MATVEYEV, N.M. [Matveiev, M.M.]; TIMOFEYEV, P.A. [Tymofeiev, P.O.]

Mutual effect of the seeds and seedlings of scotch pine and some herbaceous plants. Ukr. bot. zhur. 21 no.6:42-45 '64. (MIRA 18:12)

1. Kafedra geobotaniki Dnepropetrovskogo gosudarstvennogo universiteta.

MATVEYEV, Vitaliy Nikolayevich; MATVEYEV, Nikolay Mikhaylovich; SHASHINA, V.N., red.; RYK, T.N., red.

[Problems in mathematics] Sbornik zadach po matematike. Kazan', Izd-vo Kazanskogo univ., 1965. 145 p. (MIRA 18:7)

MATVEYEV, N.M. [Matvieiev, M.M.]; TIMOFEYEV, P.A. [Timofieiev, P.O.]

Effect of water-soluble exudations of some forest and forest-weed species on one-year-old oak seedlings. Ukr. bot. zhur. 22 no.4:28-32 '65. (MIRA 18:10)

1. Dnepropetrovskiy gosudarstvennyy universitet, kafedra geobotaniki.

MATVEYEV, N. N.
USSR Chemistry - Acetylene

FD-2528

Card 1/1 Pub. 50 - 7/14

Authors : Shashkov, A. N., Strizhevskiy, I. I., Ol'kovskiy, V. F., Matveyev, N. N.

Title : Improvement of efficiency and increased automatization in the operation of acetylene-filling equipment

Periodical : Khim. prom. No 4, 222-227, Jun 1955

Abstract : Describe the design and operation of small units installed at consumer plants and used for the production from calcium carbide of dissolved acetylene filled into cylinders. Various improvements in the design and operation of the generator and compressor are described. Power to the carbide feed is furnished by an engine of the membrane type activated by water or gas (e. g. compressed air). By this means the danger of explosions is reduced. Four figures, 2 graphs, 5 tables.

Institution : All-Union Scientific Research Institute of the Autogenous Working of Metals (VNIIAVTOGEN)

MITYETEV, N.N.

ANTOKHOV, I.A., kand.tekhn.nauk; ANTOSHIN, Ye.V., insh.; ASINOVSKAYA, G.A., insh.; VASIL'YEV, K.V., kand.tekhn.nauk; GUZOV, S.G., insh.; DEYKUN, I.K., insh.; ZAYTSEVA, V.P., inzh.; KAZENKOV, P.P., inzh.; KARAN, Yu.B., insh.; KOLTUNOV, P.S., kand.tekhn.nauk; KOROVIN, A.I., insh.; KRZHECHKOVSKIY, A.K., insh.; KUKHTSOVA, Ye.I., insh.; MATVEYEV, N.N., tekhnik; MOROZOV, M.Ye., insh.; NEKRASOV, Yu.I., insh.; NECHAYEV, V.D., kand.tekhn.nauk; NIMBURG, A.K., kand.tekhn.nauk; SPEKTOR, O.Sh., insh.; STRIZHEVSKIY, I.I., kand.khim.nauk; TESMENITSKIY, D.I., insh.; KHROMOVA, TS.S., insh.; TSEUKEL', A.K., Insh.; SHASHKOV, A.E., kand. tekhn.nauk, dots.; SHELECHNIK, M.M., insh.; SHUKHMAN, D.Ya., insh.; EDEL'SON, A.M., insh.; VOLODIN, V.A., red.; UFAROVA, A.F., tekhn.red.

[Machines and apparatuses designed by the All-Union Institute of Autogenous Working of Metals] Mashiny i apparty konstruktsii VNIIAvtogen. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1957. 173 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut avtogennoi obrabotki metallov, no.9)
(Gas welding and cutting--Equipment and supplies)

MARTYNOV, N.N (Rostov-na-Donu)

New stamp for testing soils with high and low moisture content in bore holes using static loads. Gen. fund. i mekh. grun. 2 no.6:23-24 '60. (MIRA 13:12)

(Soilmoisture) (Testing machines)

MATVEYEV, N.P.

Hail and its prevention. Geog. v shkole 26 no.1:63-66 Ja-F '63. (MIRA 16:5)
(Hail)

MATVEYEV, Nikolay Mikhaylovich; TSAR'KOVA, Z.I., red.

[Variants of test papers and test cards for oral examinations in mathematics] Varianty pis'mennykh rabot i bilety dlia ustnykh ekzamenov po matematike. Leningrad, Izd-vo Leningr. univ., 196[illegible]. 55 p. (MIRA 18:9)

MATVEYEV, N. P.

"The Physicogeographical Characteristics of the Middle Latitudinal Zone of Moscow Oblast." Cand Geog Sci, L'vov State U imeni Ivan Franko, Min Higher Education USSR, L'vov, 1954. (KL, No 4, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

MATVEYEV, N. P.

Some geographical works of V.F.Znev. Biul.MOIP. Otd.geol. 29 no.5: 68-69 S-O '54. (MLRA 8:1)
(Znev, Vasilii Fedorovich, 1754-1794)

Matveyev, N.P.

SUBJECT: USSR/Geology

5-2-17/35

AUTHOR: None

TITLE: On the Activities of the Geographic Section of the Moskva Society of Investigators of Nature (O deyatel'nosti geograficheskoy sektsii Moskovskogo obshchestva ispytateley prirody)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 2, pp 149-151 (USSR)

ABSTRACT: During the period from December 1956 to January 1957, the following reports were delivered to the Geographical Section of the Society:

"On the Problem of Investigation the Energy of Relief" - by N.P. Matveyev;
"Landslides and Erosion Process" - by S.S. Buts'k› and V.A. Fedorovskiy;
"Seismic Tectonics and Neotectonics of China" by G.P. Gorshkov, and "New Data on Modern Volcanism in Eastern Tuva" - by M.G. Gresval'd.

ASSOCIATION: Moskva Society of Investigators of Nature.

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 1/1

Matveyev, N.P.

SUBJECT: USSR/Geology

5-2-34/35

AUTHOR: Matveyev N.P.

TITLE: On the Problem of Investigating the Energy of Relief (K voprosu ob issledovanii energii rel'yefa)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 2, pp 166-167 (USSR)

ABSTRACT: The forming of a relief proceeds at the expense of various types of energy among which an important role is played by the energy of pluvial precipitations.

The maximum destruction of soil must be observed on horizontal areas. However, the relief-forming significance of rain drops for horizontal areas is rather slight, as the movement of the soil particles in one direction is excluded. Slopes whose steepness is near 45° will be eroded to a larger degree than slopes of any other steepness, because the momentum of rain droplets will attain its maximum value at this angle, according to author's formulae.

Card 1/2 No references are cited.

5-2-34/35

TITLE: On the Problem of Investigating the Energy of Relief (K voprosu ob issledovanii energii rel'yefa)

ASSOCIATION: Moskva Society of Investigators of Nature

PRESENTED BY:

SUBMITTED: On 11 December 1956

AVAILABLE: At the Library of Congress.

Card 2/2

AUTHOR: Matveyev, N.P.

SOV/5-58-4-42/43

TITLE: The Nature of Talus and Placers in the Massif of the Denezhkin Kamen' of the North Ural (Priroda osypey i rossypey massiva Denezhkin Kamen' Severnogo Urala)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody. Otdel geologicheskiy, 1958, Nr 4, pp 166-167 (USSR)

ABSTRACT: This is a summary of a report given by the author at a conference of the Moscow Society of Naturalists on 12 May 1958. The author distinguishes two types of placer and talus in the Denezhkin Kamen': 1) recent placers at the foot of residual mountains consisting of large angular clastic rocks, and 2) older placers represented by more fine and rolled clastic rocks.

1. Rock--Geology

Card 1/1

MATVEYEV, N.P.

Cirque-like gullies in Moscow Province. Biul.MOIP.Otd. geol. 35 no.1:130-131 Ja-F '60. (MIRA 13:7)
(Moscow Province—Physical geography)

MATVEYEV, N.P.

Slope processes in the zone of the bald mountains in the Northern Urals as revealed by the Denezhkin Kamen' massif. Biul.MOIP.Otd.geol. 36 no.6:128 N-D '61. (MIRA 15:7)
(Ural Mountains--Slopes (Physical geography))

MATVEYEV, Nikolay Petrovich; SERAYEV, Nikolay Aleksandrovich; VASIL'YEVA, O.S., red.; OVCHINNIKOVA, V.I., red. kart; KREYS, I.G., tekhn. red.

[Field practice in hydrology; a textbook for students enrolled in the natural science and geography faculties of pedagogic institutes] Polevaia praktika po gidrologii; posobie dlia studentov estestvenno-geograficheskikh fakul'tetov pedagogicheskikh institutov. Moskva, Uchpedgiz, 1963. 111 p. (MIRA 17:2)

MATVEYEV, N.P.

Method for plotting maps of rain precipitation energy and their use in geomorphological analysis. Uch. zap. MOPI 124: 131-157 '63. (MIRA 18:6)

MATVEYEV, N.P.

Dynamics and age of taluses and rock screams of the bare summit zone in the Northern Urals as exemplified by the Denezhkin Kamen' Massif. Probl. Sev. no.7:211-216 '63. (MIRA 17:2)

MATVEYEV, N.P.

Nature of the placers, rock streams, and hillside wastes of the Denezhkin Kamen' Massif in the Northern Urals. Uch. zap. MOPI 124:47-92 '63. (MIRA 18:6)

MATVEYEV, N. P.

Conference on the physical geography of [illegible]. Izv Vses geog ob-va 96 no. 1:86-88 [illegible] (MIRA 17:5)

MATVEYEV, N. S.

PHASE I BOOK EXPLOITATION SOV/410

[illegible]skaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959.

Tr[illegible] (Transactions of the Tashkent Conference on the [illegible] of Atomic Energy) v. 2. Tashkent, [illegible] [illegible] p. Errata slip inserted. 1,500 copies printed.

[illegible] Agency: Akademiya nauk Uzbekskoy SSR.

[illegible] Ed.: S. V. Starod[illegible], Academician, Academy of [illegible] Uzbek SSR. Editorial Board: [illegible] A. Abdullayev, Candidate of Physics and Mathematics; [illegible] Asdurakhmanov, Doctor [illegible] Medical Sciences; U. A. [illegible], Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological [illegible]; V. N. Ivashev; G. S. [illegible]ova; A. [illegible] Kir[illegible], Candidate of Physics and Mathematics, A. I. [illegible]v, [illegible] of Medical Sciences, D. Mithanov, Candidate of [illegible] Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences [illegible] SSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. [illegible]

Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

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instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION IN ENGINEERING AND GEOLOGY

Card 12/20

MATVEYEV, N.S., inzh.; DVORNIKOV, A.F., inzh.

Experience in feedwater phosphatization in the Voronezh Thermal Electric Power Plant No.2. Prom. energ. 19 no.1:28 Ja '64. (MIRA 17:2)

MAYZEL', S. D. MATVEYEV, N. V.

Eye--Diseases and Defects

Congenital ptosis masked by spasm of the orbicularis oculi. Vest. oft., 3[illegible], No. 6, 1951

9. Monthly List of Russian Accessions, Library of Congress, March 1952 Uncl.

MATVEYEV, O.A.

USSR/Physics - Electrical properties of CdTe

Card 1/1 Pub. 153 - 13/26

Author : Boltaks, B. I.; Konorov, P. P.; Matveyev, O. A.

Title : Electrical properties of cadmium telluride

Periodical: Zhur. tekh. fiz., 25, No 13 (November), 1955, 2329-2335

Abstract : The authors briefly expound experimental data obtained by them in a study of the electrical properties of cadmium telluride, this data relating mainly to the problem of the temperature dependence of electrical conductivity and thermo-emf coefficient of cadmium telluride specimens in composition to stoichiometry and also of cadmium telluride specimens with small additions of copper, gold, cadmium, selenium, and tellurium. Part of the presented data here was already obtained by the authors as early as 1950. They thank V. P. Zhuze, head of the laboratory, and V. P. Savinov, who helped prepare the specimens. Seven references: e.g. B. T. Kolmiyets, DAN SSSR; V. Ye. Lashkarev, G. A. Fedorus, Izv. AN SSSR, 16, 1. 81, 1952; V. D. Kuznetsov, Kristally i kristallizatsiya, GITTL, Moscow, 1954.

Institution:

Submitted: June 14, 1955

MATVEYEV, O. A.

AUTHORS: Ryvkin, S. M., Bogomazov, A. P., Konovalenko, B. M., Matveyev, O. A. 57-27-7-30/40

TITLE: A Semiconductor Transmitter for Gamma-Ray Indication (Poluprovodnikovyy datchik dlya indikatsii gamma-izlucheniya).

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7, pp. 1601-1602 (USSR)

ABSTRACT: As there exists a great want of cheap and simple devices, particularly of gamma-ray indicators, and as promising results were obtained in this respect with semiconductor-materials, such as CdS and CdSe, whose conductivity substantially changes upon irradiation, the investigations were here performed in this direction. In Zhurnal Tekhnicheskoy Fiziki, 1954, Vol. 24, p. 961 the authors showed that semicrystalline layers may form upon sublimation of CdS powder. The high temperature of the base, however, leads to the diffusion of the base-substance into the CdS-layer by which fact its properties with regard to sensitivity in the case of irradiation are greatly deteriorated. This difficulty was now overcome at the expense of a great increase in the spe of sublimation.

Card 1/2

A Semiconductor Transmitter for Gamma-Ray Indication 57-27-7-30/40

It was possible to obtain, on the conductive base, layers with a comparatively high sensitivity toward gamma-rays with an inertia not exceeding that of CdS-crystals. The preliminary tests showed that τ_1 (time of current-rise up to 80 % of the stationary value) can be much reduced by means of previous weak illumination of the sample. The obtained data show that the transmitters worked out here can in a number of cases be used in the simplest schemes as indicators of gamma-rays.
There are 1 table and 9 references, 5 of which are Soviet.

ASSOCIATION: Physico-Technical Institute AS USSR, Leningrad
(Fiziko-tekhnicheskiy institut AN SSSR, Leningrad)

SUBMITTED: March 3, 1957

AVAILABLE: Library of Congress

1. Gamma rays-Detection 2. Semiconductors-Applications 3. Cadmium selenide-Applications 4. Cadmium sulfide-Applications

Card 2/2

S/058/62/000/004/158/160
A061/A101

AUTHORS: Ryvkin, S. M., Bogomazov, L. P., Konovalenko, B. M., Matveyev, O. A

TITLE: Semiconductor gamma detectors

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 15, abstract 4-4-291 (V sb. "Fotoelektr. i optich. yavleniya v poluprovodnikakh", Kiyev, AN USSR, 1959, 386 - 388)

TEXT: The prospects of CdS crystals used as gamma detectors are considered. The low sensitivity and the considerable lag of such pickups are noted. There are 6 references.

P. L.

[Abstracter's note: Complete translation]

Card 1/1

AUTHOR: Matveyev, O.A.

SOV/80-32-2-40/56

TITLE: Simple Thermoregulator for Stabilization and Program Change of Temperature (Prostoy termoregulyator dlya stabilizatsii i programmnogo izmeneniya temperatury)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 442-443 (USSR)

ABSTRACT: A high sensitivity thermoregulator (Figure 1) has been developed on the base of the d-c potentiometer PP. It is equipped with a germanium diode fed from a 1.5-v battery of Zs-L-30 type. The light source is a 10-v lamp. The light of the lamp falls on the sensitive surface of the photoelement (Figure 2).
There are 2 diagrams.

SUBMITTED: June 25, 1958

Card 1/1

84083

S/181/60/002/009/024/036
B004/B056

9.4160 (1165, 1137, 1331)

AUTHORS: Ryvkin, S. M., Konopleva, R. F., Maslova, L. V., Matveyev, O. A., Strokan, N. B., Tarkhin, D. V., Khozov, G. V.

TITLE: Low-inertia Germanium Photodiodes[25]

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2199 - 2201

TEXT: Germanium photodiodes were developed in 1954 at the authors' institute; they are now being produced in industry, and have a time constant of about 10^{-5} sec. Now, the low-inertia photodiodes ФД-М1 (FD-M1)[25] and ФД-М2 (FD-M2) were developed, which have a time constant of only $(1-3)\cdot10^{-8}$ sec. Inertia was measured by means of an apparatus schematically shown in Fig. 1. A Kerr cell fed by a ГСС-6 (GSS-6) alternating-current generator modulated light sinusoidally with a frequency, f, of 1Mc/sec. The light, which was amplified by an ФЭУ (FEU)[25] photomultiplier, was recorded by an СИ-1 (SI-1) oscilloscope. Owing to the phase shift φ,

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Low-inertia Germanium Photodiodes

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B004/B056

the oscilloscope showed an ellipse. By means of an RC phase transformer, the ellipse was changed into a straight line. From the equation $\tan \varphi = 2\pi f\theta$ the time constant θ was calculated. Fig. 2a shows the function $\theta = f(R_1)$ (R_1 = load resistance). In Fig. 2b the new diodes are compared with an ФД-1 (FD-1) diode of the old type. The oscillogram shows that the new diodes precisely reproduce a Л-shaped light pulse. The authors thank I. A. Lebedeva, P. I. Gorshkov, collaborators of the laboratory, and F. M. Berkovskiy, student at LGU (Leningrad State University) for their assistance. There are 3 figures and 4 references: 3 Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR (Leningrad Institute of Physics and Technology of the AS USSR)

SUBMITTED: November 6, 1959

Card 2/2

22401

9.6150 (incl. 2705)
24.6810

S/120/61/000/002/012/042
E210/E594

AUTHORS: Vitovskiy, N. A., Maleyev, P. I., Matveyev, O.A., Ryvkin, S.M. and Tarkhin, D. V.

TITLE: Silicon N-P Counters of Heavy Charged Particles Operating Without an External Power Supply

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.2, pp.82-83

TEXT: Fused silicon diodes having an n-p junction area of about 1 mm^2 have been studied in order to determine their counting properties when operated as short-circuited rectifiers. The saturation current in the counters studied was not over 0.1 μA; the leakage resistance was several megohms. Under such conditions, short-circuit current rectification can be realized by using a 250 kilohm load. In counters irradiated with α-particles under the above conditions and tested at room temperature, pulse amplitudes reached 2-3 mV with practically no noise. This performance equals that of counters operating as photodiodes, but the noise in the latter case increases rapidly with increasing cut-off voltage. In both cases (operating as rectifiers or photodiodes) pulse rise time varies from 1 to 5 μsec. The decay time is determined by the R-C of the circuit. This is shown in the oscillograms, Fig.1. In

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Silicon N-P Counters of ... S/120/61/000/002/012/042
E210/E594

Fig.1a the duration of the markers is 1 μsec. Fig.1б - leading edge of the pulse; marker duration 0.2 μsec. Trigger delay 0.5 μsec. With decreasing temperature the pulse amplitude and duration remain unchanged. Silicon n-p counters are regarded as highly promising since even at room temperature they can operate as photovoltaic cells without an external power supply.
Comments made during the proof-reading: The here described counters show considerable variance in the amplitudes of the pulses during the counting of monochromatic particles, i.e. they are not suitable for spectrometry. At present, the laboratory of the authors manufactures surface-barrier silicon counters which are suitable for spectrometry (amplitude resolution less than 1% for α-particles with energies of 5.5 MeV). The considerations presented in the paper are in principle applicable also for such spectrometric n-p counters. There are 1 figure and 3 Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-technical Institute AS USSR)

SUBMITTED: February 20, 1960

Card 2/3

Silicon N-P Counters of ...

22401
S/120/61/000/002/012/042
E210/E594

Fig.1

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28088
S/181/61/003/009/022/039
B104/B102

24.7000

AUTHORS: Maslova, L. V., Matveyev, O. A., and Afanas'yev, V. F.

TITLE: Electropolishing of n-type silicon

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2699 - 2702

TEXT: n-type and p-type silicon single crystals have been etched and polished electrolytically. Preliminary tests showed that electrolytic etching is reproducible, and is also more favorable with respect to the effective durability than chemical etching. Electrolytic etching increased the effective durabi ity of samples having a resistivity of 5 - 50 ohm.cm by 30 - 50%. The results of D. R. Turner (Ref.1: J. Electrochem. Soc., no. 7, 402, 1958) have been verified by using low-resistance p-type silicon. For data concerning p-type silicon c. f. Ref.1. The electropolishing process was applied to n-type silicon samples having a resistivity of 150 ohm.cm. The contacts were obtained by depositing nickel electrolytically, or by melting on tin with an antimony impurity. Hydrofluoric acid dissolved in water and containing admixtures of glycerin and acetic acid was used for

Electropolishing of n-type...

electropolishing n-type silicon. The best results for n-type silicon were obtained with electrolytes containing 0.9-2% of hydrofluoric acid. Solutions with higher concentrations required higher current densities, whereby the samples were heated too much; at concentrations lower than 0.9%, the polishing rate was too low. It was found that the optimum current strength increased linearly with the hydrofluoric acid concentration in water. The best results were obtained with a 7 - 8 ma/mm^2 current density and with an electrolyte having 1.8 % of hydrofluoric acid; the polished surface of the samples measured 4 mm^2. The same curent density caused a considerable heating of samples with 25 mm^2 surfaces. Using a 0.9 % hydrofluoric acid concentration and a current density of 2.5 -3 ma/mm^2 made it possible to polish the larger surfaces without cooling. The time of polishing was increased from 3 - 5 minutes to 10 - 15 minutes. In order to keep the necessary concentration gradient at the surface of the sample, it was very important that the viscosity of the electrolyte was kept constant. For this purpose, glycerin was added to the electrolyte. The resistance

was decreased by adding acetic acid. Grinding of the sample before etching had a considerable effect on the electropolishing process. The surfaces of the silicon samples polished electrolytically were examined under an МИМ-7 (MIM-7) microscope. It was found that 2 minutes of polishing at a current density of 7 - 8 ma/mm^2 in an electrolyte with a 1.8% hydrofluoric acid concentration will furnish the same surface structure as 20 minutes of polishing at 2.5 - 3 ma/mm^2 and a 0.9% concentration. After 10 minutes of polishing at a current density of 7 - 8 ma/mm^2 (1.8%), the surface structure in the center of the sample was the same as on the edge; a longer polishing resulted in a very uniform and fine-grained structure of the sample surface. The grain size of the polished surface decreases with increasing time of polishing and increasing current density. At 7 ma/mm^2, a surface is obtained, which appears rippled but has no film; at 8 ma/mm^2, the surface is ideally smooth but has a film showing interference properties. Momentary etching at 2 - 3 ma/mm^2 or reversing the polarity will remove this film easily. There are 4 figures and 2 non-Soviet references. They read as

Electropolishing of n-type...

follows: D. R. Turner, J. Electrochem. Soc., No. 7, 402, 1958; A. Uhlir. Bell Syst. Techn. 35, 333, 1956.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR Leningrad (Institute of Physics and Technology imeni A. F. Ioffe, AS USSR, Leningrad)

SUBMITTED: April 21, 1961

Card 4/4

27401
S/089/61/011/003/002/013
B102/B138

21.6000

AUTHORS: Ryvkin, S. M., Maslova, L. V., Matveyev, O. A., Strokan, N. B., Tarkhin, D. V.

TITLE: Silicon counters in nuclear spectrometry

PERIODICAL: Atomnaya energiya, v. 11, no. 3, 1961, 217 - 220

TEXT: Silicon counters were developed at the Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN USSR (Physicotechnical Institute imeni A. F. Ioffe AS USSR) in 1960. The counters were small (active area: 2·2, 5·5, and 10·10 mm^2 Their pulse height was ~ 1 mv/Mev, and resolution less than 1% for E_α = 5.5 Mev. They were produced by sputtering gold to n-type silicon and diffusing phosphorus into the p-type silicon. The following characteristics were investigated: (1) Volt-ampere characteristics. They were the usual shape for p-n junctions. Reverse current was 0.5 - 0.05 μa (at 40 v) for the small-sized counters, and increased proportionally with area; breakdown voltage was between 50 and 60 v. (2) Capacitance-barrier voltage dependence. The capacitance of the sensitive layer (the volume-charge domain) was in accordance with the usual capacitor formula $d = \varepsilon_0 S/4\pi C$

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(S - area, ε_0 - dielectric constant); since the thickness d of the sensitive layer is proportional to $\sqrt{V+V_0}$, the capacitance decreases as $(V+V_0)^{-1/2}$ with increasing voltage. (3) Pulse height-voltage dependence. Pulse height was determined by Q = eN (N - number of pairs formed in ionization); the mean pair formation energy, ε, was measured for Pu^{238} alpha particles ($Q = 2.5 \cdot 10^{-13}$ k): $\varepsilon = 3.53 \pm 0.15$ ev; this value agrees with that found in Ref. 4 (see below). (4) Pulse height-energy dependence. Pulse height Φ as a function of voltage V was measured for the alpha energy groups 8.78 and 6.05 Mev. For the short-range group, pulse height reached saturation at $\sim$ 15 v, for the long-range group at $\sim$ 35 v. $\Phi(E_\alpha)$ was found to be a straight line. It is predicted that at V = 60 v linearity will also be maintained for alpha particles of up to 10 Mev or for any other particles with ranges of up to 60μ. (5) Amplitude resolution. This was determined on a 100-channel analyzer using Pu^{238} alpha emission. After correction for noise background, resolution was found to be 27 kev or 0.5% for the small counter, 1% for the medium, and 10% for the large one. The spread is attributed to inhomogeneities of the silicon. In the OIYaI at

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B102/B138

Silicon counter in nuclear ...

Dubna the 10·10-mm^2 counter has been used for U^{233}-fission-fragment recording with high alpha background; G. N. Flerov, Corresponding Member of the AS USSR, has submitted a spectrum recorded with this counter to the authors of the present article. These junction counters may be used not only for recording of α-particles and fission fragments but also for fast and slow neutrons. The authors thank G. V. Khozov, Engineer, T. A. Lebedeva and G. D. Gusarina, laboratory assistents, and P. I. Gorshkov, mechanic, for assistance. There are 7 figures and 4 non-Soviet references. They read as follows: Ref. 1: J. Blankenship, C Borkowski, Bull. Amer. Phys. Soc., ser. II, 5, No. 1, 38 (1960). Ref. 2: S. Friedland, L. Mauer, J. Wiggins. Nucleonics, 18, No. 2, 54 (1960). Ref. 3: J. Mc Kenzie, J. Waugh. Bull. Amer. Phys. Soc., ser. II, 5, No. 5, 355 (1960). Ref. 4: M. Halbert, J. Blankenship. Nucl. Instrum. and Methods, 8, No. 1, 106 (1960).

SUBMITTED: March 18, 1961

Card 3/3

42556

S/089/62/013/005/008/012
B102/B104

24.7000
24.6830

AUTHORS: Blinov, V. A., Karamyan, S. A., Matveyev, O. A., Nemilov, Yu.A., Selitskiy, Yu. A.

TITLE: On some peculiarities of measuring the energy spectra of α-particles and fission products with semiconductor detectors

PERIODICAL: Atomnaya energiya, v. 13, no. 5, 1962, 476-478

TEXT: Semiconductor detectors of charged particles have various known advantages. Chatham-Strode et al., however, have found that these detectors cause a low-energy tail in the pulse-height spectrum of monochromatic α-particles (IRE Trans. Nucl. Sci., 8, 59, 1961). In the tail region the integral count amounts to about 1% only. This effect being attributed to the presence of certain traps in the pn junction which reduce the pulse heights, the reduction was now studied for α-particles and fission fragments. All measurements were made with semiconductor surface-barrier detectors designed in the Leningradskiy fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Leningrad Physicotechnical Institute imeni A. F. Ioffe AS USSR) of 5·5 mm size and having a resistivity of 150 ohm·cm. The voltage

Card 1/2

On some peculiarities of measuring ...

applied to the detector was 20v. In various experiments with Am^{241}, U^{233} and U^{235} the causes of the low-energy tails in the energy spectra of α-particles and fission fragments were investigated. It was found that the recording zone of the pn junction does not contain any regions that reduce the pulse heights. Only boundary effects could explain this reduction quantitatively. In special experiments the kinetic energy of fragments from thermal fission of U^{235} was determined as a function of the fragment mass ratio. The drop in total kinetic energy of the fragments observed with symmetric fission was in agreement with other papers (e. g. J. Milton, J. Fraser, Phys. Rev. 7, No. 2, 27, 1961). The data obtained from the semiconductor counters were corrected for the low-energy tail. An integral neutron flux of $\sim 5 \cdot 10^{11}$ cm^{-2} was found to raise the detector resistivity from 150 ohm·cm to 1000 ohm·cm. There are 3 figures.

SUBMITTED: April 5, 1962

Card 2/2

33238
S/089/62/012/002/010/013
B102/B138

Investigation of semiconductor ..

Phys. Rev. 108, 94, 1957; H. Smitt et al. Bull. Amer. Phys. Soc. Ser. II, 6, No. 3, 240, 1961; W. Joyner et al. IRE Trans. Nucl. Sci. 6, No. 1, 54 1961; J. Wahl Phys. Rev. 95, 126, 1954.

SUBMITTED: July 28, 1961

Card 3/3

83238

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B102/B...

Investigation of semiconductor ...

layer was 1.2 cm, and the total ... The ... counter was placed ... 5 cm below the target to avoid being hit by ... collimated into the chamber. The counter pulses were fed to ... amplifier and thence to a 100-channel analyzer. The fragment energy spectra thus measured differed considerably from ... obtained from time-of-flight ... This was found to be due to energy losses in the counter surface, which were strongly dependent on the angle of incidence of the fragments. As the fragments lose most of their energy in the first part of their path this effect was much higher for them than for alphas.

Special counters of 35 mm^2 area were produced with a thinner layer of gold and the energy spectrum was ...red again and compared as before. This time the shape was the same, with a difference of about ... absolute values. This ... attribut... partly to energy losses in the ... layer, and partly to the energy being carried away by fission neutrons. In the Au layer losses do not exceed 1 Mev. Apart from other advantages the silicon counter yield better results than e. g. ionization chambers. There are 2 figures and 5 references: 1 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: ...

Card 2/3

33235

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S/089/62/012/002/.../...
B102/B138

AUTHORS: Rozarinov, N. M., Matveyev, O. A., ... S. M., ... S. M., Strokan, N. B., Tarkhin, D. V.

TITLE: Investigation of semiconductor spectrometer counters for measuring fragment energies

PERIODICAL: Atomnaya energiya, v. 12, no. 2, 1962, 151 - ...

TEXT: U^{235} fission fragment energy was measured by semiconductor counters developed at the fiziko-tekhnicheskiy institut im. A. F. Ioffe (Physicotechnical Institute imeni A. F. Ioffe). The surface barrier junction of these counters was produced by spraying gold onto an n-type silicon plate. These counters, which were studied earlier by the authors (Atomnaya energiya, 11, no. 3, 217, 1961), were found to be well suited for alpha spectrometry (resolution 0.3% for E_{α} = 5.5 Mev). The volume charge region was about 60 μ for maximum voltage, much greater than the fragment range in silicon. Fragment energy was measured with a ... target, placed in a thin-walled aluminum vacuum chamber. The target had a vacuum-sprayed layer of ..., enriched in U^{235} to 92.8%. Diameter of the

Card 1/3

MASLOV, ...; MATVEYEV, ...; STROKAN, N. B.; ... TARKHIN, D. V.; ...

Possibility ... semiconductor counters in nuclear research.

Izv. AN SSSR. Ser. fiz. ... no.12 (MIRA ...)

(Nuclear counters—Design ...)

ACCESSION NR: AP4041057 S/0120/64/000/003/0217/0218

AUTHOR: Matveyev, O. A.; Tarkhin, D. V.

TITLE: Etching p-n junctions by strong chemical etchants

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1964, 217-218

TOPIC TAGS: semiconductor, semiconductor material, p-n junction, etched crystal

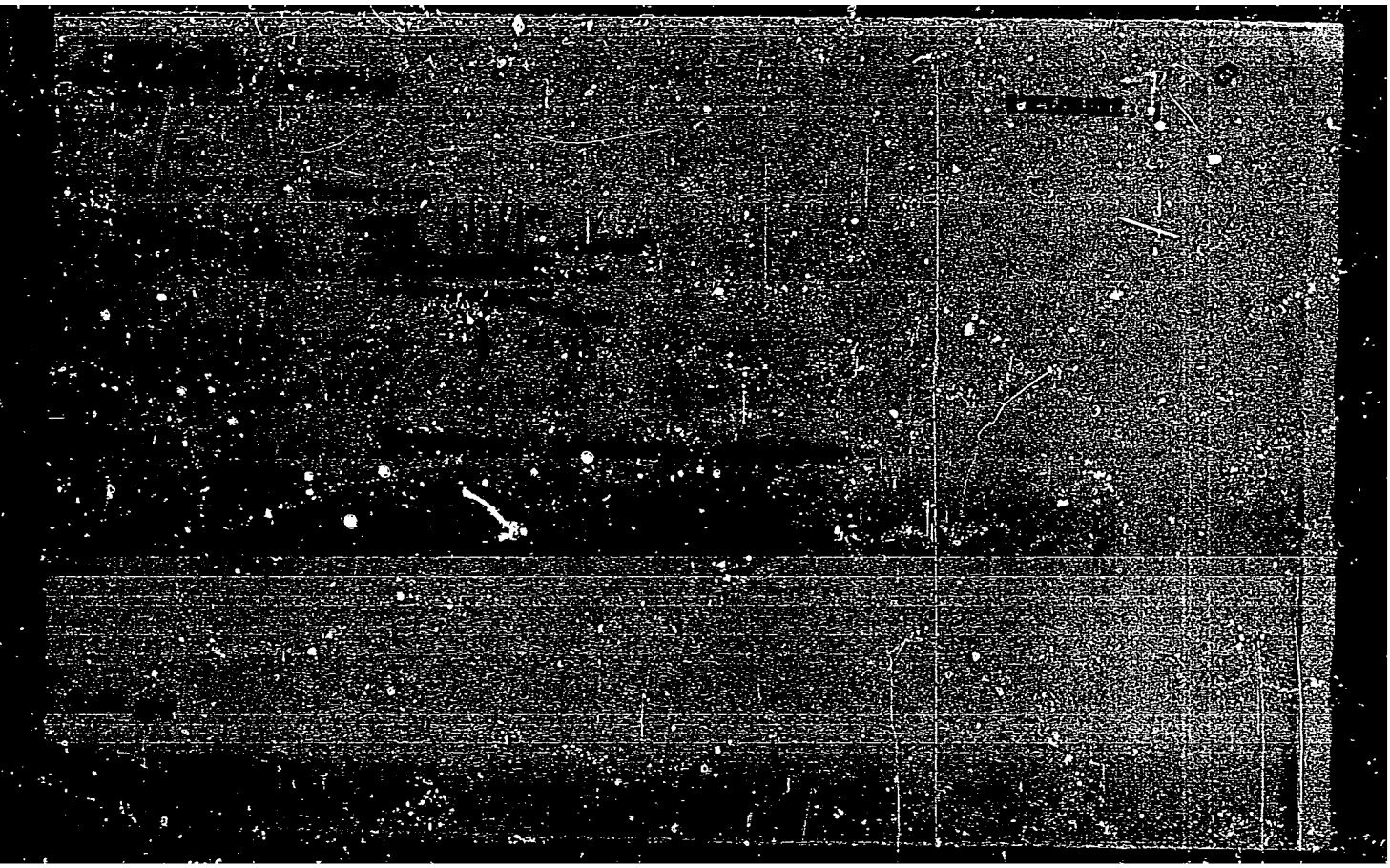
ABSTRACT: Pincers with fluoroplastic jaws are suggested for holding a semiconductor billet in an etchant. After 2--3 minutes, water is poured into the etchant, and the washed billet is taken out. Ge-base (2 ohm-cm) specimens with a diffusion 1 - 2 cm^{-1} p-n junction had a breakdown voltage of 200 v and a reverse resistance of 10 Mohms. Si-based (300 ohm-cm) up to 1 cm^{-1} specimens had a breakdown voltage of 600 v and a few tens Mohms resistance. Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-Technical Institute, AN SSSR)

SUBMITTED: 06Jul63 ENCL: 00

SUB CODE: EC NO REF SOV: 000 OTHER: 000

Card 1/1



ACCESSION NR: AP4029700 S/0089/64/016/004/0356/0359

AUTHOR: Matveyev, O. A.; Ryvkin, S. M.

TITLE: Silicon spectrometric detectors with a wide sensitivity range

SOURCE: Atomnaya energiya, v. 16, no. 4, 1964, 356-359

TOPIC TAGS: spectrometric counter, monocrystal silicon, hole type conductivity, lithium diffusion, lithium ion, long range particle, signal to noise ratio, electron hole pair, beta spectrum, gamma spectrum, spectrometry

ABSTRACT: The design and production technology of the experimental n-i-p' counters with a 2-mm wide sensitive layer, developed by the Physicotechnical Institute of the SSSR Academy of Sciences, are described in this article. These counters can measure the energy of beta-particles, gamma quanta, and heavy particles (such as high-energy protons, deuterons, and alpha particles) with a high degree of accuracy. The detector is composed of a monocrystalline silicon plate consisting of three layers with dissimilar conductivity: the n-

Card 1/2

ACCESSION NR: AP4029[illegible]

and p-layers have a low specific resistance; the i-layer is a region of intrinsic conductivity. The best spectrometric performance is achievable at 50 to 100 volts and about 190 to 210K. These detectors were used to determine the beta and gamma spectra of Cs^{137}. The optimum signal-to-noise ratio is obtained at about 200K; the amplifier's inherent noise amounts to about 6 Kev. Detectors with an effective operation area of 0.5 cm^2 have been developed for the study of the possible reduction of the noise effect on the resolving power. "The authors are greatly indebted to I. A. Lebedeva for her assistance in the production of the samples and to N. B. Strokan for his assistance in making the measurements." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 06Sep63

SUB CODE: NP DATE ACQ: 01May64

NO REF SOV: 001 ENCL: 00

Card 2/2 OTHER: 002

ACCESSION NR: AP4029701 S/0089/64/016/004/0360/0362

AUTHORS: Matveyev, O.A.; Rudakov, V.P.; Serikov, I.N.

TITLE: The spectrometric measurement of charged heavy particles of medium energy with silicon n-i-p'-detectors.

SOURCE: Atomnaya energiya, v.16, no.4, 1964, 360-362

TOPIC TAGS: silicon detector, spectrometry, acceptor admixture, charged particles, cyclotron, lithium ion drift, scattered ion, beta particle, gamma quanta, elastic peak, peak resolution, electronic noise

ABSTRACT: The silicon detectors widely employed in nuclear research can be used for an energy analysis only of particles whose path in the silicon does not exceed about 100 micron. The spectrometric measurement of particles with greater ranges (medium energy) requires a considerably higher detector sensitivity. This can be achieved by compensating the initial acceptor admixtures by way of a lithium (Li^+) ion drift in an electric field of an n-p junction. A study has been made of the characteristic features of such detectors with reference

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ACCESSION NR: AP4029701

to medium-energy α-particles and protons. The measurements were made in a cyclotron at the Kurchatov Atomic Energy Institute. The tests with beta-particles and gamma-quanta have established that cooling the detector to a temperature of about -60 to -80C improves its resolution. All the further measurements were therefore made at a temperature of -70C. The above-mentioned measurements reveal that the above-described detectors are very suitable for use in experimental nuclear physics. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 02Oct63 DATE ACQ: 01May64 ENCL: 00

SUB CODE: PH, NS NR REF SOV: 002 OTHER: 001

Card 2/2

ACCESSION NR: AP4029702 S/0089/64/016/004/0362/0363

AUTHOR: Matveyev, O. A.

TITLE: A germanium spectrometric gamma-radiation detector

SOURCE: Atomnaya energiya, v. 16, no. 4, 1964, 362-363

TOPIC TAGS: germanium detector, n p junction, n i p structure, Compton interaction, inverse current, energy spectrum, gamma quanta, photoabsorption, amplitude resolution, Compton effect

ABSTRACT: Unlike the n-p-silicon detectors of charged particles, the semiconductor detectors based on n-p-junctions in germanium have not been used on a large scale because of their limited sensitivity to radiation and cooling. Using the method of compensating the acceptor admixtures by donor-type mobile ions, accelerated by the electric field of an n-p-junction (E. Pell: Journal of Applied Physics, 31, 291, 1960) in a germanium crystal, it is possible to produce an n-i-p-transition with a broad "i" region. Such a structure can be used as a spectrometric gamma-detector with greater effectiveness than a silicon detector because the atomic number Z of

Card 1/2

ACCESSION NR: AP4029702

germanium is 32 and of silicon only 14. It should be pointed out that silicon n-i-p-detectors with a wide range of sensitivity require cooling during the spectrometric measurements of beta-particles and gamma quanta. But their high resolving power fully justifies the few inconveniences associated with their cooling. The intrinsic amplitude resolution of a germanium detector is about 6 kev. The resolving power of a counter can thus be raised by improving the geometry of the experiment. It is to be expected that germanium n-i-p-counters will be used on a wide scale for the spectrometric measurements, beta-particles and gamma-quanta. Orig. art. has: 1 figure

ASSOCIATION: None

SUBMITTED: 08Aug63	DATE ACQ: 01May64	ENCL: 00
SUB CODE: NP	NR REF SOV: 000	OTHER: 002

2/2

Card

ACCESSION NR: AP4029703 S/0089/64/016/004/0363/0365

AUTHOR: Matveyev, O. A.; Ry*vkin, S. M.; Tarkhin, D. V.

TITLE: Quick response silicon detectors of pulsed X-radiation

SOURCE: Atomnaya energiya, v. 16, no. 4, 1964, 363-365

TOPIC TAGS: semiconductor detector, n p junction, n i p junction, penetrating radiation, hard X radiation, quick response detector, hole type conductivity, intrinsic conductivity, spectral sensitivity

ABSTRACT: This report discusses semiconductor n-p and n-i-p silicon detectors suitable for recording short pulses (about 10^{-7} sec.) of hard X-radiation having an energy up to 1 Mev. One of the two experimental quick-response detectors of pulse X-radiation was based on an n-p silicon junction which was achieved through the diffusion of phosphorus into silicon with a hole-type conductivity and a resistivity of about 1000 to 3000 ohm. cm. The second type was with n-i-p silicon junction. The region of intrinsic conductivity was

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ACCESSION NR: AP4029703

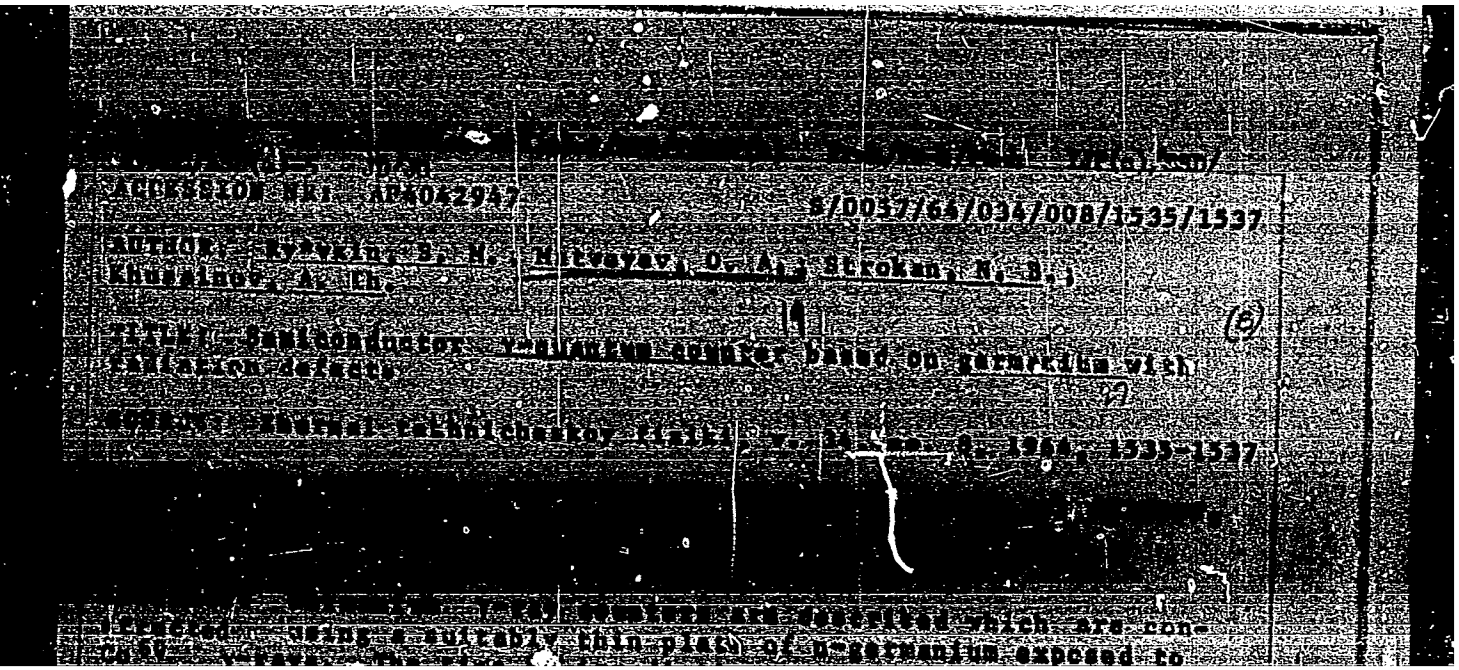
found by compensating the initial hole-type conductivity by the lithium ion drift in the n-p junction field. The nature of the detectors' spectral sensitivity to X-radiation of various energies was investigated by the use of filters made of St-3 iron. Thus; operating on the principle of collecting non-equilibrium current carriers in an n-p junction electric field, the n-p and n-i-p detect rs represent quick-response X-radiation sensing elements with a sensitivity close to the maximum possible for silicon and a response time of about 10^{-7} to 10^{-8} sec. Although silicon has a relatively low X-radiation absorption factor, the mentioned detectors with a response time of about 10^{-7} sec. are in a number of ways more suitable for the recording of pulse X-radiation than other instruments. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: None

SUBMITTED: 02Aug63 ATD PRESS: 3047 ENCL: 00

SUB CODE: EC, NP NO REF SOV: 002 OTHER: 001

Card 2/2

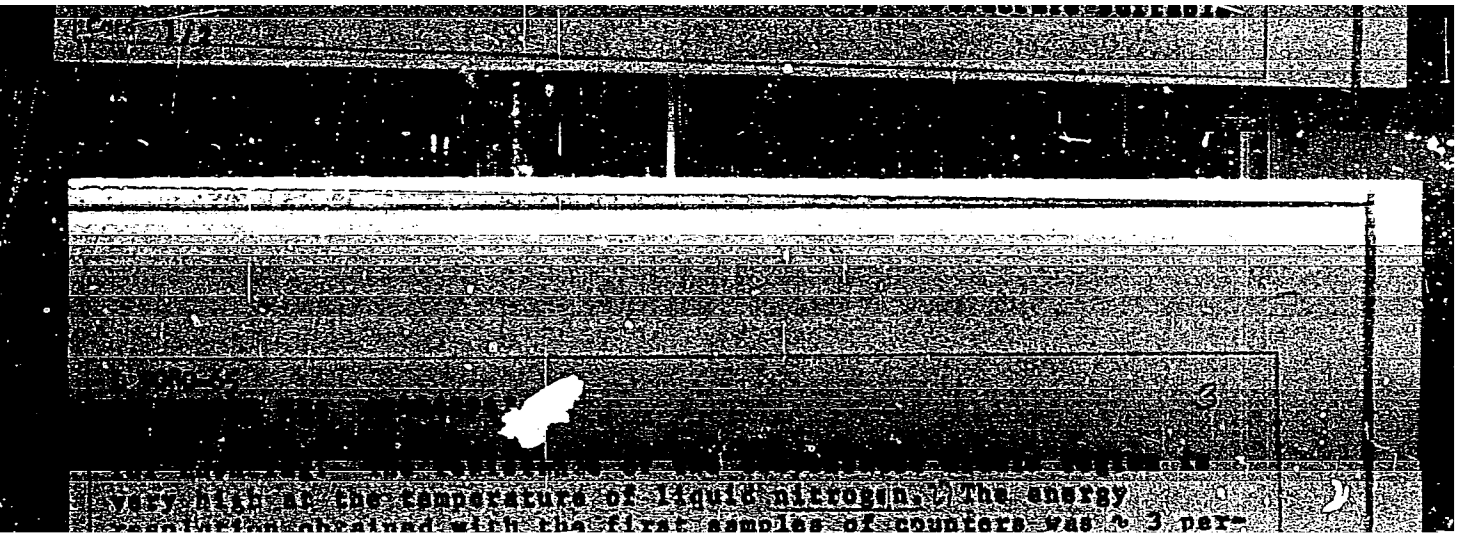


ACCESSION NR: AP4042947 S/0057/64/034/008/1535/1537

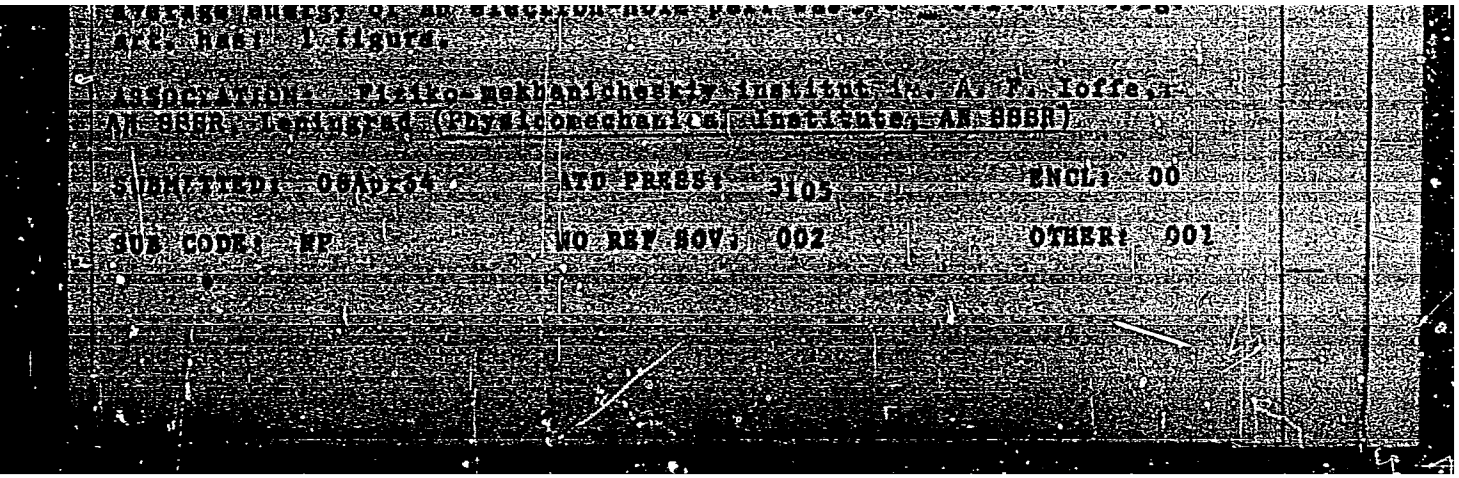
AUTHOR: Kydyrin, B. N.; Mitrofanov, O. A.; Strokan, N. B.; Khutsishvili, A. Ch.

TITLE: Semiconductor [illegible] counter based on germanium with [illegible] defects

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 8, 1964, 1535-1537



very high at the temperature of liquid nitrogen. The energy

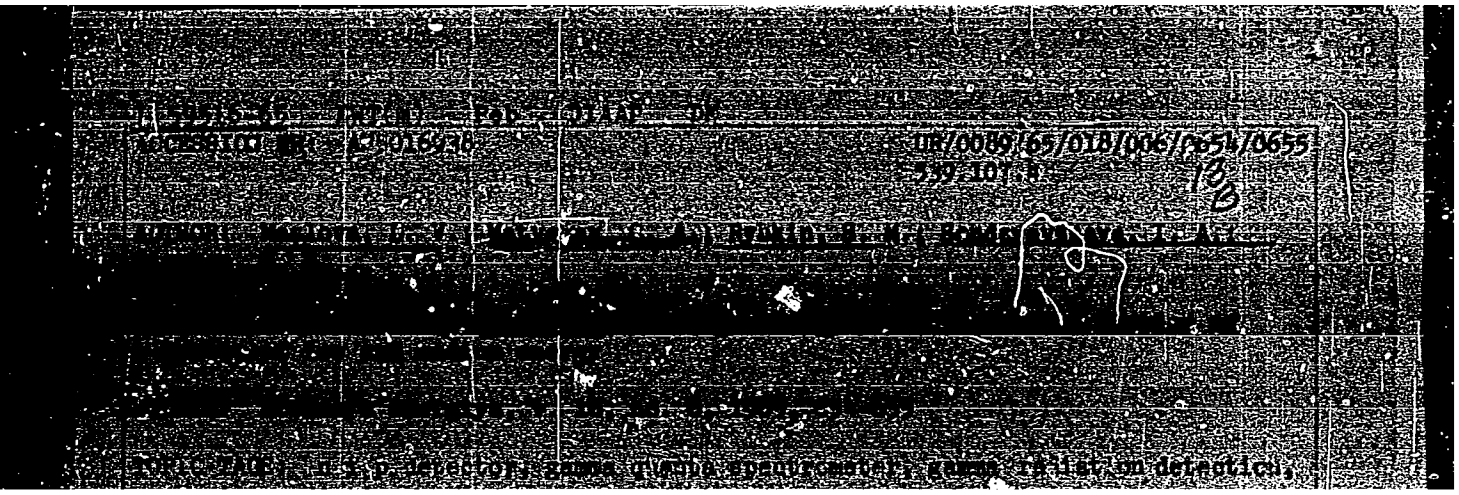


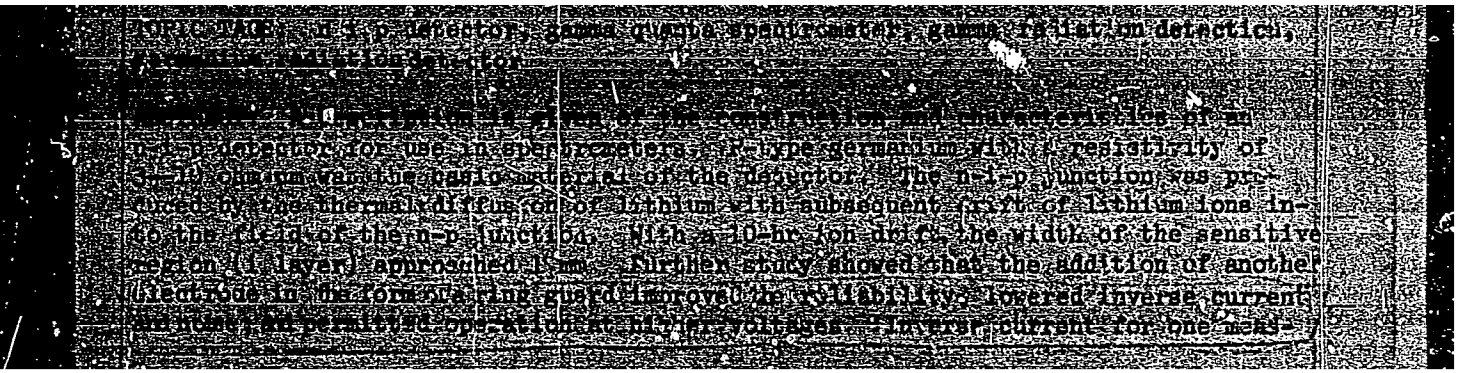
ART. HAS: 1 figure.

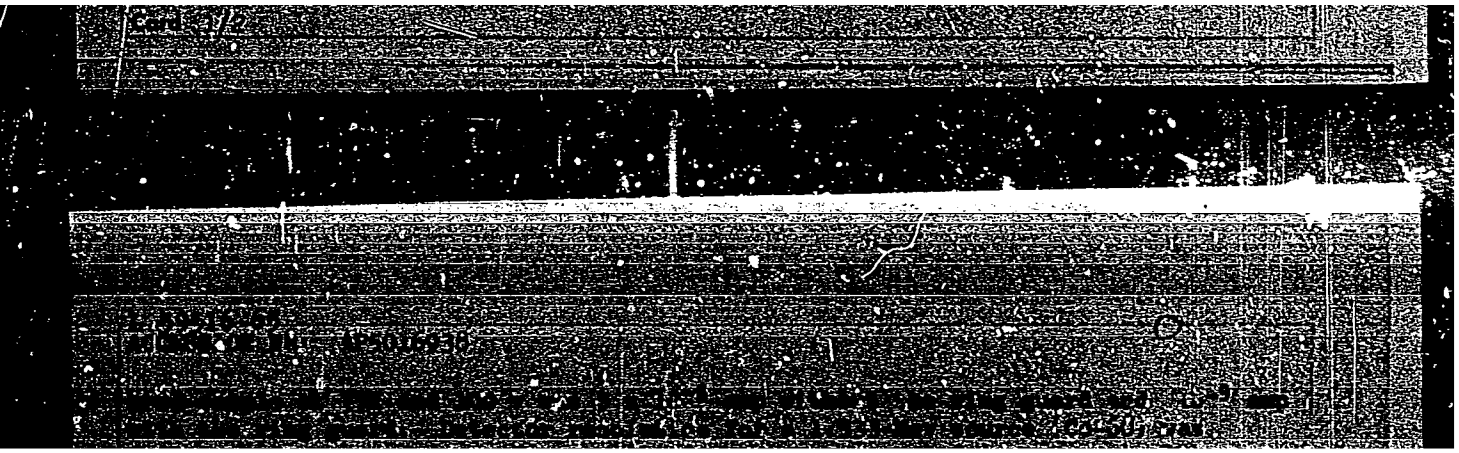
ASSOCIATION: Fiziko-mekhanicheskiy institut im. A.F. Ioffe, AN SSSR, Leningrad (Physicomechanical Institute, AN SSSR)

SUBMITTED: 06AP64 ENCL: 00

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







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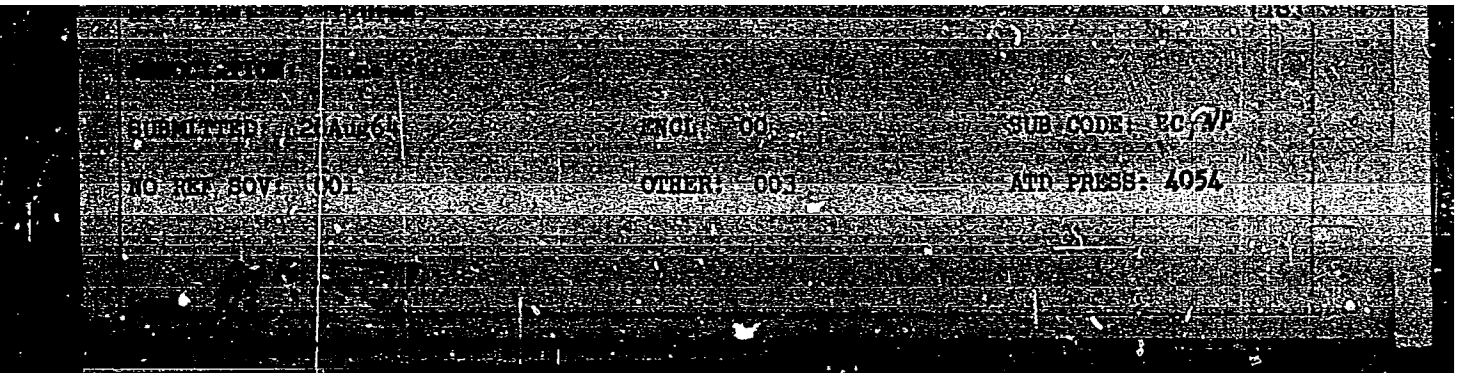


L 10790-66 EWT(m)/EWP(m)-2/T/EWP(t)/EWP(b) IJP(c) JD/GG

ACC NR: AP5028912 SOURCE CODE: UR/0020/65/165/003/0548/0550

AUTHOR: Ryvkin, S. M.; Matveyev, O. A.; Strokan, N. B.; Khusainov, A. Kh.

ORG: none

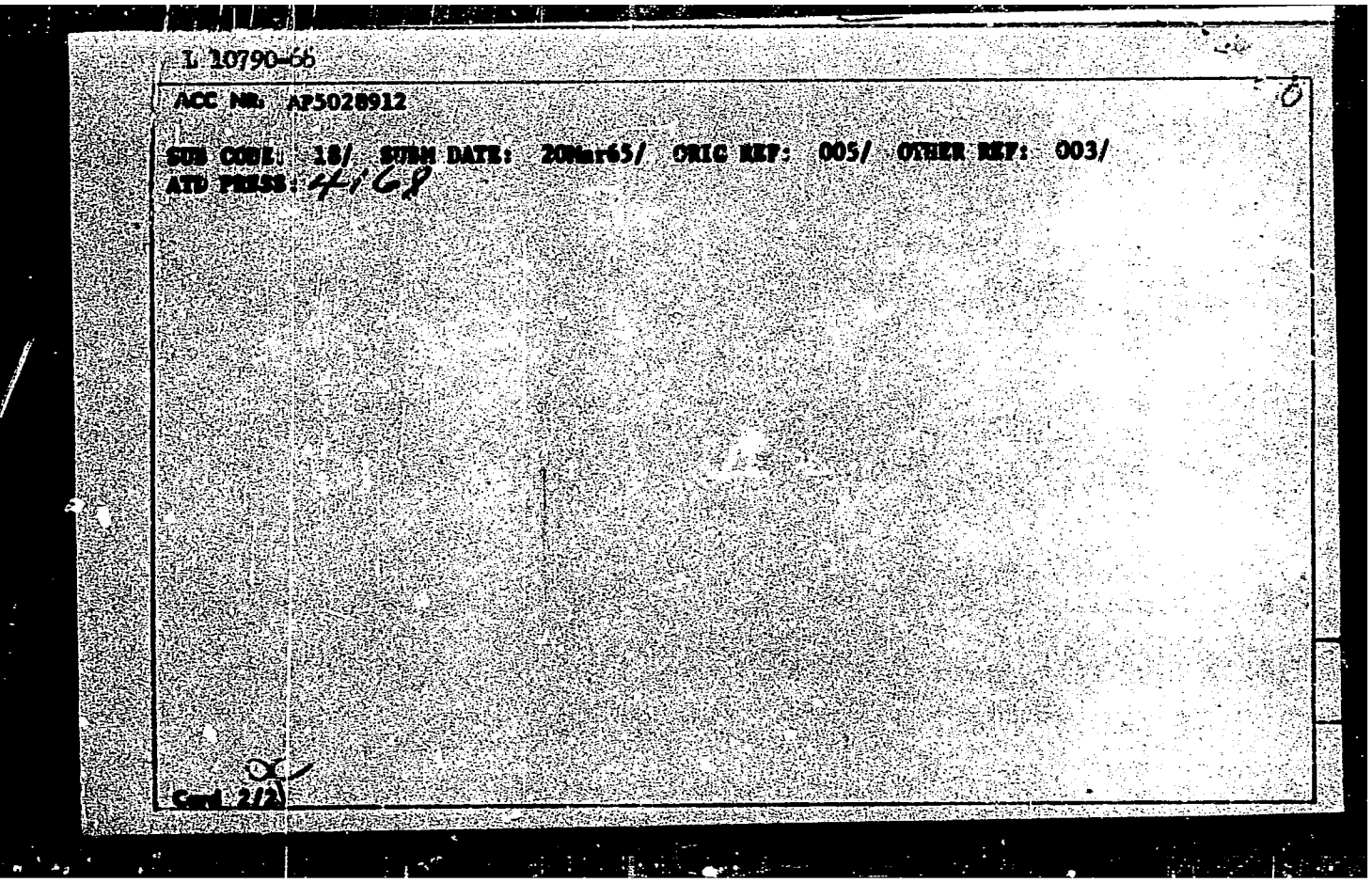
TITLE: Spectrometric gamma-quantum counter based on germanium with radiation defects

SOURCE: AN SSSR. Doklady, v. 165, no. 3, 1965, 548-550

TOPIC TAGS: gamma counter, germanium semiconductor, gamma quantum

ABSTRACT: The design and operating characteristics of semiconductor γ-counters based on germanium with radiation defects produced by γ-rays of Co^{60} are discussed. These counters are shown to possess features superior to those of lithium-doped detectors with respect to amplitude resolution. For example, for γ-quanta with energies below 350 kev an absolute resolution of 4.0 ±0.8 kev was obtained; for 662-kev and 1.33-Mev lines, resolutions of 4.5 and 1.0 kev were obtained. The absorption of γ-quanta of Co^{60}, which were used to produce defects in germanium, was one of the obstacles encountered in designing counters with a larger field. However, counters with a wide active region (d_0 = 3 mm, where d_0 is the distance between the n' and p' layers) were obtained by γ-irradiation. A drop in the capacitance of detectors caused by an increase in d_0 has made it possible to reduce the noise level and to obtain a resolution of 2.7 ±0.15 kev for γ-quanta of Co^{57} (122 kev). For the 1.33-Mev line, the resolution was 5.6 ±0.5 kev. Orig. art. has: 1 figure. [JR]

Card 1/1 UDC: 539.107.4



L 10790-66

ACC NR: AP5028912

SUB CODE: 18/ SUBM DATE: 20Mar65/ ORIG REF: 005/ OTHER REF: 003/
ATD PRESS: 4168

Card 2/2

L 29621-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6018748 SOURCE CODE: UR/0057/66/036/006/1146/1148

AUTHOR: Arkad'yeva, Ye. N.; Matveyev, O. A.; Rud', Yu. V.; Ryvkin, S. M. 40 B

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: The possibility of using cadmium telluride for making n-p gamma-quanta detectors

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 6, 1966, 1146-1148

TOPIC TAGS: gamma detector, beta detector, radiation counter, particle counter

ABSTRACT: Tests were made to investigate the possibility of recording gamma-quanta with the aid of n-p transitions based on cadmium telluride. To construct a highly efficient semiconductor n-p counter for operation in a suitable temperature range, a material with a high atomic number and a sufficiently wide forbidden band should be used. The specimens were therefore prepared from CdTe crystals with n-type conductivity by means of lithium diffusion. A sensitive layer approximately 200 μ thick was obtained as a result of the drift of Li^+ ions in the n-p transition field. The mobility of the Li^+ ions in CdTe was determined to be approximately 5×10^{-10} $cm^2/v \cdot sec$, i.e., it was sufficiently high. The reverse current of such a structure was approximately 10^{-8} amp. The relatively weak dependence of capacity on voltage at high voltages shows that the transition is structurally similar to the

Card 1/2 UDC: 539.107.45

L 29621-65

ACC NR: AP6018748

n-i-p system. The working surface of the specimens was 5 to 7 mm^2. With such specimens a positive count of Cs^{137} gamma-quanta and beta-particles at room temperature with a signal-to-noise ratio of approximately 15 to 20 was obtained. Orig. art. has: 2 figures.

[JA]

SUB CODE: 18 SUBM DATE: 29Nov65/ ORIG REF: 001/ ATD PRESS: 5014

Card 2/2 LC

KACHUR, L.A.; MATVEYEV, O.G.; FEDOROVA, I.V.

Determining the amount of deuterium in some biological media by means of the MS-2M mass spectrometer. Vop.radiobiol. 2: 189-198 '57. (MIRA 12:6)

1. Sotrudniki TSentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR.
(DEUTERIUM) (WATER IN THE BODY) (MASS SPECTROMETRY)

ALEKSANDROV, S.N.; GALKOVSKAYA, K.P.; MATVEYEV, O.G.; PETROV, V.A.

Biological effect of external beta radiations. Med.rad. 3 no.4. 6-8 Jl-Ag '58. (MIRA 12:3)

1. Iz Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR.
(STRONTIUM, radioactive,
eff. in white mice, external application (Rus))

MATVEYEV, O.R., inzh.; DEGTEV, G.F., kand.tekhn.nauk

Modernization of a forge box furnace. Mashinostroenie no.2:37-39 Mr-Ap '62. (MIRA 15:4)

1. Dnepropetrovskiy inzhenerno-stroitel'nyy institut.
(Furnaces, H[illegible]ing--Technological innovations)

MATVEYEV, O.R.; DEGTEV, G.F.

Modernization of the chamber-type forging furnace. Kuz.-shtam. proizv. 4 no.3:40-43 Mr '62. (MIRA 15:3)
(Furnaces, Heating)

DEGTEV, G.F.; KHRICHENKO, V.I.; MATVEYEV, P.R.

Mechanized continuous furnace with an annular hearth for the non-stable heating of billets. Gaz. prom. 7 no.5:36-38 '62. (MIRA 17:11)

DEGTEV, G.F., doktor tekhn. nauk; MATVEYEV, S.R., inzh.

Modernization of a heat-treating compartment furnace for its conversion to nonoxidation heating. Mashinostroenie no.6: 14-15 N-D '64 (MIRA 18:2)

L 36144-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/ETI IJP(c) WH/JD/HW

ACC NR: AP6016315 (N) SOURCE CODE: UR/0182/66/000/001/0036/0037

AUTHOR: Degtev, G. F., Matveyev, O. R., Kharchenko, V. I., Shevchenko, P. V.

ORG: none

TITLE: Heating of steel billets in molten glass

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 1, 1966, 36-37

TOPIC TAGS: glass, heat carrier, heat treat furnace, metal forging, METAL CARBIDE, METAL HEAT TREATMENT

ABSTRACT: The authors refute the contention of T. I. Gushchina (Kuznechno-shtampovochnoye proizvodstvo, no 4, 1965) and other investigators that heating in molten glass can at present be an effective method of protecting steel against oxidation during reheating prior to its forging and pressing. On the basis of experiments with the heating of steel billets in molten window glass as well as in other types of molten glass at 1000-1450°C for up to 5 hr it is shown that, along with its oxidation-preventing qualities, glass displays major disadvantages such as considerable viscosity and pronounced adhesion to the metal; this leads to a high consumption of glass and causes difficulties during the subsequent cleaning of the metal. During precision die-forging the remaining glass gets pressed into the surface layers and

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L 36144-66

ACC NR: AP6016315

distorts the dimensions of the finished forging. Moreover, the high temperatures in the working area (of the order of 1400°C) result in extremely unfavorable working conditions for the furnace-tending personnel. All this gives reason to believe that, contrary to the published recommendations, this technique of oxidation-free reheating of steel is not practical at present.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

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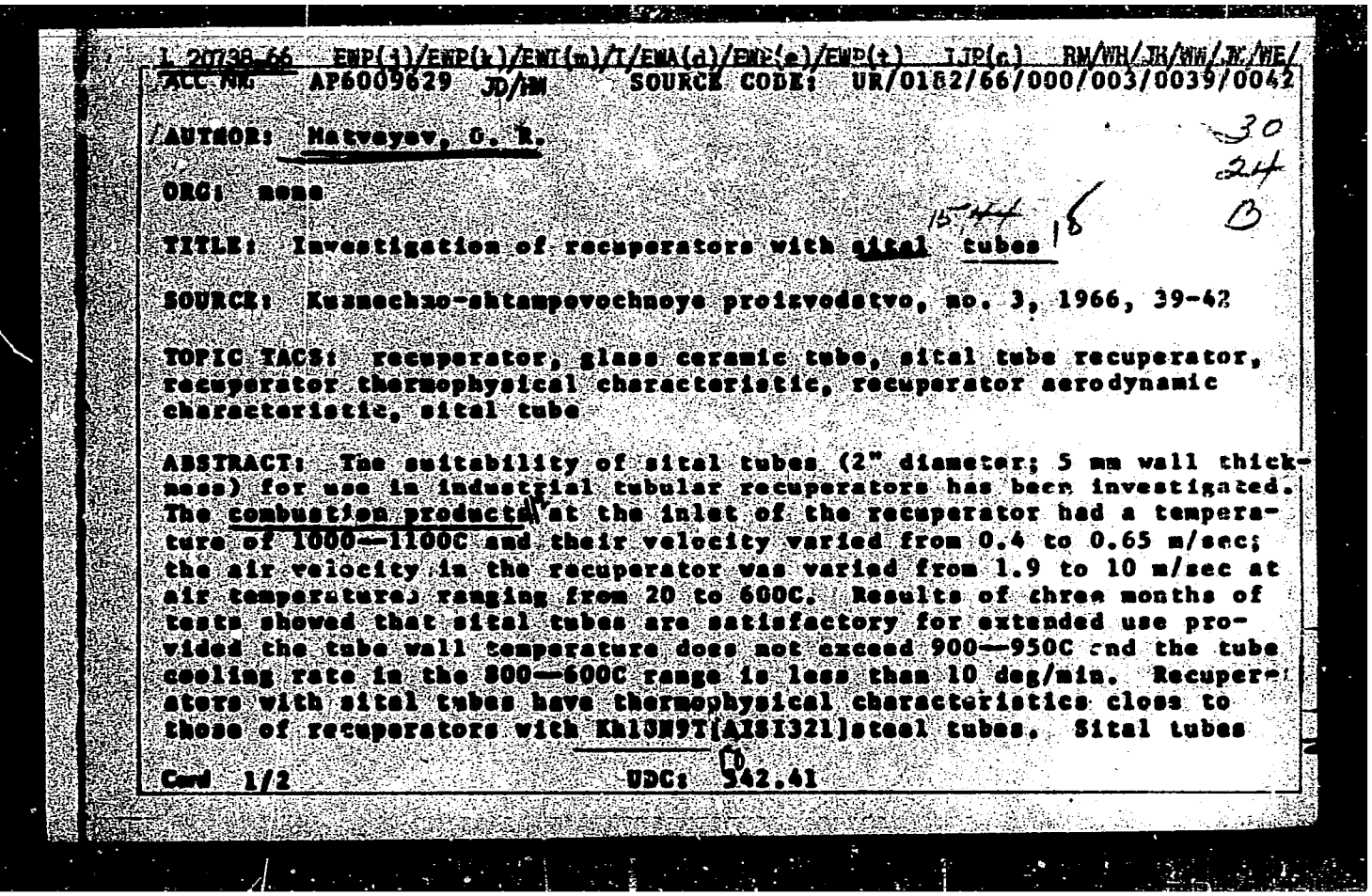

L 20738-66 EWP(j)/EWP(k)/EWT(m)/T/EWA(d)/EWP(e)/EWP(t) IJP(c) RM/WH/JH/WW/JK/WE/
ACC NR: AP6009629 JD/HW SOURCE CODE: UR/0182/66/000/003/0039/0042

AUTHOR: Matveyev, G. R.

ORG: none

TITLE: Investigation of recuperators with sital tubes

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 3, 1966, 39-42

TOPIC TAGS: recuperator, glass ceramic tube, sital tube recuperator, recuperator thermophysical characteristic, recuperator aerodynamic characteristic, sital tube

ABSTRACT: The suitability of sital tubes (2" diameter; 5 mm wall thickness) for use in industrial tubular recuperators has been investigated. The combustion products at the inlet of the recuperator had a temperature of 1000—1100C and their velocity varied from 0.4 to 0.65 m/sec; the air velocity in the recuperator was varied from 1.9 to 10 m/sec at air temperatures ranging from 20 to 600C. Results of three months of tests showed that sital tubes are satisfactory for extended use provided the tube wall temperature does not exceed 900—950C and the tube cooling rate in the 800—600C range is less than 10 deg/min. Recuperators with sital tubes have thermophysical characteristics close to those of recuperators with Kh18N9T[AISI321]steel tubes. Sital tubes

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ACC NR: AP6009629

6

cost 50—75% less than Kh18N9T steel tubes, and 70-85% less than Kh25N20S2 steel tubes. The gas-tightness of recuperators with sital tubes is an important factor contributing to their efficiency; with the use of asbestos seals, air loss can be kept below 5%. The use of sital tubes, aluminized carbon steel and heat-resistant concrete, or ceramic would eliminate the need for expensive heat-resistant steels and cast iron in fabricating high-temperature recuperators. Orig. art. has: 6 figures and 4 formulas. [NS]

SUB CODE: 13/ SUBM DATE: 20Mar66/ ORIG REF: 004/ ATD PRESS: 4224

Card 2/2

24.7700

36469
S/181/62/004/003/007/045
B102/B104

AUTHORS: Uray, Ya. A., Averbakh, Ye. M., Marshakova, T. A., and Matveyev, O. V.

TITLE: Some electrical properties of the intermetallic semiconducting compound Cd_4Sb_3 doped by various impurities

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 615 - 617

TEXT: In order to determine the effect of Ag, Cd, In, Sn, Pb, Sb, and Te impurities in quantities of up to 1 at% on Cd_4Sb_3, the temperature dependence of conductivity in the range 20 - 300 °C, the Hall constant, and the thermo-emf at room temperature were measured. d - c measurements were made with a two-probe compensation method; the thermo-emf was determined with respect to copper; the field strength in the slit of the electromagnet was 2500 oe. Cd_4Sb_3 (impurity concentration $2.1 \cdot 10^{-3}$%) was fused together with the doping metals (purity 99.996%) in evacuated quartz ampouls. The conduction type of the stoichiometric Cd_4Sb_3 (p-type) was changed only by Te impurities.

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S/181/62/004/003/007/045
B102/B104

Some electrical properties ...

Composition	Thermo-emf $\mu v/deg$	Conductivity $(ohm \cdot cm)^{-1}$	Carrier mobility $cm^2/v.sec$
Cd_4Sb_3	+100	30	900
with Ag	+47	4000	800
with In	+130	60	45
with Te	+29 or -77	2900 or 5100	345 or 1035

The forbidden band width as determined from the log σ versus (1/T) curve was 1.25 ev. Cd_4Sb_3 of stoichiometric composition has a carrier concentration of $2.10 \cdot 10^{17} cm^{-3}$. Sb additions increase this value up to $\sim 10^{18} cm^{-3}$, the other metals even up to $\sim 10^{19} cm^{-3}$. The Cd-Sb alloy consists of CdSb and Cd_4Sb_3. The stoichiometric and the Te-doped samples (p-type) show rectifying properties; the Te-doped samples also show a range of negative resistivity in the back direction. If the current is raised to more than 4 ma the rectifying effect vanishes. There are 2 figures, 1 table, and 5 Soviet references.

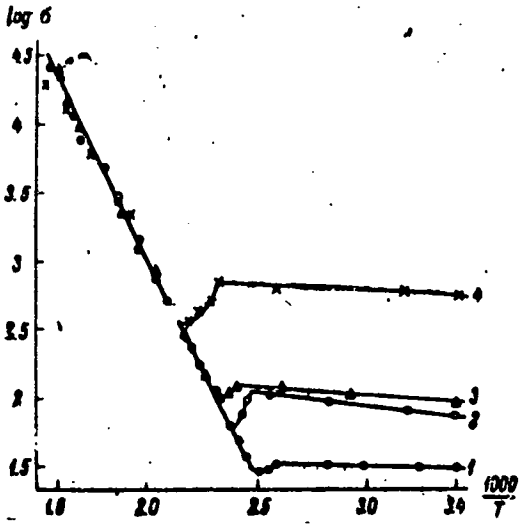
Card 2/3

S/161/62/004/003/007/045
Some electrical properties ... B102/B104 .

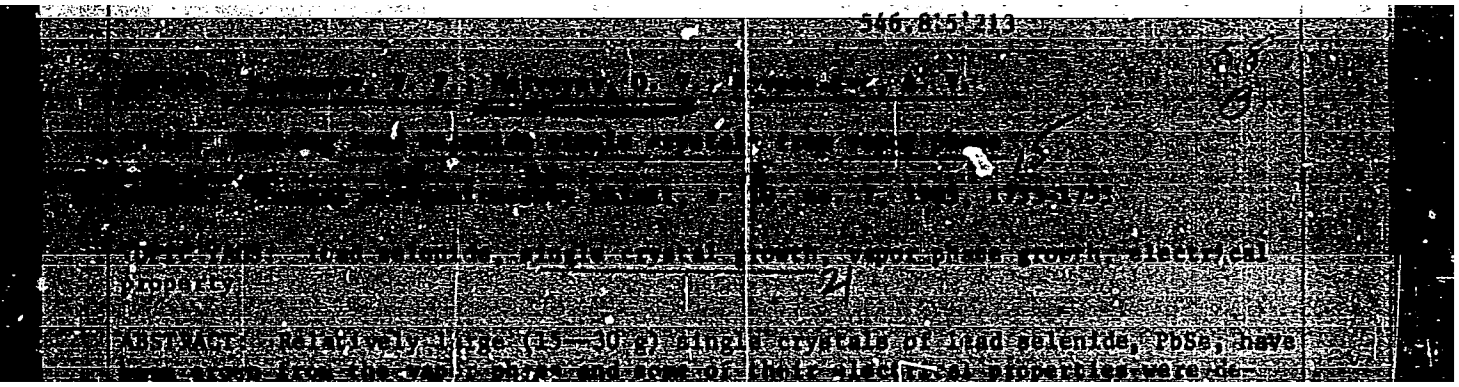
ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

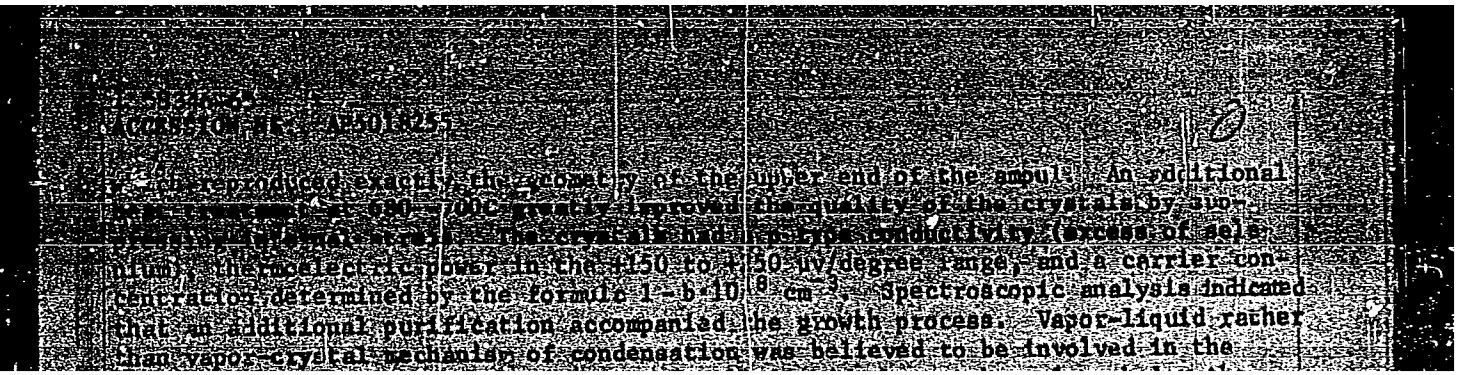
SUBMITTED: October 2, 1961

Legend to Fig. 1: (1) Cd_4Sb_3, (2) Cd_4Sb_3+In, (3) ~+Sb, (4) ~+ Cd.



Card 3/3





[redacted] AD501825

[redacted] reproduced exactly. The purity of the [redacted] was greatly improved [redacted] the quality of the crystals by [redacted] [redacted] the crystals had [redacted] n-type conductivity (excess of selenium), thermoelectric power in the 450 to 750 μV/degree range, and a carrier concentration determined by the formula $1-b\,10^{18}$ cm^{-3}. Spectroscopic analysis indicated that an additional purification accompanied the growth process. Vapor-liquid rather than vapor-crystal mechanism of condensation was believed to be involved in the [redacted] upper end of the ampul. An additional

LARIN, I.V.; MATVEYEVA, Ye.P.; MATVEYEV, P.F.

Work of the Feed Section of the All-Union Conference on the Introduction of New Useful Plants into Cultivation. Bot. zhur. 41 no.7:1091-1093 Jl '56. (MLRA 9:10)
(Forage plants)

MATVEYEV, P.F.

25(5) PHASE I BOOK EXPLOITATION SOV/2934

Burmistrov, Nikolay Semenovich, (Deceased), Mikhail Aleksandrovich Galkin, Pavel Fedorovich Matveyev, Grigoriy Akimovich Neshitov, and Nikolay Georgiyevich Ozhimkov

Planirovaniye vspomogatel'nykh tsekhov mashinostroitel'nogo zavoda (Planning the Setup of Auxiliary Shops at a Machine-Building Plant) 2nd ed. Moscow, Mashgiz, 1958. 278 p. 4,000 copies printed.

Ed.: N.S. Burmistrov, Engineer (Deceased); Reviewers: B.V. Voskresenskiy, Economist; P.G. Kalinin, Economist; and A.I. Shuster, Economist; Ed. of Publishing House: A.A. Salyanskiy; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on the Economics and Organization of Production: T.D. Saksaganskiy.

PURPOSE: This book is intended for employees at machine-building plants who are engaged in planning.

COVERAGE: The book deals with problems in planning the setup and operations of various auxiliary shops and services at a

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machine-building plant. The organization of work in such auxiliary units as the machine-repair shop, the tool shop, the industrial power plant, the transportation service, etc. is reviewed, and suggestions are made for improving their labor productivity. Production and maintenance costs of auxiliary shops and units are analyzed, and possibilities of reducing cost investigated. Preparation of estimated expenditures and of monthly financial statements showing results of operations are discussed. The operation of each auxiliary shop or service of the plant is analyzed. Several chapters are written by different authors. No personalities are mentioned. No references are given.

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Planning the Setup (Cont.) SOV/2934

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SOV/2934

Planning the Setup (Cont.)

7. Checking power plant efficiency by determining the power consumption cost per machine unit 276

AVAILABLE: Library of Congress

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3-21-60

Card 7/7

NIKITIN, V.A., skrepershchik; MATVEYEV, P.G., skrepershchik.

Levelling ground surfaces with the D-222 scraper. Rat-. i izobr. predl. v stroi. no.112:8-11 '55. (MLRA 9:6)
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MATVEYEV, P.I.

Collection of material for analyses. Med.sestra 18 no.8:41 Ag '59. (MIRA 12:10)

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"Organization and methodology of mass bacteriological examinations to detect dysentery pathogens" by I.A.Siroko. Revieved by P.I. Matveev. Zhur.mikrobiol.epid.i immun. 32 no.3:146-148 Mr '61. (MIRA 14:6)

(SHIGELLA) (MEDICAL SCREENING)
(SIROKO, I.A.)

PETROV, B.D.; MATVEYEV, P.I.; SELEZNEVA, A.A.; VIL'SHANSKAYA, M.L.

Reviews, criticism and bibliography. Zhur.mikrobiol.,epid.i immun. 40 no.12:126-137 D '63. (MIRA 17:12)

YURCHENKO, I.F.; KHATSKELEVICH, M.N., inzh.; TOLKACHEV, V.P., inzh.; KLIMOV, N.N., inzh.; MATVEYEV, P.M.; NOVIKOV, A.V., inzh.

Answers to readers' queries. Elek.i tepl.tiaga 6 no.2:44-45 F '62. (MIRA 15:2)

1. Nachal'nik upravleniya truda, zarabotnoy platy i tekhniki bezopasnosti Ministerstva putey soobshcheniya (for Yurchenko). 2. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodo-rozhnoy gigiyeny Glavnogo sanitarnogo upravleniya Ministerstva putey soobshcheniya (for Matveyev).
(Railroads)

MATVEYEV, P. M., (Shentala Village, Kuibyshev Oblast')

The use of antibiotics in veterinary science

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