Yel'tsina, N. V. and Veresotskaya, N. A.

TITLE: The effect of deoxyglucose on tumor cells

PERIODICAL: Biokhimiya, v. 27, no. 3, 1962, 452-457

TEXT: The product Deoxyglucose + ATP + hexokinase ± APP + 2-deoxyglucos-6-phosphate does not undergo any further metabolism which may result in a gain of ATP. Thus, glycolytic phosphorylation is arrested. Under these conditions, only oxidative phosphorylations is feasible. However, the ATP formed by mitochondria can also be trapped by the hexokinase which in tumor cells is located on the surface of mitochondria. In the presence of deoxyglucose the two types of phosphorylation may be eliminated. The addition of 2-deoxyglucose to tumor cells of various strains (Saidel hepatoma, cancer of rat ovary, Ehrlich carcinoma) resulted in a disappearance of ATP, decrease in ADP and accumulation of AMP. The sharp decrease in the ATP/ADP ratio was due to a marked decrease in the concentration of inorganic phosphorus in the mitochondria, and depletion in ATP used up in the phosphorylation of 2-deoxyglucose. This led to a complete cessation of oxidative phosphorylation in tumor cells. On the other hand, deoxyglucose was almost without any effect on oxidative phosphorylation in normal liver and kidney sections. It was assumed that the difference in action of deoxyglucose on tumor and normal tissue was due to the different activity and location of hexokinase in both kinds of cells. Treatment of tumors with deoxyglucose could be attempted

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only after elimination of the competetive action of glucose. Treatment of tumors with deoxyglucose should be attmepted by regional perfusion of the antimetabolite, with the exclusion of glucose from the tumor tissue.

ASSOCIATION: Institut e'ksperimental'noi i klinicheskoi onkologii Akademii meditsinskikh nauk SSSR (Institute of Experimental and Clinical Cancer Research Academy of Medical Science USSR, Moscow)

SUBMITTED: October 9, 1961

FRIDMAN, Ya.D.; SARBAYEV, S., Dzh.; VERESOVA, R.A.

Stability of mixed silver halides in solutions. Zhur.neorg.khim. 7 no.2:305-311 F '62. (MIRA 15:3)

1. Akademiya nauk Kirgizskoy SSR.
(Silver halides)

VERESTSHAGIN, N. K.

"The main traits of the formation of teriofauna of Holarctic in Anthropogene."

report submitted for the 7th Intl Cong, Intl Assoc for Quaternary Research, Boulder & Denver, Colo, 30 Aug-5 Sep 65.

VERETA, I. A., (Veterinary Surgeon, Berezovorudsk Agricultural College, Poltava Oblast')

Treatment of young rabbits infected with infectious stomatitis with biomycin

Veterinariya vol. 38, no. 10, October 1961, pp. 81-89.

VERETE, Arnold Grigor'yevich

[Marine steam and gas turbines] Sudovye parovye i gazovye turbiny. Izd.2., ispr. i dop. Moskva, Transport, 1965. 359 p. (MIRA 18:6)

VERETA, L. A., SUSHKINA, L. N.

"Transmission of tickborne encephalitis in the natural foci of the Khabarovsk region." p. 61

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR andAcademy of Sciences USSR, No. 1 284 pp.

VERETA, L.A.; KANTER, V.M.

Studies on tick-borne encephalitis of nutritional origin in Khabarovsk Territory. Vop. virus. 5 no. 2:199-204 My-S '60. (MIRA 14:4)

1. Khabarovskiy institut epidemiologii i gigiyeny i kafedra nervnykh bolezney Khabarovskogo meditsinskogo instituta.
(MILK—MICROBIOLOGY)
(KHABAROVSK TERRITORY—ENCEPHALITIS)

VERETA, L.A.; SUSHKINA, L.M.

Some results of a study on the infectivity of ixodid ticks by the encephalitis virus in the southern areas of Khabarovsk Territory. Vop.virus. 5 no.3 [illegible] 297 My-Je '60. (MIRA 13:9)

1. Khabarovskiy nauchno-issledovatel'skiy institut epidemiologii i gigiyeny.
(KHABAROVSK TERRITORY--ENCEPHALITIS)

VERETA, L.A.; YUR'IEVA, T.P.

Detection of complement-fixing antigen in hemorrhagic fever with renal syndrome. Vop. virus. 10 no.3:275-280 My-Ke '65. (MIRA 18:7)

1. Khabarovskiy institut epidemiologii i mikrobiologii.

VERETA, L. E. (Veterinary Surgeon, Chadyr-Lugansk Raion, Moldavian SSR).

"Bicillin" against fowl cholera."

Veterinariya, Vol. 37, No. 9, p. 53, 1960.

VERETA, L.Ye., veterinarnyy vrach (Chadyr-Lungskiy rayon, Moldavskoy SSR)

Bicillin in chicken cholera. Veterinariia 37 no.9:53 S '60. (MIRA 14:11)

(Bicillin) (Chicken cholera)

VERETANOV, I. I.

"Simplified method of gastrography," Klinicheskaya Meditsina (Clinical Medicine), Vol 32, No. 12, December 1954 (Moscow)

Riga.

Comments K-3443, 27 May 55

VERETANOV, I. I.

"Apparatus for procedures with thin gastric tube," Klinicheskaya Meditsina (Clinical Medicine), Vol 32, No. 12, December 1954 (Moscow)

Riga.

Comments K-3443, 27 May 55

POPKOV, Anatoliy Vasil'yevich; VERETE, A.G., inzh., retsenzent; RUKAVISHNIKOV, I.V., inzh., retsenzent; SOFRONOV, Ye.P., nauchn. red.; VASIL'YEVA, N.N., red.; NIKITINA, K.D., red.; ERASTOVA, N.V., tekhn. red.

[Fundamentals of hydrodynamics] Osnovy termodinamiki. Leningrad, "Sudostroenie," 1964. 181 p. (MIRA 17:3)

25(2) PHASE I BOOK EXPLOITATION SOV/2722

Verete, Arnol'd Grigor'yevich

Sudovyye parovyye turbiny (Marine Steam Turbines) Leningrad, Izd-vo Morskoy transport, 1959. 406 p. Errata slip inserted. 5,000 copies printed.

Specialist Ed.: V.T. Laptev; Ed. of Publishing House: Z.S. Frishman; Tech. Ed.: I.P. Kotlyakova.

PURPOSE: This textbook is intended for students of marine mechanics. It may also be useful to students of institutions of higher education and to marine mechanics taking courses to improve their skill.

COVERAGE: This textbook for the course, Marine Steam Turbines, deals with constructions of modern marine turbine plants and the fundamentals of thermal processes in steam turbines. Thermal and constructional design, basic information on the operation of marine steam turbines, and the working principles of marine gas turbines are discussed. The author thanks V. I. Zaytsev, V. T. Laptev, and L.F. Pershikov, for their assistance in describing the automatic control of turbine units and in the formulation of design examples. There are 24 references: 23 Soviet and 1 English.

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TABLE OF CONTENTS:

Marine Steam Turbines

SOV/2722

AVAILABLE: Library of Congress

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VENETE, Arnol'd Grigor'yevich; AKIMOV, P.P., nauchn. red.

[Marine power plants; collection of lectures] Morskiye silovye ustanovki; sbornik lektsii. Moskva Izd-vo "Morskoi transport." No.1.[Principles of heat engineering] Osnovy teplotekhniki. 1963. 64 p. (MIRA 17:5)

FAYVUSHEVICH, Vladimir Mikhaylovich; KOVAL', Nikolay Andreyevich; VERETE, Arnol'd Grigor'yevich; LALAYEV, Georgiy Georgiyevich; KARAMUSHKO, F.D., retsenzent; SHADRIN, Ye.V., retsenzent; LUBOCHKIN, B.I., red.; SANDLER, N.V., red.izd-va; KOTLYAKOVA, O.I., tekhn.red.

[Boiler operator's manual]Uchebnik kotel'nogo mashinista. Leningrad, Izd-vo "Morskoi transport," 1962. 505 p. (MIRA 15:11)

(Boilers, Marine--Habdbooks, manuals, etc.)

KOVALEV, Aleksandr Petrovich; NEDELIN, N.K., kand.tekhn.nauk, retsenzent; VERETE, A.O., inzh.-mekhanik, retsenzent; SERDYUKOV, S.A., nauchnyy red.; NIKITINA, R.D., red.; KONTOROVICH, A.I., tekhn.red.

[Repair of marine engines and mechanisms] Remont sudovykh mashin i mekhanizmov. Leningrad, Gos.soiuznoe izd-vo sudostroit.pro-myshl., 1959. 253 p. (MIRA 13:5)
(Marine engineering)
(Ships--Maintenance and repair)

VIRETE, Arnol'd Grigor'yevich; GUSEV, M.N., kandidat tekhnicheskikh nauk, retsenzent; MARENKOV, N.A., redaktor; PETERSON, M.M., tekhnicheskiy redaktor

[Repair of ships' shaft lines] Remont sudovykh valoprovodov. Leningrad, Izd-vo "Morskoi transport," 1955. 124 p. (MLRA 9:10)
(Ships--Maintenance and repair)
(Shafts and shafting)

VERETA, A G.

The repair of ship turbines Moskva, Morskoi transport, 1948. 272 p. (55-24777)

VM731.V46

VERETE, A. G.

Remont sudovykh turbin. Moskva, Morskoi transport, 1948. 272 p. illus.

Repair of marine turbines.

DLC: VM731.V46

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

VINETE, A G

N/5
743.421
.V4

Remont sudovykh turbinnykh ustanovok (Repair of ship turbines) Leningrad, Vodtransizdat, 1954.
239 p. illus., diagrs., tables.

VERETE, A.G.; VERZHBINSKIY, M.A., redaktor; VOLCHOK, K.M., tekhnicheskiy redaktor

[Repair of ships' turbines] Remont sudovykh turbinnykh ustanovok. 2-e, perer. izd. Leningrad, Gos. izd-vo vodnogo transporta, Leningradskoe otd-nie, 1954. 239 p. [Microfilm] (MLRA 7:10)
(Steam turbines--Repairing)

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Verete, Arnold' Grigor'yevich

Marine steam and gas turbines (Sudovyye parovyye i gazovyye turbiny) 2d ed., rev. and enl. Moscow, Izd-vo "Transport," 1963. 359 p. illus., biblio., fold. charts (in pocket). Errata slip inserted. 5000 copies printed.

TOPIC TAGS: steam turbine, gas turbine, turbine design, engine turbine system, marine engine, marine turbine

PURPOSE AND COVERAGE: This textbook is intended for the marine-mechanical departments of maritime schools and corresponds to the program of a course on: "Marine, steam, and gas turbines." It may also be used by ship's mechanics taking qualification-improvement courses and by students of schools of higher education. The book describes in detail the design of modern marine turbines and presents the fundamentals of the theory and of the thermal calculations of steam turbines. Some information on the design calculations of certain turbine parts and basic information on marine-

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steam turbines is also presented. The basic working processes, construction, and operation of marine gas-turbines are briefly reviewed. This second, revised edition contains new chapters on equipment for constructing and servicing gas turbines.

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SUB CODE: FR SUBMITTED: 24Apr65 NO REF SOV: 011

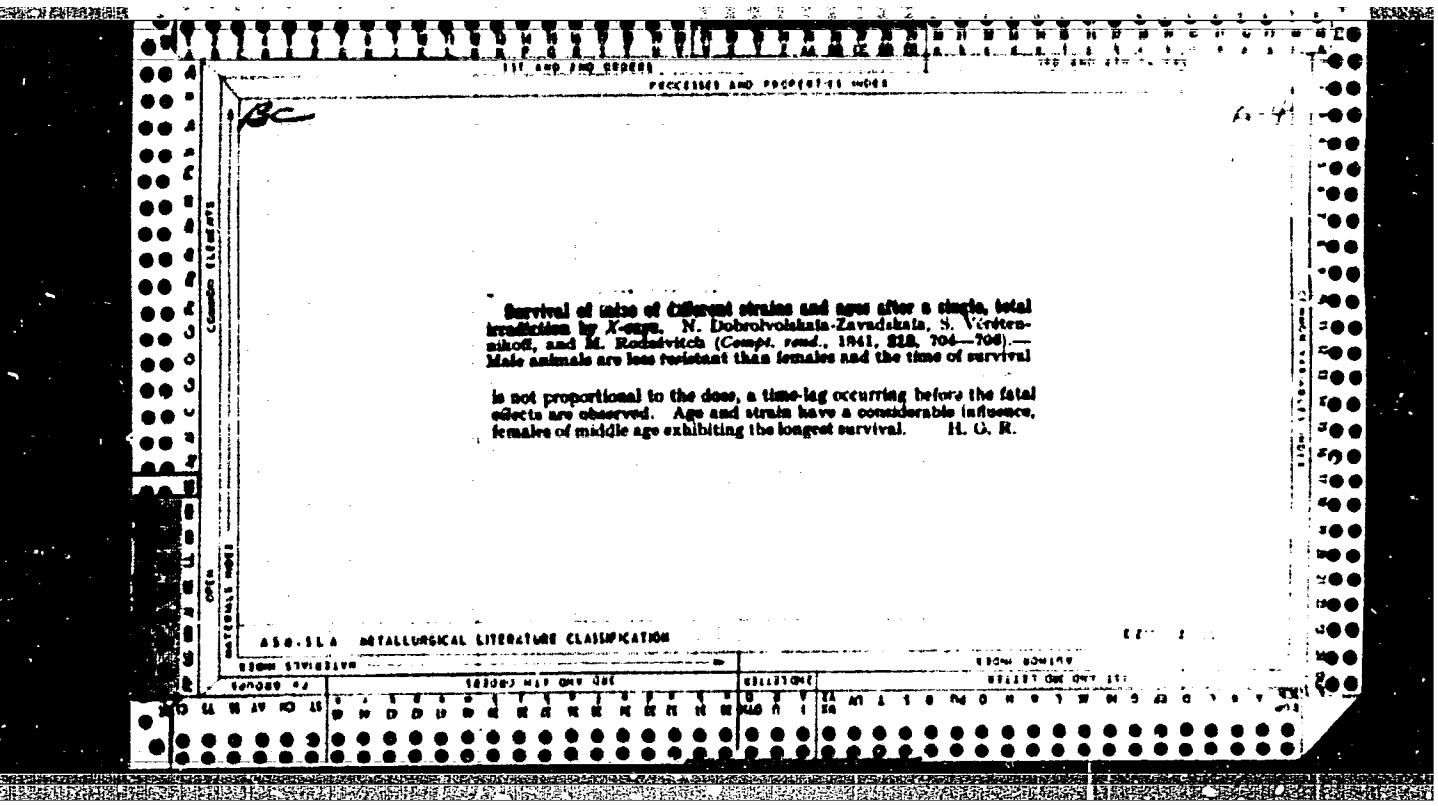
OTHER: 000

Card 5/5

ONISHCHENKO, Mikhail Kirillovich, stalevar; POMETUN, Grigoriy Konstantinovich, stalevar; STEPANENKO, Nikolay Aleksandrovich, stalevar; VERETEL'NIK, I.V., inzhener, redaktor; ISLANKINA, T.F., redaktor izdatel'stva; ISLENT'YEVA, P.G., tekhnicheskiy redaktor

[Our experience with a rapid oxygen steel making process] Nash opyt skorostnogo stalevareniia s primeneniem kisloroda. Moskva, Izd-vo "Znanie," 1953. 23 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 4 no.6) (MLRA 9:7) [Microfilm]

1. Ordena Lenina zavod "Zaporozhstal'" (for Onishchenko, Pometun, Stepanenko)
(Steel--Metallurgy)



Survival of rats of different strains and ages after a single, total irradiation by X-rays. N. Dobrolvolskaia-Zavadskaia, S. Vérétennikoff, and M. Rodnitvitch (*Compt. rend.*, 1941, 213, 704—706).—Male animals are less resistant than females and the time of survival is not proportional to the dose, a time-lag occurring before the fatal effects are observed. Age and strain have a considerable influence, females of middle age exhibiting the longest survival. H. G. R.

VERETEL'NIKOV, P.U., brigadir

Device for filling slotted storage batteries with the battery solution. Elek. i tepl.tiaga no.7:12-13 Jl '63. (MIRA 16:9)

1. Akkumulyatornoye otdeleniye depo Irkutsk II Vostochno-Sibirskoy dorogi.

(Electric locomotives—Batteries)

VERETEL'NIKOV, P.U., akkumulyatorshchik

Charging station for storage batteries. Elek.i tepl.tiaga 5 no.4: 14-15 Ap '61. (MIRA 14:6)

1. Depo Irkutsk II Vostochno-Sibirskoy dorogi.
(Storage batteries)
(Railroads—Repair shops—Electric equipment)

VERETENICHEV, A.

Establish a unified order for the preparation, preservation, and correction of navigation aids. Mor. flot 22 no.10:19-20 O '62. (MIRA 15:10)

1. Kapitan tankera "Dzerzhinsk" Chernomorskogo parokhodstva.

(Nautical charts)

VERETENNIKOV, A.

Everybody fulfills the norm. Prom.koop. 14 no.6:27 Je '60. (MIRA 13:7)

1. Instruktor otdela orgmassovoy raboty i kadrov promsoveta Mordovskoy ASSR, g. Saransk.
(Saransk--Menufactures)

VERETENNIKOV, A. I.

"The Problems of the Measurement of the Trassient Characteristics of Photo-Multipliers,"

A conference on Electron and Photo-Electron Multiplier; Radiotekhnika i Elektronia, 1957, Vol. II, No. 12, pp. 1552-1557 (USSR)

Abst: A conference took place in Moscow during February 28 and March 6, 1957 and was attended by scientists and engineers from Moscow, Leningrad, Kiev and other centres of the Soviet Union. Altogether, 28 papers were read and discussed.

SOV-120-58-3-10/33

AUTHORS: Veretennikov, A. I. and Averchenkov, V. Ya.

TITLE: A 20-Channel Time Analyser for the Selection of Neutrons by the Time of Flight Method (20-kanal'nyy vremennoy analizator dlya selektsii bystrykh neytronov po vremeni proleta)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 3, pp 48-53 (USSR)

ABSTRACT: The multichannel time analysers now available may be divided into two groups. In the first group are the so-called "chronotrons" (Refs.1-6). The analysers in this group have a practical resolving time of 10^{-9} sec and they will measure time intervals with an accuracy of 0.25 x 10^{-9} sec. The second group of analysers involves circuits which transform time intervals into pulse amplitudes (Refs. 7-12). The second group has the advantages that (1) the circuits are relatively simple, (2) a large number of channels is possible, (3) it is possible to study in detail parts of the neutron spectrum by operating with the amplitude analyser only and without changing the time characteristics of the scheme. A 20-channel time analyser is described in

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A 20-Channel Time Analyser for the Selection of Neutrons by the Time of Flight Method

the present paper which is based on the basic circuit given by Neilson and James (Ref.10). The analyser as described by Neilson and James has the disadvantage of being "two-sided", i.e. it works independently of the sequence of the input pulses. This disadvantage is now removed by the introduction of additional circuit elements. The complete circuit of the analyser including the values of the components employed is shown in Fig.3. The practical resolving time of the analyser is (1.5-3) x 10^{-9} sec and the stability of channel edges is 0.5 x 10^{-9} sec. The calibration curve of the analyser is shown in Fig.4. The curve is a plot of the amplitude vs delay between pulses. The calibration curve is linear in the range (2-30) x 10^{-9}. As an example, the time distribution obtained with neutrons of a Po-Be source is shown in Fig.6. Yu. S. Zamyatnin and Yu. I. Il'in are thanked for advice and assistance respectively. S. G. Basistov and N. V. Cherepnin supplied specimens of new

A 20-Channel Time Analyser for the Selection of Neutrons by the Time of Flight Method

valves, L. G. Leyteyzen, A. G. Berkovskiy and N. S. Khlebnikov supplied specimens of new photomultipliers and L. M. Belyayev and G. F. Dobrzhanskiy supplied specimens of large crystals. There are 6 figures and 14 references, of which 2 are Soviet, 1 Italian and the rest English.

SUBMITTED: August 9, 1957.

1. Time-interval counters--Design 2. Time-interval counters--Applications 3. Timing circuits--Applications 4. Neutron spectra---Analysis

S/089/60/008/04/06/009
B113/B017

AUTHORS: Veretennikov, A. I., Averchenkov, V. Ya., Savin, M. V., Spekhov, Yu. A.

TITLE: Gamma Radiation Occurring in U^{238} Under the Action of Neutrons of the Energy 14 Mev

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 4, pp. 361-363

TEXT: In the neutron interaction with U^{238} the spectrum of gamma radiation was measured in the range of from 0.4 to 2.8 Mev and the gamma quantum yield per interaction event in three samples. The measuring apparatus (Fig. 1) and the measurement process are described. The mean gamma radiation energy is 0.98 Mev. The energy resolution in measuring the gamma-spectrum was $\simeq$ 30% with E_γ = 662 kev and $\simeq$ 15% with E_γ = 2.62 Mev.

The mean number of gamma quanta per interaction event $\bar{\eta}$ for σ = 2.85 barns is 6 $\pm$ 1.2. The authors thank Yu. S. Zamyatnin for discussion and V. G. Kokoulin for the preparation of the stilbene crystal. There are 3 figures and 4 references: 3 Soviet and 1 English.

/B

VERETENNIKOV, A.I.; AVERCHENKOV, V.Ya.; YEGOROV, A.G.; SPEKHOV, Yu.A.

Amplifying units for recording short pulses with an oscillograph. Prib. i tekh. eksp. 6 no.2:104-109 Mr-Ap '61. (MIRA 14:9)
(Amplifiers (Electronics)) (Oscillograph)

VERETENNIKOV, A.I.; AVERCHENKOV, V.Ya.; SAVIN, M.V.; SPEKHOV, Yu.A.

Gamma spectrometer with an organic scintillator and a time selection of gamma rays. Prib. i tekh. eksp. 6 no.2:42-46 Mr-Ap '61. (MIRA 14:9)

(Spectrometer)

32992
S/641/61/000/000/019/033
B108/B102

26.2245

AUTHORS: Averchenkov, V. Ya., Veretennikov, A. I.

TITLE: Integral cross sections of U^{235} and Th^{232} interaction with neutrons having energies of 2 - 8 Mev

SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey. Moscow, 1961, 258 - 262

TEXT: The neutron cross sections of U^{235} and Th^{232} specimens were determined by measuring the time passing until the neutrons reach the detector. The latter was connected to a 50-channel time analyzer with the new 6Ж22П (6Zh22P) thermionic tubes. A steady-flow neutron source of Po-Be was used. Measurements were made with and without specimen between source and detector. Moreover, the random coincidences were measured with an additional delay of 75 millimicroseconds in the detector channel. The integral neutron cross sections were calculated with the formula $\sigma_t = \frac{1}{nx} \ln[(N_o - N_{bo})/(N_x - N_{bx})]$ where n denotes the number of nuclei per cm^3 of the specimen, x - thickness of specimen (cm), N_o, N_{bo}, N_x, N_{bx} -

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Integral cross sections of...

counting rates of neutrons and coincidence background with and without specimen. The results for Th^{232} and U^{235} are shown in Fig. 2. Corrections for elastic scattering have been introduced. Yu. S. Zamyatnin is thanked for discussions. There are 2 figures and 6 references: 1 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: Bloom S. D. Phys. Rev., 98, 233 (1955); Progress in Nuclear Energy, ser. I, v. I, London, Pergamon Press, 1956; O'Neill G. K. Phys. Rev., 95 (1954), Rev. Sci. Instr., 26, 285 (1955); Ref. 6: Hughes D., Schwartz. Neutron Cross Sections, BNL, N. Y., 1956.

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S/089/61/011/002/007/015
B102/B201

AUTHORS: Veretennikov, A. I., Averchenkov, V. Ya., Savin, M. V.

TITLE: Measurement of the time distribution of gamma radiation in wood by the method of delayed coincidences

PERIODICAL: Atomnaya energiya, v. 11, no. 2, 1961, 177-180

TEXT: This paper presents results of measurements of the time distribution and the energy spectrum of gamma quanta from a point source, which were scattered in wood. Little has been published on this subject so far. The time distribution was determined at distances of 200 cm from the point source. A Co^{60} source (0.12 μc) emitting pairs of gamma quanta was fastened to wood; the scintillation detector 1 which recorded the instants of emission of quanta was placed close to the source, and its pulses were fed to a time analyzer. The second scintillation detector 2 was 200 cm away from the source, and likewise transmitted its pulses to the time analyzer. The distribution of time intervals between the two pulses was recorded. The solving time of the time analyzer was $2\tau = 2.3$ μsec, and the mean quantum energy was about 1.25 Mev. The time distribution of gamma radiation in wood

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Measurement of the time distribution ...

is a function of the cross sections of Compton scattering, of the photo-electric effect, and of pair production. The time distributions in materials with similar atomic numbers may be assumed to differ only by a scale factor; this fact makes it possible to estimate the distribution in similar light materials from that in wood. The geometrical experimental setup is shown in Fig. 1; it was so chosen because it imitated an infinite medium best. Scintillation plastics and photomultipliers of the type ФЭУ-33 (FEU-33) were used for gamma recording. The block diagram of the measuring arrangement was as follows:

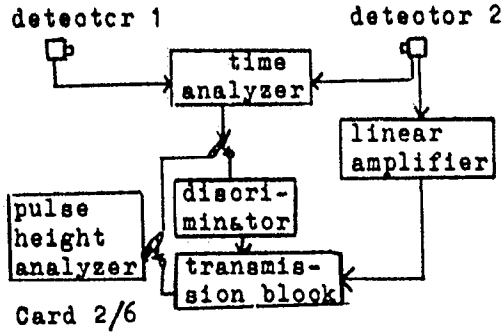

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Fig. 2. shows the time distribution of gamma radiation, as recorded by detector 2 (Curve 1); curve 3 shows the background of random coincidences. The zero point of the analyzer time scale was determined according to the middle of curve 2 of γ-γ coincidences without wood but under otherwise equal conditions. As may be seen, the time distribution of gamma

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radiation in wood covers a period of 20 μsec at a distance of 200 cm from the point source. The maximum is shifted by about 1.6 μsec toward the zero point, which corresponds to a prolongation of the quantum path by about 1.5 mean free paths. The mean time of delay of quanta is about 6 μsec, and the half-width of the distribution peak is about 7 μsec. Curve 4 (Fig. 3) was obtained on the assumption that the mean gamma energy is ~100 kev in case of great delays, and 0.8 Mev in case of the most probable delay time. The true time distribution is likely to be found between curves 1 and 4. Fig. 4 shows the energy spectrum of gamma radiation at a distance of 200 cm from the source. Ya. B. Zel'dovich, Yu. S. Zamyatnin, and V. G. Morozov are thanked for discussions. There are 4 figures and 12 references: 6 Soviet-bloc and 6 non-Soviet-bloc. The two most important references to English-language publications read as follows: L. Spenser, U. Fano. J. Res. Nat. Bur. Standards, 46, 446 (1951); G. Whyte. Canad. J. Phys. 33, 96 (1955).

SUBMITTED: December 29, 1960

Card 3/6

21395

S/120/61/000/002/005/042
E032/E114

26,2246

AUTHORS: Veretennikov, A.I., Averchenkov, V.Ya., Savin, M.V., and Spekhov, Yu.A.

TITLE: Gamma-spectrometer using an organic scintillator and time selection of gamma rays

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.2, pp. 42-46

TEXT: A description is given of a gamma-spectrometer which can be used to select gamma-rays with a time resolution of about 1 nanosec. The spectrometer incorporates a plastic scintillator, and the energy resolution for Cs^{137} gamma rays is about 25%. With a sodium iodide crystal the time resolution is about 4 nanosec and the coincidence counting efficiency for Co^{60} gamma rays is 90%. The use of ordinary scintillation gamma-ray spectrometers in the study of gamma-rays produced under the action of fast neutrons is complicated by interference from the primary and secondary neutrons. However, if the primary neutrons are accompanied by, say, alpha or gamma rays, the gamma radiation under investigation can be separated from the interfering radiation by the time-of-flight method. Suppose that the

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Gamma-spectrometer using an organic scintillator and time selection of gamma rays

recording apparatus and the specimen under investigation are located relative to the neutron source, as shown in Fig.1. In this figure, C_1 is the detector which records the accompanying alpha, gamma etc. emission and C_2 is the detector designed for measuring the gamma-rays from the specimen. The distribution of time intervals between pulses from C_1 and C_2 reaching the time analyser is shown in Fig.2. Fig.2a shows the time distribution of primary neutrons and gamma rays arriving at the specimen, Fig.2б shows the primary neutrons and gamma-rays from the specimen and Fig.2в shows the secondary neutrons and gamma-rays from the specimen. As can be seen from Fig.2, even with a continuous primary neutron energy spectrum, it is possible to separate out the gamma-rays produced in the specimen by the primary neutrons by a suitable choice of l_1 and l_2. In the present paper this type of gamma-spectrometer is discussed in terms of an example in which the gamma-rays produced in various specimens by 14 Mev neutrons are investigated. A block diagram of the spectrometer is

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Gamma-spectrometer using an organic scintillator and time selection of gamma rays

shown in Fig.3. The neutrons were obtained from the d(T, n)He^4 reaction. The instant at which the neutrons leave the target is recorded by counting alpha particles with a plastic scintillator, as described by the present authors (Ref.2: Atomnaya energiya, 1960, No.4, 361). The gamma-rays are detected by a stilbene crystal mounted on a ФЭУ-33 (FEU-33) photomultiplier. Pulses from the 12th dynode of this photomultiplier are amplified by the amplifier Y_6. With the key $П_2$ in the closed position, these pulses reach the 50-channel kicksorter through the linear gate $БП_2$. With the key $П_1$ in position 2, the gate $БП_2$ is controlled by pulses arriving from the output of the time analyzer. By introducing a delay t_1 into the gamma channel, the working conditions of the time-amplitude converter can be chosen so that pulses due to gamma-rays and neutrons from the specimen are delayed relative to pulses due to the alpha particles. As a result, the alpha-gamma coincidences at the output of the time analyzer have a greater amplitude than the alpha-n coincidences.

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Gamma-spectrometer using an organic scintillator and time selection of gamma rays

The integral amplitude discriminator Д5 transmits only the alpha-gamma coincidence pulses to the gate БП2 and this ensures the separation of effects due to neutrons from those due to gamma-rays. The time distribution of the coincidence is recorded by the same amplitude analyzer with the key П1 in position 1. The time analyzer has been described in detail by the present authors (Ref.3: PTE, 1958, No.3, 48). The remaining designations in Fig.3 are said to be "self-evident". The gamma-spectrometer can be used to measure gamma-spectra appearing in a given time interval, e.g. in the study of time correlated processes such as the emission of gamma-rays in fast-neutron induced reactions. There are 6 figures and 7 references: 4 Soviet and 3 non-Soviet.

SUBMITTED: May 6 1960

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E032/E114

Gamma-spectrometer using an .....

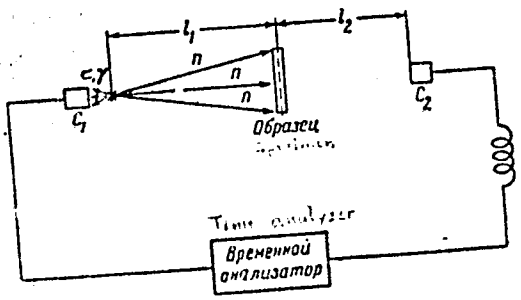

Fig.1

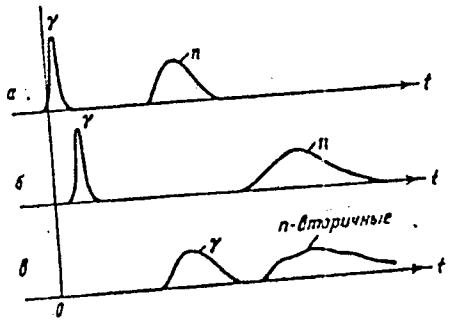

Fig.2

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Gamma-spectrometer using an .....

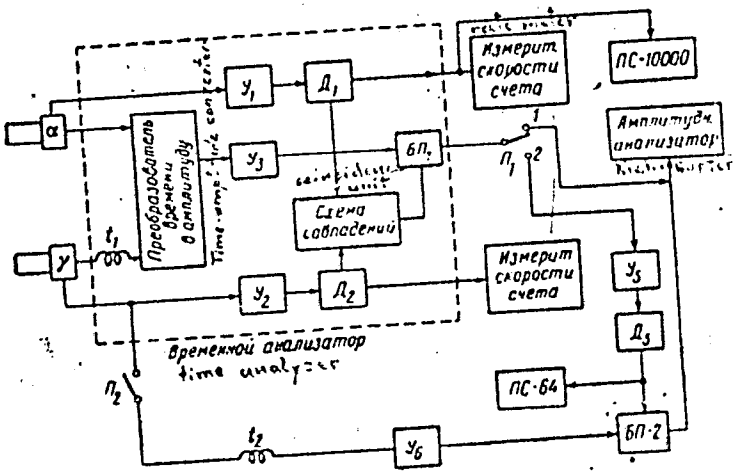

Fig.3

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21408
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E192/E382

6,4760

AUTHORS: Veretennikov, A.I., Averchenkov, V.Ya., Yegorov, A.G. and Spekhov, Yu.A.

TITLE: Amplifying Units for the Oscillographic Display of Short Pulses

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 2, pp. 104 - 109

TEXT: Two single-tube amplifiers suitable for high-speed pulse oscillographs are described. The first amplifier is based on a tube with a cathode grid (sometimes referred to as a "space-charge tube" or a "tube with a virtual cathode") which is capable of producing high anode currents when its auxiliary (cathode) grid is pulsed with a comparatively high voltage amplitude (up to 100 V). The circuit diagram of the amplifier (with some auxiliary circuits) is given in Fig. 1. The space-charge tube is 6Ж20П2 (6Zh20P2) (this is an experimental tube). The amplifier is designed for the pulse repetition rate not exceeding 10 p.p.s. The operation is as follows. When the amplitude of the input pulse is about 1 V,

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the thyratron (shaded tube) is ignited and a pulse is applied to the cathode grid of the space-charge tube (the righthand-side tube in the circuit). This pulse has an amplitude of about 150 V and its flat top has a duration of about 0.5 μs. The investigated pulse is applied to the control grid of the tube 50 nanosecs after the appearance of the voltage at the cathode grid. The voltage appearing across the anode load of the space-charge tube is taken by means of a cable (type PK-50 (RK-50)) having a length of 1 m and is applied to the deflection plates of the cathode-ray tube. The anode-grid characteristic of the space-charge tube is linear over a comparatively large range of currents so that at the supply voltage of about 800 V a current in excess of 1 A can be obtained over the linear region; the slope is about 33 mA/V. The gain of the amplifier is 10 and its bandwidth is 90 Mc/s, which corresponds to the rise time of about 4.3 nanosecs. A high-speed amplifier can also be based on a secondary emission tube. A circuit of this type is shown in Fig. 5. The secondary emission tube Л1 (= L) in the

figure is normally cut off by a negative-grid voltage of about 10 - 20 V since its anode dissipation is only 2 W. The reflection plates of the cathode-ray tube are connected to the anode and the dynode of the tube by coaxial lines (type ПК-3 (PK-3)), which also act as the delay lines for the signal. The difference in the electric lengths of these lines corresponds to the transit time of an electron from the dynode to the anode; in practice, this amounts to about 10 cm (this is chosen experimentally). The triggering circuit of the oscillograph is usually connected to the input to one of these lines through a resistance. The secondary emission tube can give a pulse current of up to 7 A with a slope of 100 mA/V at the anode supply voltage of 1 000 V and dynode voltage of 3 00 V. The deflecting voltages of about 700 V can be obtained from this amplifier. The bandwidth of the amplifier is about 200 Mc/s, which corresponds to the rise time of 2 nanosecs. The gain of the system is 12 - 16, depending on the anode voltage. The circuit of Fig.5 is designed for the oscillographic display of the pulses derived from scintillation transducers

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(counters). In this the pedestal of the pulse is applied to the lefthand-side portion of the circuit, which is in the form of a two-stage amplifier. This provides the necessary lengthening and then limiting of the output voltage. The pedestal is formed from the pulses derived from one of the dynodes of the photomultiplier. The amplitude of the pedestal applied to the control grid is about 3 V. The line having a delay of about 60 - 70 nanoseconds is included in the investigated signal circuit which delays the signal for the duration of the pedestal-forming. The authors make acknowledgment to S.G. Basistov and G.V. Lukoshkova for supplying the samples of new tubes.
There are 8 figures.

SUBMITTED: May 27, 1960

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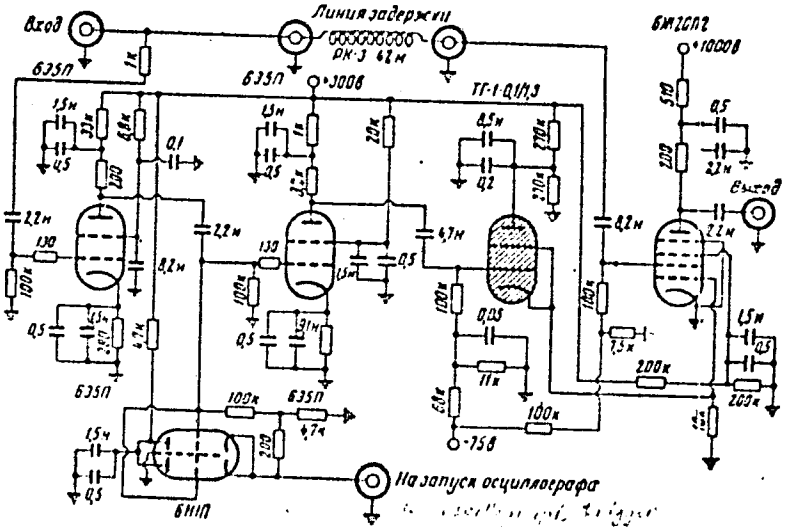
E192/E382

Amplifying Units ....

Fig. 1:



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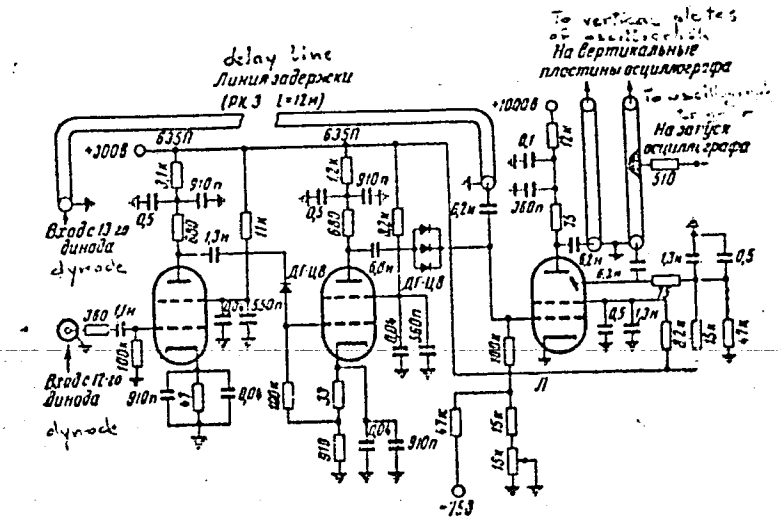
Amplifying Units ....

Fig. 5:



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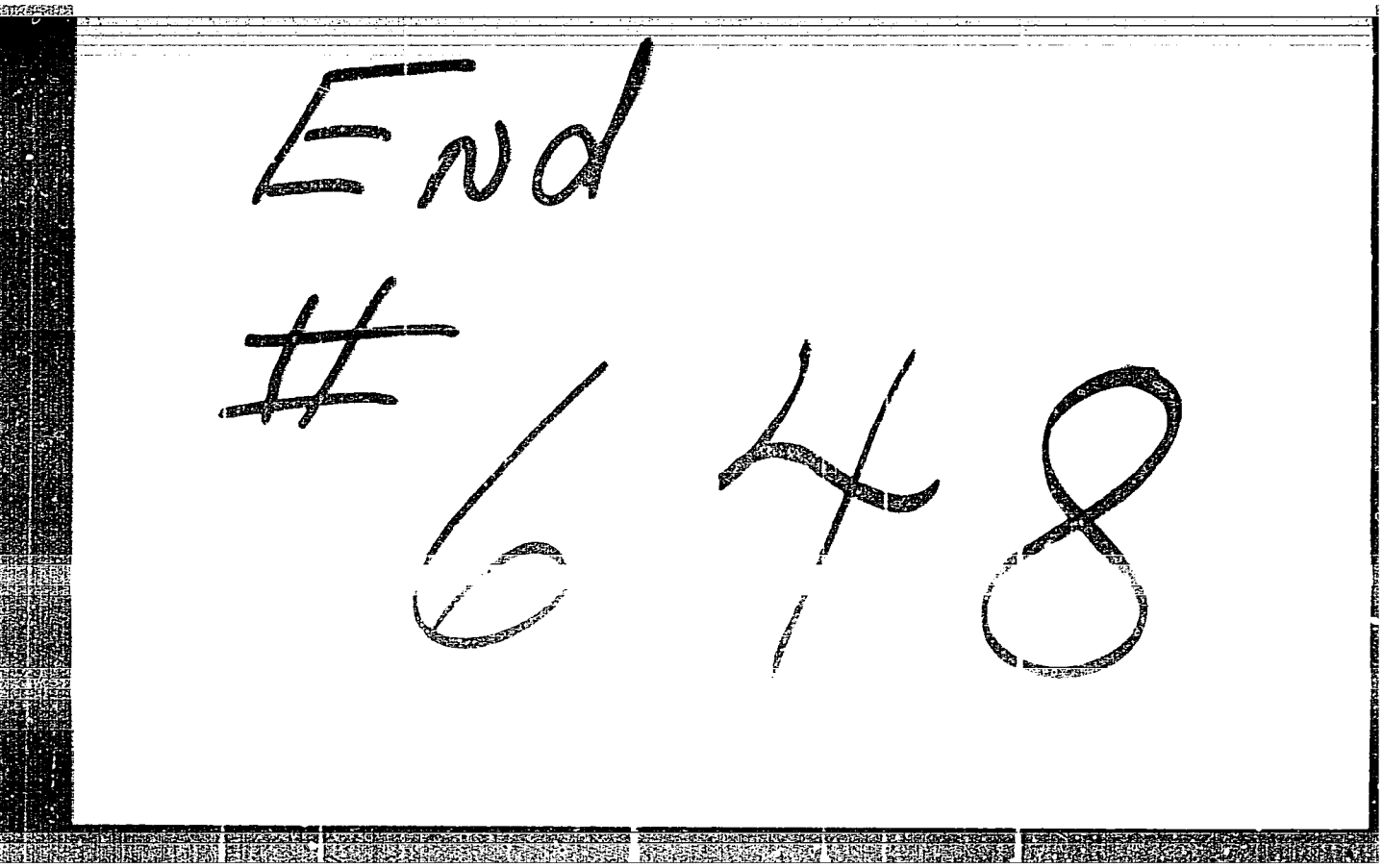
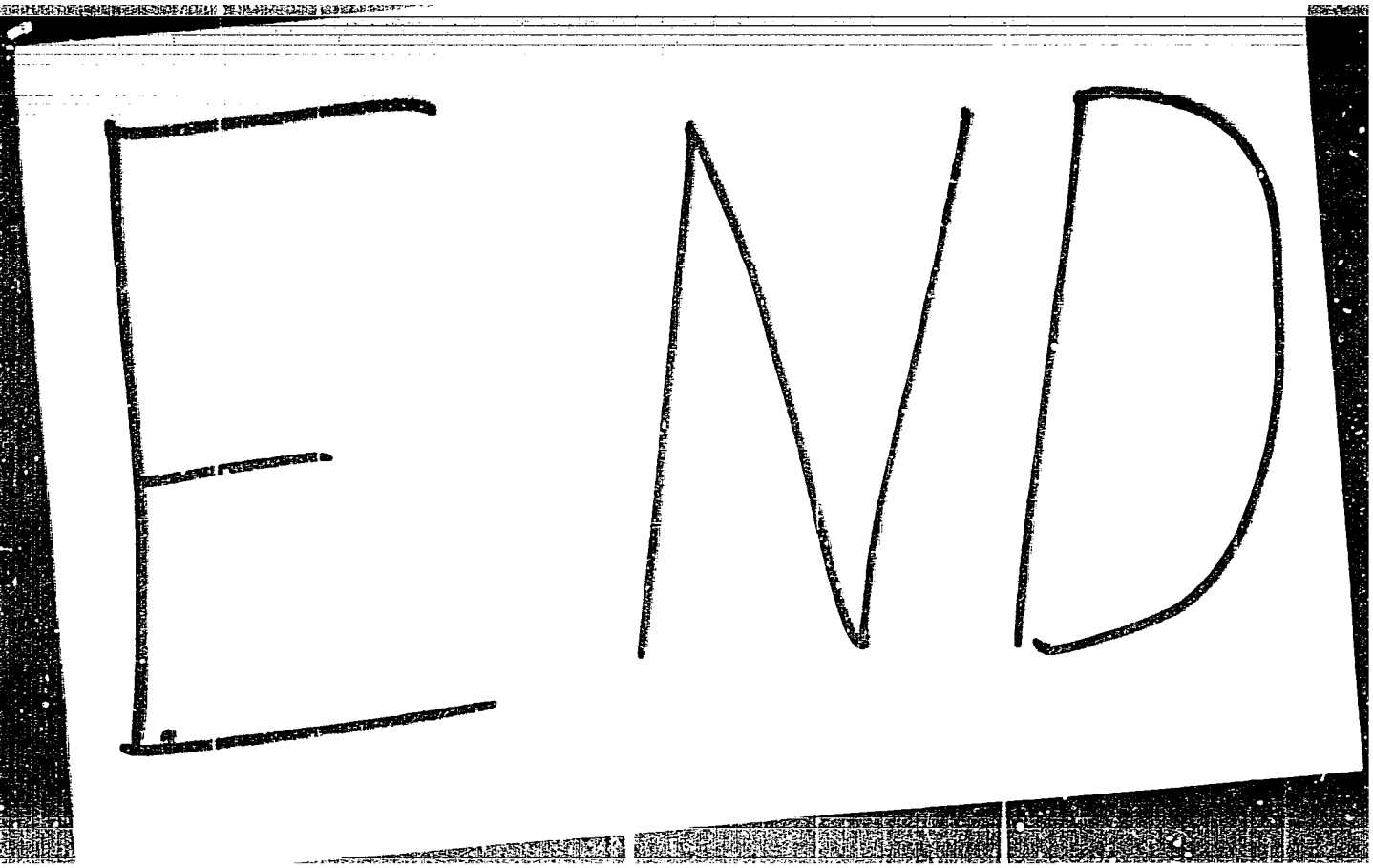
VERETENNIKOV, A.I.

VERETENNIKOV, A.I.; ANISIMOV, S.M.

Improve land records. Zemledelie 6 no.1:83-84 Ja '58. (MIRA 11:1)
(Omsk Province--Farm management)





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