

22441

S/089/60/009/006/001/011  
B102/B212

26, 2242  
AUTHORS: ~~V. A.~~ Al'yev, Yu. A., Zamyatin, Yu. S., Sirotnin, Ye. I.,  
Fomushkin, E. F.

TITLE: Spectra of fission neutrons from  $U^{235}$  emitted at angles of  
0, 45, and 90° to the direction of flight of the fragments

PERIODICAL: Atomnaya energiya, v. 9, no. 6, 1960, 449-454

TEXT: The results of previous measurements of spectra of fission neutrons and their angular distribution with respect to the direction of flight of the fragments agree well with theoretical data (based on an assumption of isotropic neutron evaporation and Maxwell neutron distribution); but this theory furnishes values for the mean kinetic energy of the fragments, which are somewhat too low, and, therefore, the correctness of above assumptions may be doubted. In order to check it the authors have measured again the neutron spectra, and this paper reports on the results. The spectra of the neutrons emitted at 0, 45, and 90° to the direction of flight of the fragments in 14.3-Mev neutron induced  $U^{235}$  fissions have been measured, and also their angular distribution has been determined. The

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## Spectra of fission neutrons...

time-of-flight method was utilized, the distance of flight was 75 cm and the resolution time 7  $\mu$ sec. A detailed description of this method and the equipment used is given in Ref. 9 (Yu.A.Vasil'yev i dr. Zh.eksperim. i teor.fiz. 38, 671 (1960)). However, the method employed here made use of a multi-layer fission chamber with fragment collimation as a fission-neutron source. A  $U^{235}$  layer had been deposited on both sides of an aluminum foil (having a thickness of 0.5 mm); the thickness of the layer was 6 mg/cm<sup>2</sup>, and the total weight of the two layers amounted to 3.5 g. 0.75% of the fission taking place in the uranium have been recorded. The chamber was filled with a mixture of argon and carbon dioxide (10%) (pressure 760 mm Hg). The rise time of the pulses was about 0.1  $\mu$ sec at a 1 kv electrode potential. Fig. 2 shows the experimental setup. Fig. 3 shows the neutron spectra  $F(E_n)$  in arbitrary units measured at 0°, 45°, and 90°. Fig. 5 shows the spectra of neutrons emitted from the fission fragments. The angular distribution has been calculated by numerical integration with respect to the neutron energy (cf. Table). The angular distribution of the  $\gamma$  rays ( $E_\gamma > 0.3$  Mev) produced during fission has also been calculated by assuming an isotropy relative to the direction of flight

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Spectra of fission neutrons...

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of the fragments. Here are the values obtained:  $n_{\gamma}(0^{\circ}):n_{\gamma}(45^{\circ}):n_{\gamma}(90^{\circ})$   
=  $(1.31 \pm 0.07):(1.22 \pm 0.06):1.00$ . The neutron distribution showed a considerable anisotropy:  $b_{14} = N(0^{\circ})/N(90^{\circ}) = 3.23 \pm 0.12$ . The following value has been obtained after subtracting the neutrons evaporated before a fission  $b_{14}^{\dagger} = 4.03 \pm 0.23$ ; this value agrees within the limits of error with that obtained for thermal neutrons ( $b_t = 4.35 \pm 0.19$ ). In order to describe these experimental results theoretically, calculations have been done and various assumptions have been made regarding the neutron spectra in the coordinate system of the fragments. However, no variant was able to yield satisfactory results that agreed with all three spectra which have been examined. The authors thank P. V. Toropov, Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, V. S. Khorkhordin, V. A. Komarova, M. P. Novikova, G. A. Peretokina, and L. A. Chernova for assistance. There are 6 figures, 1 table, and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. The three references to English-language publications read as follows: Ref. 7: W. Stein. Phys. Rev. 108, 94 (1957); Ref. 10: S. Whetstone. Phys. Rev., 114, 581 (1959); Ref. 12: J. Terrell,

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Spectra of fission neutrons...

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Phys.Rev., 113, 527 (1959).

SUBMITTED: February 29, 1960

Legend to Fig. 2: 1)  $U^{235}$  layer;  
2) deuteron beam; 3) target;  
4) collimators.

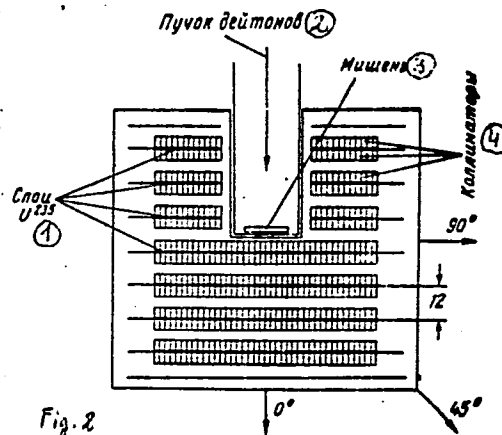


Fig. 2

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Sirotnin, Ye. I.

32405

S/056/60/038/03/02/033  
B006/BC14

21.1100

AUTHORS:

Vasil'yev, Yu. A., Zamyatnin, Yu. S., Il'in, Yu. I.,  
Sirotnin, Ye. I., Toropov, P. V., Fomushkin, E. F.

TITLE:

Measurement of Spectra and the Average Neutron Number<sup>19</sup> in the  
Fission of  $U^{235}$  and  $U^{238}$  by 14.3-Mev Neutrons

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 38, No. 3, pp. 671-684

TEXT: The present article deals in detail with the experimental investigations made in the energy range 0.4 - 5 Mev by means of the time-of-flight technique and a pulsed neutron source. The experimental arrangement is schematically shown in Fig. 1. The reaction  $T(d,n)He^4$  served as primary neutron source in the target of an accelerator. The target was bombarded with 150-kev deuterons. The time-of-flight determination was carried out electronically by measuring the time integrals between the pulses in the detector. The deuteron impulses were obtained by modulation; i.e., by means of a sinusoidal

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82405

Measurement of Spectra and the Average Neutron  
Number in the Fission of  $U^{235}$  and  $U^{238}$  by  
14.3-Mev Neutrons

S/056/60/038/03/02/033  
B006/B014

electric field ( $f = 2Mc/sec$ ); the pulses of the 14.3-Mev neutrons lasted 3  $\mu$ sec and had a frequency of 4 Mc/sec. On the average, 4 neutrons were obtained per pulse. Two fission chambers were used (with  $U^{235}$  (90 per cent) and  $U^{238}$  (natural isotope composition)); the chambers were filled with a mixture of argon and  $CO_2$ -gas (10 per cent) at 760 torr. A tolan crystal (diameter 80 mm, thickness 25 mm) with a photomultiplier of the type FEU-33 served as neutron detector. The efficiency of the detector was determined according to Hardy. Fig. 2 shows the efficiency as a function of the energy of three threshold energies: 0.2, 0.25, and 0.3 Mev. The electronic apparatus used to measure the pulse distribution in the detector with respect to time is described in detail. Fig. 3 illustrates a block scheme, Fig. 4 a recorded pulse versus time diagram. Fig. 5 shows the time distribution of the pulses recorded with the measurement of the neutron spectrum of the  $U^{238}$  fission. Besides neutrons and  $\gamma$ -rays of the fission the following were also recorded: 14-Mev primary neutrons, neutrons, and  $\gamma$ -quanta due to interaction between primary neutrons and parts of the apparatus, radiations of the activated

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82405

Measurement of Spectra and the Average Neutron  
Number in the Fission of  $U^{235}$  and  $U^{238}$  by  
14.3-Mev Neutrons

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B006/B014

substances, neutrons, and  $\gamma$ -quanta due to primary neutron scattering, and 2.5-Mev neutrons from the accelerator. Details and accuracy of the "separation" of the measured values from the background are discussed. The neutron spectra of  $U^{235}$  and  $U^{238}$  fission are shown in Figs. 7a and 7b. All curves show a similar course: a steep ascent, a peak, and an even descent. Figs. 8a and 8b show the diagrams made for the analysis of the spectra in the coordinates  $\ln(F(E)/E)$  and  $E_p$ . The spectra may be satisfactorily represented by

$$F(E) = \alpha \frac{E}{T^2} \exp(-E/T) + (1 - \alpha) \frac{\exp(-w/T_f)}{\sqrt{\pi w T_f}} \exp(-E/T_f) \operatorname{sh} \frac{2\sqrt{wE}}{T_f}$$

The analytical results are listed in Table 1. The following parameter values are indicated: for  $U^{235}$ ,  $T_f = (1.06 \pm 0.03)$  Mev;  $T = (0.37 \pm 0.04)$  Mev;

$\alpha$  (fraction of evaporated neutrons) =  $(0.16 \pm 0.02)\%$ ; for  $U^{238}$ ,  
 $T_f = (1.16 \pm 0.03)$  Mev;  $T = (0.40 \pm 0.04)$  Mev;  $\alpha = (0.21 \pm 0.02)\%$ . The average  
number of neutrons emitted in the fission  $\bar{\nu}$ :  $4.17 \pm 0.30$  ( $U^{235}$ ) and  $\times$

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82405

Measurement of Spectra and the Average Neutron  
Number in the Fission of  $U^{235}$  and  $U^{238}$  by  
14.3-Mev Neutrons

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$4.28 \pm 0.30$  ( $U^{238}$ ), the ratio  $\bar{\nu}(U^{238})/\bar{\nu}(U^{235}) = 1.03 \pm 0.03$ . The following  
data were obtained:  $U^{235}$ :  $d\bar{\nu}/dE_n = 0.112 \pm 0.011$  and  $U^{238}$ :  $d\bar{\nu}/dE_n =$   
 $= 0.115 \pm 0.011$ ; ( $E_n$  - neutron energy). In conclusion, the authors thank

Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, A. I. Re-  
shetov, V. S. Khorkhordin, and V. N. Shikin for having participated in the  
measurements and for their assistance, V. A. Komarova for computer calcula-  
tions. Mention is also made of the group of V. A. Ivanov, Yu. S. Zamyatnin,  
G. A. Bat', and L. P. Kudrin. There are 9 figures, 2 tables, and 21 ref-  
erences, 12 of which are Soviet.

SUBMITTED: August 5, 1959

Card 4/4



43463

S/089/62/013/006/002/027  
B102/B186

24 11 70  
AUTHOR:

Sirotinin, Ye. I.

TITLE:

Calculation of the fission neutron spectra emitted at 0, 45, and 90° angles to the direction of flight of fragments

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 530 - 533

TEXT: Results of measuring the  $U^{235}$  fission neutron spectra at 0, 45, and 90° were published in "Atomnaya energiya" 9, no. 6, 449, 1960 and in Zh. eksperim. i teor. fiz., 38, 1657, 1960. In the first-mentioned paper the spectra also were calculated but without taking account of the fragment excitation. Here these spectra are again calculated and the fragment excitation energy distribution is taken into account according to Terrell (Phys. Rev. 113, 527, 1959). The neutron spectrum is  $P_{\bar{w}}(E, \theta, T_f) = W[\varepsilon(E, \theta), \theta_{c.m.}(E, \theta), T_f] J$ , where  $W(\varepsilon, \theta_{c.m.}, T_f)$  is the neutron spectrum in the fragment system,  $\theta$  is the neutron emission angle in the

lab system,  $\varepsilon = E + \bar{w} - 2\sqrt{\bar{w}E} \cos \theta$ ,  $\cos \theta_{c.m.} = \frac{\sqrt{E} \cos \theta - \sqrt{\bar{w}}}{\sqrt{E + \bar{w} - 2\sqrt{\bar{w}E} \cos \theta}}$ ;

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 B102/B186

Calculation of the fission...

$J = \frac{D(\epsilon, \theta_{c.m.})}{D(E, \theta)} = \sqrt{E/\epsilon}$ ; the subscript  $\bar{w}$  indicates that the neutron-emitting

fragment has a kinetic energy of  $\bar{w}$  per nucleon. After averaging over the temperature distribution of the residual fragment nuclei and separating the light from the heavy fragment component contribution, the spectrum of neutrons emitted at  $\theta$  can be written as  $\Lambda(E, \theta) = \frac{1}{2}[\Lambda_{\bar{w}_l}(E, \theta) + \Lambda_{\bar{w}_h}(E, \theta)]$ ,

where  $\Lambda_{\bar{w}}(E, \theta) = \Lambda_{\bar{w}}'(E, \theta) + \Lambda_{\bar{w}}'[E, (\pi - \theta)]$ ,  $0^\circ \leq \theta \leq 90^\circ$  and

$$\Lambda_{\bar{w}}'(E, \theta) = \int_0^{T_{fmax}} P_{\bar{w}}(E, \theta, T_f) P(T_f) dT_f.$$

For comparison with experiment the

angular resolution of the apparatus is taken into account also. The temperature distribution  $P(T_f)$  for  $U^{235}$  fission induced by 14-Mev neutrons is calculated:

$$P(T_f) = \begin{cases} 2.21 T_f & \text{for } 0 \leq T_f \leq 0.5 \text{ Mev.} \\ 1.33 - 5.65(T_f - 0.7)^2 & \text{for } 0.5 \leq T_f \leq 1.0 \text{ Mev} \\ 3.72 - 2.88T_f & \text{for } 1.0 \leq T_f \leq T_{f \text{ max}}. \end{cases}$$

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Calculation of the fission...

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If all fission neutrons are assumed to be produced by evaporation from excited fragments the spectrum in the fragment system is

$W(\epsilon)d\epsilon = \text{const } \sigma_0(\epsilon)\epsilon e^{-\epsilon/T_f} d\epsilon$ , and if the cross section  $\sigma_c(\epsilon)$  of neutron

capture by excited nuclei is constant,  $W(\epsilon)d\epsilon = (\epsilon/T_f^2)e^{-\epsilon/T_f} d\epsilon$ . This leads to

$$P_{\bar{w}}(E, \theta, T_f) dE d\cos\theta \sim \frac{\Lambda_{\bar{w}}'(E, \theta)}{V E \bar{w}} = e^{-\epsilon/0,5} \left( \frac{1,187}{\epsilon} + 2,340 \right) - e^{-\epsilon} \left( \frac{4,267}{\epsilon} + 4,680 \right) + \frac{3,080}{\epsilon} e^{-\epsilon/T_{\text{max}}} - \varphi \left( \frac{\epsilon}{0,5} \right) (4,722 + 4,680\epsilon) + \varphi(\epsilon) (8,937 + 4,680\epsilon) - \varphi \left( \frac{\epsilon}{T_{\text{max}}} \right) 2,385. \quad (12)$$

$$\sim \frac{[E(E+\bar{w}-2\sqrt{\bar{w}E}\cos\theta)]^{1/2}}{T_f} \times \exp\left(-\frac{E+\bar{w}-2\sqrt{\bar{w}E}\cos\theta}{T_f}\right) dE d\cos\theta. \quad (11)$$

where  $\varphi$  is the function of angular resolution;  $\text{Max}\epsilon = \text{max}$ . The curves

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Calculation of the fission...

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$$\phi_{\theta_1}(E) = \int_{\theta_{\min}}^{\theta_{\max}} \Lambda(E, \theta) \nu_{\theta_1}(\theta) \sin \theta \, d\theta$$
 are calculated and compared with those

measured. The very good agreement suggests that the assumptions on neutron production in evaporation events, and on the additivity of heavy and light fragment component contributions, are correct. There are 4 figures. ✓

SUBMITTED: April 19, 1962

Card 4/4

SIROTININ, Ye.I.

Measurement of unlocking time in photomultipliers. Prib. 1 tekhn.  
eksp. 8 no.4:122-124 J1-Ag '63. (MIRA 16:12)

SIROTININA, I.R.; MOCHALOVA, G.I.; PASTIKOVA, T.I.; PONOMAREVA, P.I.

Sensitivity of local strains of the diphtheria bacillus to antibiotics. Trudy Tom NIIVS 12:130-131 '60 (MIRA 16:11)

1. Nauchnyy studencheskiy kruzhek kafedry mikrobiologii Tomskogo meditsinskogo instituta.

\*

*SIROFININA, L.N.*  
SIROFININA, L.N.

Viability of dysentery bacilli in dried excrement. Vrach.delo  
no.10:1066-1067 0 '57. (MIRA 10:12)

1. Dorozhnaya sanitarno-epidemiologicheskaya stantsiya Privolzhskoy  
zheleznoy dorogi.  
(SHIGELLA)

LISITSINA, G.A.; BOGDANOVA, V.I.; VAESHAL, G.M.; SIROTININA, M.A.

Some geochemical characteristics of the formation of accessory minerals in the granites of the Charkasar Massif in the Kurama Range of the Tien Shan. Geokhimiia no.5:602-616 My '65.  
(MIRA 18:9)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.



SIRKININA, Olga Nikolayevna

Of toxicity of wintering in the field of cereals.

Dissertation for the degree of Doctor of Medical Science.  
Saratov (Soviet) Institute, 1947

COUNTRY : USSR  
CATEGORY : Microbiology, Sanitary Microbiology.  
AES. JOUR. : Ref Zhur-Biologiya, No.4, 1959, No. 14835  
AUTHOR : Sirovinina, O.N.; Spirina, A.P.; Popova, A.I.  
INST. : Moscow Sci.Res.Inst.of Sanitation and Hygiene  
TITLE : Methods of Direct Detection of Bacterial Toxins in Food Products.  
REG. PUB. : Inform. byul. Mosk. n.-i. in-to sanitarii i gisriyeny, 1957, No.9, 47-49  
ABSTRACT : The precipitation reaction was used for the direct isolation of bacterial toxins in products contaminated by agents of watermelon toxins or proteus. Antitoxin sera were obtained by immunizing rabbits with exo- and endotoxins of different strains of both organisms. The test fluid was superimposed on 0.3 ml of undiluted serum in narrow precipitation tubes. In positive cases the ring or sediment was obtained after 15 - 30 minutes

CARD: 1/2

SIROTININA, O.N.

Staphylococcal enterotoxin and methods for determining it in  
food products. Zhur. mikrobiol., epid. i immun. 33 no.1:90-94  
Ja '62. (MIRA 15:3)

1. Iz Saratovskogo instituta gigiyeny.  
(FOOD---MICROBIOLOGY) (TOXINS AND ANTITOXINS)  
(STAPHYLOCOCCUS)

SIROTSKAYA, A. .

USSR/Nuclear Physics - Photography

FD-496

Card 1/1 : Pub. 146-13/18

Author : Miller, O. N. and Sirotinskaya, A. A.

Title : Method of introduction of thin wires into thick layer photoplates

Periodical : Zhur. eksp. i teor. fiz., 24, 237-239, Feb 1953

Abstract : Suggests a new method of introducing various substances into the emulsion of thick-layer photoplates to study phenomena connected with interaction of elementary particles with nuclei of introduced elements. Indebted to V. M. Uvarova, V. D. Davidov and S. S. Vasil'yev. 5 references, including 5 foreign.

Institution : Moscow State University

Submitted : June 30, 1952

SiroTINSKIY, A.A.

AID P - 628

Subject : USSR/Electricity  
Card 1/1 Pub. 27 - 32/35  
Author : Vorob'yev, A. A., Doc. of Phys.-Math. Sci., Prof.  
and eight others  
Title : Akopyan, A. A. and 6 others: "High Voltage Engineering",  
Part I, 292 pp., 1951 and Almazov, A. V. and 5 others:  
"High Voltage Engineering", Part II, 240 pp., 1953.  
SiroTinskiy, L. I., General editor. - Bibliography  
Periodical : Elektrichestvo, 8, 91-93, Ag 1954  
Abstract : The above book was admitted by the MVO (Ministry of  
Higher Education) as a textbook for power engineering  
and electric engineering institutes and faculties of  
higher education. An extensive review and some criti-  
cism of the book is presented as well as a reply by the  
editor and authors of the book.  
Institution : Tomsk Polytechnical Institute im. Kirov  
Submitted : No date

*SIROTINSKAYA, A. A.*

BOGOMOLOV, K. S., RAZORENOVA, I. F., RUDITSKAYA, I. A. and SIROTINSKAYA, A. A.  
Sci. Res. Inst. Cinematography.

"Methodes d'accroissement de Sensibilite des Emulsions Nucleaires Irradiees  
Aux Temperatures Basses."

paper presented at the Second Intl. Colloquium on Corpuscular Photography.  
Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

*SIROTINSKAYA, A. A.*  
BOGOMOLOV, Kh. S., ROUDITSKAYA, I. A., SIROTINSKAYA, A. A. and DOBROSSERDOVA, E. P.  
Scientific Research Cinematographic Institute.

"Hypersensibilisation Des Emulsions Photographiques Nuclearires."

paper presented at Program of the Second International Colloquium on Corpuscular  
Photography. Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3, 114, 647.

BOGOMOLOV, K.S.; RUDITSKAYA, I.A.; SIROTINSKAYA, A.A.

Hypersensitization of nuclear emulsions by the use of triethanolamine.  
Zhur. nauch. i prikl. fot. i kin. 3 no.1:52-53 Ja-F '58.  
(MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut.  
(Photographic emulsions)  
(Ethanol)



SOV-77-3-5-12/21

AUTHORS: Bogomolov, K.S.; Razorenova, I.F.; Ruditskaya, I.A.;  
Siretinskaya, A.A.

TITLE: The Sensitivity of Hypersensitized Nuclear Photographic Emulsions at the Temperature of Liquid Hydrogen (Chuvstvitel'nost' gipersensibilizirovannykh yadernykh fotografiicheskikh emul'siy pri temperature zhidkogo vodoroda)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 5, pp 380-381 (USSR)

ABSTRACT: Backingless "P" films with iodide, and others without iodide, sensitized in a 3% solution of triethanolamine, were exposed in liquid hydrogen to gamma-radiation at 250 mev or to a beam of Pi-mesons at 300 mev. The results are drawn up in tabular form. The trajectories of the relativistic particles, at the temperature of liquid hydrogen, can be traced in the form of very dense tracks on the hypersensitized, iodine-less "P" silver bromide nuclear emulsions. A significant drop in the sensitivity of the emulsions containing iodide at liquid hydrogen temperature can be confirmed from the table. There is 1 table and 2 Soviet references.

Card 1/2

SOV-77-3-5-12/21

The Sensitivity of Hypersensitized Nuclear Photographic Emulsions at the Temperature of Liquid Hydrogen

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut  
(The All-Union Research Institute into Photography and Cinematography)

SUBMITTED: May 28, 1958

1. Photographic emulsions--Sensitivity    2. Photographic emulsions  
--Applications    3. Gamma rays--Photochemical effects    4. Hydrogen  
(Liquid)--Applications

Card 2/2

SIROTINSKAYA, A.A.

1

S/081/61/000/022/055/076  
B101/B147

AUTHORS: Bogomolov, K. S., Ruditskaya, I. A., Razorenova, I. F.,  
Sirotinskaya, A. A., Dobroserdova, Ye. P.

TITLE: Hypersensitization of nuclear photoemulsions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 381, abstract  
22L336 (Tr. Vses. n.-i. kinofotoin-ta, no. 32, 1959, 5 - 18)

TEXT: A method of hypersensitizing various types of nuclear emulsion layers by means of triethanolamine (TEA) solutions is described. When studying the sensitizing effect of TEA it was found that TEA mainly influences the formation of the latent image, while its influence on the development process is unimportant. The effect of TEA is assumed to be connected with the gelatin structure of the emulsion layer which is definitely formed after the layer has dried. Results were obtained which prove that if TEA is present in the layer that energy can be partially utilized in the photographic process which has been absorbed by the gelatin layer. [Abstracter's note: Complete translation.]

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Card 1/1

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20996

S/058/61/000/005/004/050  
A001/A101

81.520 0  
AUTHORS:

Bogomolov, K.S., Razorenova, I.F., Sirovinskaya, A.A.

TITLE:

Sensitivity of photoemulsions to action of charged particles at low temperatures

PERIODICAL:

Referativnyy zhurnal, Fizika, no 5, 1961, 70, abstract 5B177 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 19 - 25)

TEXT:

The authors investigated mechanism of sensitivity reduction of photoemulsions to ionizing particles at low temperatures. Experiments on exposing  $\rho$  (R) type emulsions to an 660-Mev proton beam at  $-186^{\circ}\text{C}$  have shown that the final result in no way depends on the conditions of emulsion transition to room temperature after exposure. Residual sensitivity at this temperature does not depend on initial sensitivity (at room temperature) and conditions of emulsion maturing. The absence of ionic (dark) conductivity in emulsion crystals at liquid air temperature is insufficient for the explanation of all these facts, as well as the phenomenon of a further sensitivity drop at still lower temperatures. Therefore a presumption has been made that recombination of conductivity electrons, "frozen" in traps, with bromine ions plays a part in the phenomena

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Sensitivity of photoemulsions ...

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mentioned; this process manifests itself in the form of low-temperature fluorescence of AgBr. It has been found that intensity of the latter depends on the AgI content in the emulsion solid phase, and it is the highest at concentrations of AgI of the order of a few tenths per cent. If the assumption mentioned is true, iodine-free emulsions must possess greater sensitivity at low temperatures than conventional emulsions. This was confirmed by experiments, and such emulsions recorded minimum ionization particles not only at  $-186^{\circ}\text{C}$  but also at  $-252^{\circ}\text{C}$  (density of 17 grains/100  $\mu$ ) when in conventional R-type emulsions tracks of relativistic particles were absent.

A. .Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

20771

S/058/61/000/005/005/050  
A001/A101

21.5200

AUTHORS: Bogomolov, K.S., Razorenova, I.F., Ruditskaya, I.A., Sirotinskaya, A.A.

TITLE: Raising sensitivity of nuclear photoemulsions at low temperatures as a result of hypersensitization

PERIODICAL: Referativnyy zhurnal. Fizika, no 5, 1961, 70, abstract 5B178 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 26 - 28) X

TEXT: Degree of sensitivity to minimum ionization particles preserved at temperatures  $-186$  and  $-252^{\circ}\text{C}$  was investigated in the following types of R emulsions: conventional (I), hypersensitized by triethanolamine (II), special iodine-free emulsion prior to hypersensitization (III) and the same after hypersensitization (IV). The degree of sensitivity preservation at  $-186^{\circ}\text{C}$  proved to be  $\sim 70\%$  in (I),  $\sim 50\%$  in (II),  $\sim 70\%$  in (III); the density of tracks was  $\sim 20-25$  in (I) and (III) and  $40-50$  grains/ $100\mu$  in (II). At  $-252^{\circ}\text{C}$  sensitivity is completely absent in (I); in (II) it preserved by  $\sim 40\%$ , in (III) by  $\sim 70\%$ , and in (IV) by

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X

Raising sensitivity of nuclear photoemulsions ...

S/058/61/000/005/005/050  
A001/A001

~80%; the track density amounted to ~25 - 30 in (II), ~20-25 in (III) and to ~50 (in one case 76) grains/100  $\mu$  in (IV). Fog amounted to 1.4 in (I) and (III) and 2.5 grains/100  $\mu$  in (II) and (IV).

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

SIROTINSKAYA, A. A., DEBERDEYEV (fnu), and BOGOMOLOV, K. S.

"A photoemulsion for nuclear research, Type M NIFKI"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West  
Germany, 3-8 Sep 62



ACC NR: AP6029012

SOURCE CODE: UK/U413/00/000/014/0020/0004

INVENTOR: Kaufman, M. Sh.; Aleshin, V. A.; Fridin, G. M.; Goncharov, V. P.; Faretskiy  
M. I.; Sirotinskiy, E. S.; Soloveychik, P. M.

GRG: None

TITLE: A method for producing tubes with a wall thickness which varies with length.  
Class 7, No. 183696

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 10

TOPIC TAGS: metal tube, metal rolling

ABSTRACT: This Author's Certificate introduces a method for producing tubes with a wall thickness which varies with length. The method consists of varying the distance between the rollers or moving the mandrel during rolling. This method is used on cold rolling pipe mills. A tube with varying wall thickness is used instead of the blank. The thickness of the wall of this tube varies according to a law corresponding to that of the finished product. This is done in order to reduce metal pressure on the rollers and to ensure the production of tubes with a significant difference in wall thickness without cracking.

SUB CODE: 13/ SUBM DATE: 13Jul64

UDC: 621.774.3.002.28

Card 1/1

SMIRNOV, A.P., inzh.; SIROTINSKIY, I.B., inzh.

Mechanization of welding operations in railroad car building.  
Svar. proizvod. no.10:8-12 0 '61. (MIRA 14:9)

1. Rizhskiy vagonostroitel'nyy zavod.  
(Railroads--Cars--Welding)

SIROTINSKIY, L. I.

"Technique of High Voltage", published by State Publishers of Energetic Literature,  
Moscow, 1945

SIRCTINSKIY, L. I.

42279: SIRCTINSKIY, L. I. - K. A. Krug-organizator vsesoyuznogo elektrotekhnicheskogo instituta (VEI) im. V. I. Lenina. Trudy Mosk. energet. in-ta im. Molotova, VYP. 3, 1948, c. 26-37.- Bibliogr: Spisok pechatnykh trudov K. A. Kruga. s. 29-31.

SC: Letopis' Zhurnal'nykh Statev, Vol. 47, 1948

SIROTINSKIY, L. I.

"Anatoliy Yakovlevich Buylov," Elektrichestvo, No. 10, 1949.

SIROTINSKIĬ, L. I., ed.

Technology of high tension power distribution Moskva, Gos. energ. izd-vo, 1951-  
(54-24804)

1. Electric power distribution - High tension.

TK3144.852

SIROTINSKIY L.I.: CHILIKIN M.G.: SUKOMEL A.S.: SOLOV'YEV I.I.: BEL'KIND L.D.:  
FEDOSEYEV A.M.: GRUDINSKIY P.G.: UL'YANOV S.A.: VENIKOV V.A.: MEDVEDEV B.P.:  
SOLDATKINA L.A.: VASIL'YEV A.A.: ROZANOV, G.M.: ANISIMOVA N.D.

Professor A.A.Glazunov. On His 60 Birthday and 30 Year od Scientific Pedagogical, Engineering, and Society Activity. Elektrichestvo, No.1, 1952.

SO: Monthly List of Russian Accessions, Library of Congress, April 52 ~~1952~~, Uncl.

SAR TIMMY, L. I., Prof

Electric Engineers

M. K. Polivanov. Twenty-fifth anniversary of his death. Elektrichestvo no. 6, 1953.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.



SIROTINSKIY, L. I.,

ed. Tekhnika vysokikh napriazhenii (High voltage engineering) Moskva, Gosenergo-  
izdat.

Pt. 2. 1953. 240 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

KOSTROV, M.F.; BIRYUKOV, V.G.; SIROTINSKIY, L.I.; KISLOV, A.N.; KOZHUKHOV, V.K.;  
AKOPYAN, A.A.; MEL'KUMOV, A.M.; LARIONOV, V.P.

Profesaor G.V. Butkevich. Fiftieth anniversary of his birth. **Elektrichestvo**  
no.10:92 0 '53. (MLRA 6:10)

(Butkevich, Georgii Vladimirovich, 1903- )

KIRILLIN, V.A.; PANTYUSHIN, V.S.; SIROTINSKIY, L.I.; BEL'KIND, L.D.; FEDOSEYEV,  
A.M.; UL'YANOV, S.A.; VENIKOV, V.A.; MARANCHAK, V.M.; ANISIMOVA, N.D.

Professor I.I.Solov'ev. Fiftieth anniversary of his birth. Elektrichestvo  
no.10:93 0 '53. (MIRA 6:10)

(Solov'ev, Ivan Ivanovich, 1903- )

SIROTINSKIY, L.I.

AID P - 626

Subject : USSR/Electricity  
Card 1/1 Pub. 27 - 30/35  
Authors : Nekrasov, A. N., Syromyatnikov, I. A., Chilikin, M. G.,  
Solov'yev, I. I., Glazunov, A. A., Sirotinskiy, L. I.,  
Ivanishchenko, F. D., Venikov, V. A., Chetverichenko, A. N.  
and others.  
Title : Professor A. M. Fedoseyev. On His 50th Birthday and  
25 years of Scientific, Educational and Engineering  
Activity. (Current News)  
Periodical : Elektrichestvo, 8, 89, Ag 1954  
Abstract : A short biographical sketch and a description of  
scientific activity is given.  
Institution : Not given  
Submitted : No date

SIROTINSKIY L.I.

AKOPYAN, A.A.; BORISGLEBSKIY, P.V.; BUTKEVICH, Yu.V.; DMOKHOVSKAYA, L.F.;  
RAZEVIG, D.V.; SIROTINSKIY, L.I.

Answer of the authors and of the editor. Elektrichestvo no.8:93  
Ag '54. (MIRA 7:8)  
(Electric engineering)

SIROTINSKIY, L I

613.64  
.S6

Gasentladungen, von a A. Akopyan (et al.) Gesamtdredaktion: L. I. Sirontinski. Berlin, Technik, 1955.

298 p. illus., diags., tables (Hochspannungstechnik, V. I, pt. 1)

Translation from the Russian: "Gazovyye razryady," v. i of "Tekhnika vysokokh napryazheniy," Moscow. 1951.

Bibliographical footnotes.

*L. I. Sirotinskiy, et al.*

AID P - 4092

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 3/24

Authors : Glazunov, A. A., Prof., and L. I. Sirotinskiy, Prof.  
Distinguished Workers in Science and Engineering

Title : The role of the Moscow Power Engineering Institute in  
the creation and development of the electric power  
systems of the U.S.S.R.

Periodical : Elektrichestvo, 11, 12-14, N 1955

Abstract : The authors enumerate in chronological sequence the  
various works of the Institute in planning, designing  
and directing the creation and development of the  
electric power systems in the USSR. They enumerate  
the persons who in particular contributed in the various  
phases of that development.

Institution : None

Submitted : Ag 4, 1955

LEVIT, Grigoriy Osipovich, inzhener; BEL'KIND, L.D., doktor tekhnicheskikh nauk, redaktor; GLAZUNOV, A.A., doktor tekhnicheskikh nauk, redaktor; GOLUBTSOVA, V.A., kandidat tekhnicheskikh nauk, redaktor; ZOLOTAREV, T.L., doktor tekhnicheskikh nauk, redaktor; IZBASH, S.V., doktor tekhnicheskikh nauk, redaktor; KIRILLIN, V.A., redaktor; KONFEDERATOV, I.Ya., doktor tekhnicheskikh nauk, redaktor; PETROV, G.N., doktor tekhnicheskikh nauk, redaktor; ~~SIROTINSKIY, L.I.~~, doktor tekhnicheskikh nauk, redaktor; SOLOV'YEV, I.I., professor, redaktor; STYRIKOVICH, M.A., redaktor; SHCHEGLYAYEV, Ya.A., kandidat tekhnicheskikh nauk, redaktor; SHCHEGLYAYEV, A.V., redaktor; ANTIK, I.V., redaktor; FREDKIN, A.M., tekhnicheskii redaktor

[Outline history of power engineering in the U.S.S.R.] Ocherki po istorii energeticheskoi tekhniki SSSR. Red. komissia L.D. Bel'kind i dr. Moskva, Gos. energ. izd-vo. No. 3. [Power congresses and conferences] Energeticheskii s"ezdy i konferentsii. 1956. 98 p. (MLBA 10:4)

1. Moscow. Moskovskiy energeticheskii institut. 2. Chlen-korrespondent AN SSSR. (for Kirillin, Styrikovich, Shcheglyayev)  
(Power engineering--Congresses)



SIROTINSKIY, L.I.

CHILKIN, M.G.; MESHKOV, V.V.; GOLUBTSOVA, V.A.; SIROTINSKIY, L.I.; VENIKOV, V.A.;  
ZOLOTAREV, T.L.; KONFEDERATOV, I.Ya.; SHNEYBERG, Ya.A.; VESOLOVSKIY, O.N.

Professor L.D.Bel'kind. Elektrichestvo no.8:93-94 Ag '56. (MLRA 9:10)  
(Bel'kind, Lev Davidovich, 1896-)

SIROTINSKIY, L. I. (Doctor of Technical Sciences)

Moscow. Energeticheskiy institut

Istoriya energeticheskoy tekhniki SSSR v trekh tomakh. t. 1: Teplotekhnika  
(History of Power Engineering in the USSR in Three Volumes. v. 1: Heat Engineering)  
Moscow, Gosenergoizdat, 1957. 479 p. 5,000 copies printed.

Ed.-Compiler: Konfederatov, I.Ya., Doctor of Technical Sciences; Authors: Badyl'kes. I.S., Doctor of Technical Sciences; Belindkiy, S.Ya., Candidate of Technical Sciences; Gimmel'farb, M.L., Candidate of Technical Sciences; Kalafati, D.D., Candidate of Technical Sciences; Kertselli, L.I., Professor; Kovalev, A.P., Doctor of Technical Sciences; Konfederatov, I.Ya., Doctor of Technical Sciences; Lavrov, V.N., Doctor of Technical Sciences; Lebedev, P.D., Doctor of Technical Sciences; Lukinskiy, V.V., Doctor of Technical Sciences (deceased); Petukhov, G.S., Doctor of Technical Sciences; Satanovskiy, A.Ye., Doctor of Technical Sciences; Semenenko, N.A., Doctor of Technical Sciences; Smel'nitskiy, S.G., Candidate of Technical Sciences; Sokolov, Ye.Ya., Doctor of Technical Sciences; Chistyakov, S.F., Candidate of Technical Sciences, and Shcheglyayev, A.V., Corresponding Member, USSR Academy of Sciences; Editorial Board of set: Bel'kind, L.D., Doctor of Technical Sciences; Glazunov, Doctor of Technical Sciences; Golubtsova, V.A., Doctor of Technical Sciences; Zolotarev, T.L., Doctor of Technical Sciences; Izbash, S.V., Doctor of Technical Sciences; Kirillin, V.A., Corresponding Member, USSR Academy of Sciences;

Konfederatov, I.Ya., Doctor of Technical Sciences; Margulova, T.Kh., Doctor of Technical Sciences; Meshkov, V.V., Doctor of Technical Sciences; Petrov, G.N., Doctor of Technical Sciences; Sirovinskiy, L.I., Doctor of Technical Sciences; Styrikovich, M.A., Corresponding Member, USSR Academy of Sciences; and Shneyberg, Ya.A., Candidate of Technical Sciences. Ed.: Matveyev, G.A., Doctor of Technical Sciences; Technical Ed.: Medvedev, L.Ya.

PURPOSE: The book is intended for technicians in all branches of heat engineering.

COVERAGE: This book presents the development of the basic branches of heat engineering in the Soviet Union and it is the first volume of 3 volumes entitled History of Power Technology in the USSR. The first chapter gives a concise history of the development of heat engineering from its very beginning to the middle of the 19th Century when the fundamentals of the theoretical heat engineering were established. A detailed description of the development of heat engineering in pre-Revolutionary Russia is given in Ch. 2 to 5 and its status before 1917 is described. In the main part of the volume, Ch. 6 to 16, the development of various branches of the Soviet heat engineering is presented. The theoretical fundamentals of heat engineering, of manufacturing boilers, turbine installations of heat power plants, district heating, heat control, automation of thermal processes, and cooling techniques are covered extensively. Each chapter is supplemented with a bibliography. The book is illustrated with photographs, charts and diagrams, worked out by the authors of the respective chapters. At the end of the book there is a chronological list of the significant events in the development of heat engineering.

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PHASE I BOOK EXPLOITATION

SOV/3018

Strotinskiy, Leonid Ivanovich

Tekhnika vysokikh napryazheniy. Ch. 3, vyp. 1: Volnovyye protsessy i vnutrenniye perenapryazheniya v elektricheskikh sistemakh (High-Voltage Engineering. Pt. 3, no. 1: Wave Processes and Internal Overvoltages in Electrical Systems) Moscow, Gosenergoizdat, 1959. 365 p. 15,000 copies printed.

Hd. of Publishing House: G. M. Goncharenko; Tech. Eds: N. N. Koruzev and G. Ye. Larionov.

**PURPOSE:** The book is intended for electrical engineering students enrolled in a course on overvoltages. It may also be useful to electrical engineers dealing with overvoltages and their control.

**COVERAGE:** This is the first edition of the third part of a textbook on "High-Voltage Technique". The study of high-voltage and overvoltage problems became particularly important in the Soviet Union during the last few years

Card 3/11

CHILIKIN, M.G.; SIROPINSKIY, L.I.; VENIKOV, V.A.; UL'YANOV, S.A.;  
GRUDINSKIY, P.G.; FEDOSEYET, A.M.; SOLOV'YEV, I.I.; DROZDOV, N.G.;  
SYROMYATNIKOV, I.A.

Aleksandr Aleksandrovich Glazunov; obituary. Elektrichestvo  
no.8:88-89 Ag '60. (MIRA 13:8)  
(Glazunov, Aleksandr Aleksandrovich, 1891-1960)

SIROTINSKIY, M.N. (Tashkent)

For further achievements. Sov. zdrav. 22 no.6:3-5'63.  
(MIRA 16:9)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta zdra-  
vookhraneniya i istorii meditsiny.  
(TASHKENT PROVINCE—PUBLIC HEALTH)

SIROTINSKIY, M.N.

From the history of medical service of the population of  
Tashkent Province before the Great October Revolution. Med.  
zhur. Uzb. no.5:68-72 My'63 (MIRA 17:4)

1. Iz Instituta zdravookhraneniya i istorii meditsiny Minister-  
stva zdroyookhraneniya UzSSR ( dir. - kand. med. nauk S.A.  
Agzamkhodzhayev).

GLEBOV, V.A., kand. tekhn. nauk, dotsent; SIROTINSKIY, N.S.

Recuperative tests of diesel generators. Sbor. st. NIIZHT no. 45:  
15-22 '64. (MIRA 19:1)



SIROTINSKIY, N.S.

Magnetic and transistor control network of a diesel locomotive diesel-driven generator operating with an inverter. Sborn. st. RIIZHT no.45:23-33 '64.

New transistorized network for the control of mercury-arc converters. Ibid.:34-40 (MIRA 19:1)

SIROTINSKIY, P.S.

Automatic control of measuring the moisture of sand-clay molding  
mixtures. Lit. proizv. no. 4:43-45 Ap '61. (MIRA 14:4)  
(Sand, Foundry) (Moisture—Measurement)

SIROTINSKIY, P.S.

Melting cast iron in induction furnaces. Lit.proizv. no.7:46-48  
Jl '6i. (MIRA 14:7)

(Founding)

SIROTINSKIY, P.S.

Low-pressure casting. Lit. proizv. no.1:42-44 Ja '62.  
(MIRA 16:8)

(Great Britain--Die casting)

SIBOTINSKY, P.S.

Casting into molds using self-qualifying patterns. Lit. review.  
no.3424-48 Mr 164. (119) (2.7)

SIROTINSKY, P.S.

Casting in molds with gasified metals. Uncontrolled no. 3:  
45 My '61. (MIRA 17:7)

SIROTINSKIY, P.S.

Burning cores. Mashinostroitel' no.11:43 N '64 (MIRA 18:2)





MARIYENGOF, B.I. (g.Voronezh); SIROTINSKIY, V. (g.Voronezh)

Organization of refrigerator train repairs in the Otrozhka  
car repair plant. Zhel.dor.transp. 43 no.63-67 Ag '61.

(MIRA 14:8)

1. Glavnyy inzh. Otrozhskogo zavoda (for Mariyengof).
2. Glavnyy tekhnolog Otrozhskogo zavoda (for Sirotinskiy)  
(Otrozhka--Railroads--Repair shops)

SEREBRYAKOV, Mikhail Yevgen'yevich. Prinsipal'noe uchastie: VOROB'YEV,  
P.A., kand. tekhn. nauk; SIROTINSKIY, V.F., kand. tekhn. nauk;  
YEGOROV, V.S., kand. tekhn. nauk; DMITRIYEVSKIY, A.A., doktor  
tekhn. nauk, prof., retsenzent; USTINOV, V.F., kand. tekhn.  
nauk, dots., retsenzent; DEMUSYAK, A.G., inzh., nauchnyy red.;  
MOROZOVA, P.B., red. izd-va; KARPOV, I.I., tekhn. red.

[Interior ballistics of barrel systems and powder rockets]  
Vnutrenniaia ballistika stvol'nykh sistem i porokhovykh raket.  
3. izd., dop. i perer. Moskva, Oborongiz, 1962. 703 p.

(MIRA 15:12)

(Ballistics, Interior)

SIROTINSKIY, Ye. L.

"Electric Modeling of Hydraulic Power Systems With Pressure Installations."  
Sub 20 Jun 47, Moscow Order of Lenin Power Engineering Institute V. M. Molotov

Dissertations presented for degrees in science and engineering in  
Moscow in 1947

SO: Sum.No. 457, 18 Apr 55

SIROTINSKIY, YE. L.

FAL56T20

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USSR/Engineering - Generators  
Hydroelectric Plants

Nov 49

"Current Protection of Automatic Hydroelectric  
Station Generators Against Overload," Ye. L. Si-  
rotinskiy, Cand Tech Sci, 2 pp

"Elek Stants" No 11

Usual methods of overload protection are unsuit-  
able for automatic hydroelectric stations, where  
there are no watchkeepers. Discusses advantages  
and disadvantages of various forms of automatic  
current protection of generators. Includes graph,  
and diagram of electronic time relay circuit.

156120

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GUSEV, S.A., inzh.; ZHUKHOVITSKIY, B.Ya., kand.tekhn.nauk; ZARIN, D.D.,  
 kand.tekhn.nauk; IVANOV-SKOVENSKIY, A.V., kand.tekhn.nauk;  
 KNYAZEVSKIY, B.A., kand.tekhn.nauk; KUZNETSOV, A.I., inzh.;  
 KOZIS, V.L., kand.tekhn.nauk; KORYTIN, A.A., inzh.; LASHKOV,  
 F.P., inzh.; L'VOV, Ye.L., kand.tekhn.nauk; MELESHKINA, L.P.,  
 kand.tekhn.nauk; NEKRASOVA, N.M., kand.tekhn.nauk; NIKULIN,  
 N.V., kand.tekhn.nauk; POLEVOY, V.A., kand.tekhnicheskikh  
 nauk; RAZEVIK, D.V., kand.tekhn.nauk; ROZANOV, G.M., kand.tekhn.  
 nauk; RUMSHISKIY, L.Z., kand.fiz.-matem.nauk; SVISTOV, N.K.,  
 kand.tekhn.nauk; SIROTINSKIY, Ye.L., kand.tekhn.nauk; SOKOLOV,  
 M.M., kand.tekhn.nauk; TALITSKIY, A.V., prof.; TREMBACH, V.V.,  
 inzh.; FEDOROV, A.A., kand.tekhn.nauk; GRUDINSKIY, P.G., prof.;  
 PRYTKOV, V.T., kand.tekhn.nauk; CHILIKIN, M.G., prof., glavnyy  
 red.; GOLOVAN, A.T., prof.; red.; PETROV, G.N., prof., red.;  
 FEDOSEYEV, A.M., prof., red.; ANTIK, I.V., red.; SKVORTSOV, I.M.,  
 tekhn.red.

[Handbook for electric engineering] Elektrotekhnicheskii spravoch-  
 nik. Moskva, Gos.energ.izd-vo, 1952. 640 p. (MIRA 13:2)

1. Prepodavateli Moskovskogo energeticheskogo instituta imeni V.M.  
 Molotova (for all except Antik, Skvortsov).  
 (Electric engineering)

1. SIROTINSKIY, Ye. L.
2. USSR (600)
4. Electric Circuits
7. Symbols and rules for drawing protective and automatic schemes. Elektrichestvo no. 11, 1952.

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

SIROTINSKIY, Ye.L.

KONOVALOV, A.V., inzhener; SIROTINSKIY, Ye.L., kandidat tekhnicheskikh nauk.

"Remarks on E.L.Sirotinskii's article "Conventional symbols and drafting rules for relay protection schemes and automatic regulation." Elektrichestvo no.1:76-78 Ja '54. (MLRA, 7:2)

1. Ivanovskiy energeticheskii institut im. Lenina (for Konovalov). (Sirotinskii, E.L.) (Electric circuits)

SIROTINSKIY, E.L.

AID P - 2524

Subject : USSR/Electricity  
Card 1/1 Pub. 26 - 8/32  
Author : Sirotinskiy, E. L., Kand. Tech. Sci.  
Title : ~~Improvement in the connection diagram of an electro-~~  
magnetic voltage regulator of a generator with  
automatic compounding  
Periodical : Elek sta, 6, 25-28, Je 1955  
Abstract : An improved system of automatic voltage regulation is  
proposed by the author, especially for use with high-  
capacity generators at the non-attended hydro-power  
plants. In this system the adjustment of compounding  
and the operation of excitation relays do not depend  
upon the presence and type of voltage regulator.  
Institution : None  
Submitted : No date



ROZHKOV, M.G., inzh.; SIROTINSKIY, Ye.L., kand.tekhn.nauk

Transistorized frequency difference relay. Elek. sta. 32 no.2:  
59-64 P '61. (MIRA 16:7)

(Electric relays)

VOSTROKNUTOV, N.N., inzh. (Moskva); SIROTINSKIY, Ye.L., kand.tekhn.  
nauk, dotsent (Moskva)

New principle for obtaining constant advance time in automatic  
synchronizers. Elektrichestvo no.8:35-40 Ag '61.  
(MIRA 14:10)

(Electric power distribution)  
(Electric protection)

VOSTROKNUTOV, Nikolay Nikolayevich; DOROGUNTSEV, Viktor Gavrilovich;  
MARANCHAK, Vadiliy Makarovich; OVCHARENKO, Nikolay Il'ich;  
SIROTINSKIY, Yevgeniy Leonidovich; FABRIKANT, Veniamin  
L'vovich; IVANOV, V.I., prof., ~~retsensent~~; GIZIL, Ye.P.,  
~~dots., retsensent~~; SIROTKO, V.K., kand. tekhn. nauk, retsen-  
zent; SOLOV'YEV, I.I., prof., red.; FEDOSEYEV, A.M., prof.,  
red.; OVSYANNIKOVA, Z.G., red.; GOBOKHOVA, S.S., tekhn.red.

[Use of transistors in relay protection and system automa-  
tion]Primenenie poluprovodnikov v ustroistvakh releinoi  
zashchity i sistemnoi avtomatiki. Moskva, Vysshaya shkola,  
1962. 282 p. (MIRA 16:3)

(Electric protection) (Electric relays)  
(Transistor circuits)

SIROTINSKI, E. L. [Sirotinskiy, Ye.L.]; ROZHKOV, M.G.; VOSTROKNUTOV,  
N.N.; PANFILOV, N.I.; NANCHEV, St. [translator]

Contactless automatic voltage controller for transformers  
with control under load. Novosti avtomat telemekh no. 1:  
35-51 '64.

SIROTINSKIY, Ye.L., kand. tekhn. nauk (Moskva); ROZHKOV, M.G., inzh. (Moskva);  
VOSTROKNUTOV, N.N., inzh. (Moskva); PANFILOV, N.I., inzh. (Moskva)

Contactless automatic voltage regulators for regulating loaded trans-  
formers. Elektrichestvo no.7:4-12 JI '63. (MIRA 16:9)  
(Voltage regulators) (Electric transformers)

ARKHIPOV, N.K. [deceased] (Moskva); SIROTINKIY, Ye.L. (Moskva)

Voltage drop compensation in electric power distribution  
networks. Elektrichestvo no.12:24-28 D '65.

(MIRA 18:12)

SIROTKA, A.

On the problem of radiation protection in roentgenological laboratories in Lithuania. Sveik. apsaug. 6 no.9(69):42-44 S '61.

1. Vilniaus Epidemiologijos ir higienos m. t. institutas. Direktorius med. m. kand. P. Lazutka.

(RADIATION PROTECTION)

SIROTKA, A.

Apropos of lowering the radiation exposure of the patient.  
Sveik. apsaug. 9 no.1:41-46 Ja'64. .

1. Epidemiologijos ir higienos m.t. institutas.

\*



SIROTKA, A.

On the problem of examining the health status of workers  
subjected to ionizing radiations. Sveik. apsaug. 8 no.4:45-49  
Ap'63.

1. Vilniaus Epidemiologijos ir higienos m.t. institutas.  
Direktorius - med.m.kand. P.Lazutka.

\*

SIROTKIN, A.

Tunnel-type wafer oven and wafer cutter. Khol. tekhn. 35 no.2:59-60  
Mr-Ap '58. (MIRA 11:4)  
(Ovens) (Ice cream industry--Equipment and supplies)

21(9)

SOV/89-6-6-20/27

AUTHOR:

Sirotkin, A.

TITLE:

Organic Liquids in Reactor Construction  
(Organicheskiye zhidkosti v reaktorostroyenii)

PERIODICAL:

Atomnaya energiya, 1959, Vol 6, Nr 6, pp 682-685 (USSR)

ABSTRACT:

The present paper is a comprehensive abstract. The material published is only taken from publications of the USA and Canada, mainly from the lectures Nr 1779, 51, 210, 611, and 630 (Geneva 1958). There are 1 figure, 6 tables, and 7 references.

Card 1/1

SIROTKIN A.

Record of the operation of the OMRE reactor. Atom.energ.  
9 no.1:67-70 J1 '60. (MIRA 13:7)  
(Great Britain—Nuclear reactors)

SIROTKIN, A.

Tendencies in the ~~development~~ of British atomic ~~energy~~ plants. Atom.  
energ. 11 no. 3 20-29 3-61. (MIRA 14:9)  
(Great Britain--Atomic power plants)

SIROTKIN, A.

27-7-23/37

AUTHOR: Sirotkin, A.

TITLE: Professional Education Abroad: (Professional'noye obrazovaniye za rubezhom) Training of Workmen in Rumania (Obucheniye rabochikh v Rumynii)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 7(146), p 28-29 (USSR)

ABSTRACT: Pointing out that under the bourgeois-landlord regime, Rumania was an under-developed agrarian country, the author states that within a short period the Rumanian Peoples' Republic has successfully developed its industry, agriculture and raised the material and cultural level of its workers. The training of qualified workers was a vital necessity for this development. On 18 May 1951, the Rumanian Government established the Main Administration of Labor Reserves, utilizing the experience of the USSR. This schooling system covered a) industrial schools, b) professional schools and c) railroad schools. The training in the industrial schools was free of charge and lasted from 6 to 12 months. For at least 4 years the graduates had work off the cost of their training in assigned industries. The professional and railroad schools prepared qualified workers for certain specialities. Duration of train-

Card 1/2

27-7-23/37

Professional Education Abroad: Training of Workmen in Rumania

ing is 2-3 years.

Over the first 5 years, 200,000 industrial specialists were trained. In addition, about one million people have increased their qualification by means of individual training and courses organized at large enterprises. However, in Jan 1955 new professional and technical schools were established. They were attached to big enterprises, motor-tractor stations, state farms and ministries. At the beginning of the 1956/57 school year, technical schools to which persons with 10-years education are admitted, started to operate. To prove the increase in the qualifications of the workmen, the author states that from 1951 to 1955 a total of 189,948 rationalization suggestions were submitted of which 111,375 were accepted.

AVAILABLE: Library of Congress

Card 2/2

SIROTKIN, A.

On the further raising of wages and reducing costs in the Rumanian  
People's Republic. Biul. nauch. inform.: trud i zar. plata 4 no.9:  
67-68 '61. (MIRA 15:1)

(Rumania--Wages) (Rumania--Prices)



SIROTKIN, A.

Wages on the state and collective farms of Rumania. Biul. nauch.  
inform.: trud i zar. plata 4 no.11:57-62 '61. (MIRA 14:12)  
(Rumania--Agricultural wages)

SIROTKIN, A.

Improving the welfare of the people in Rumania. Biul.nauch. inform.:  
trud i zar. plata 5 no.1:61-65 '62. (MIRA 15:2)  
(Rumania--Cost and standard of living)

SIROTKIN, A.

Regulating the wage schedule in the milling and bread baking enterprises of Rumania. Biul. nauch. inform.: trud i zar. plata 5 no.6:51-54 '62. (MIRA 15:6)

(Rumania--Wages--Flour mills)  
(Rumania--Wages--Bakers and bakeries)

L 18994-63

EWP(q)/EWT(m)/BDS

AFFTC/ASD/ESD-3

Pq-4

WH/JD/JG:

ACCESSION NR: AT3002454

S/2935/62/000/000/0207/0211

AUTHOR: Gaman, V. I.; Sirotkin, A. A.; Stenina, V. M.

72  
69

TITLE: Effect of As-S-I low-melt glass on current-voltage characteristics of silicon p-n junctions [Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June, 1961]

SOURCE: Poverkhnostnyye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 207-211

TOPIC TAGS: low-melt glass, current-voltage characteristic, semiconductor, silicon, silicon junction

ABSTRACT: Experimental studies are described of alloyed Si junctions hot-coated with 24% As, 67% Si, 9% V glass. The dielectric constant of the glass was 6.5, its  $\text{tg } \delta$  was  $(4.5-0.4) \times 10^{-3}$  at 30-10,000 cps. Al was alloyed into n-Si with a resistivity of 10-15 ohms.cm. The junctions were dipped into the glass melt at 250-300C for 1 min, then aged for 30-50 hrs at 130-150C, then subjected

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L 18994-63

ACCESSION NR: AT3002454

3

to tropical humidity for 75 hrs, and finally went through 3 thermal 70-min cycles -60+130C. Reverse current-voltage characteristics were determined at various stages of the above treatment. It was found that the glass acted as a getter absorbing contaminants from the surface of the junctions; that the glass was moisture-resistant and that its dielectric loss was low. "In conclusion, the authors wish to thank B. V. Makarkin for measuring the dielectric characteristics of the glass." <sup>15</sup> Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Tomskiy gosudarstvennyy universitet im. V. V. Kuybyshcheva (Tomsk State University)

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

OTHER: 005

Card 2/2

L 12819-63 EWP(q)/EWT(m)/BDS AFFTC JD s/2927/62/000/000/0254/0258 54  
ACCESSION NR: AT3003015

AUTHOR: Presnov, V. A.; Gaman, V. I.; Sirotkin, A. A.

TITLE: Effect of a low-melt glass coating on the characteristics of silicon p-n junctions [Report at the All-Union Conference on Semiconductor Devices, Tashkent, 2-7 October, 1961]

SOURCE: Elektronno-dy\*rochny\*ye perekhody\* v poluprovodnikakh. Tashkent, Izd-vo AN UzSSR, 1962, 254-258

TOPIC TAGS: silicon transistor, silicon junction

ABSTRACT: Excessive surface leakage currents in silicon p-n junctions cause parameter instability and other undesirable effects. Theoretically, these currents can be suppressed by coating the silicon with a low-melt glass. Two types of glass were investigated experimentally: As - S - I and As - S - Tl; they melted at 500-600C. Their  $\epsilon$  and  $\tau_g$  at  $9.24 \times 10^9$  cps are reported in the article. Al-n-silicon junctions were coated with glass, measured, then subjected to -60 +130C cycle three times, and measured again. The results were inconclusive: some specimens exhibited increase, some decrease in the reverse currents; in other specimens the

Card 1/2

L 12819-63

ACCESSION NR: AT3003015

reverse currents did not change. Tl-glass coated D808 stabilitrons showed deterioration of characteristics. The results are discussed and partly attributed to chemisorbed molecules on the surface of silicon. Orig. art. has: 2 figures, 5 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: PH, GE

DATE ACQ: 15May63

NO REF SOV: 002

ENCL: 00

OTHER: 009

Card 2/2

L 64293-65 EMP(e)/EMP(m)/EMP(i)/EMP(b) GS/WH UR/0000/64/000/000/0131/0138 33  
ACCESSION NR: AT5020458

AUTHOR: Sirotkin, A. A.; Gaman, V. I. (Docent); Mikhaylova, T. G.; Fresnov, V. A. (Professor)

TITLE: Using inorganic glasses for the protection of semiconductor devices

SOURCE: Mezhevuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 131-138

TOPIC TAGS: germanium semiconductor, glass, telluride, selenide, inorganic oxide, sulfide, protective coating, glass coating

ABSTRACT: The authors studied the use of low-melting chalcogenide glasses of various compositions and systems for protecting standard open semiconductor devices of Soviet manufacture. Some of the electrophysical properties of these glasses were studied. The resistivity of these glasses at room temperature lies within the range from  $10^{13}$  to  $10^{16}$   $\Omega \cdot \text{cm}$  depending on the glass composition. The resistivity drops sharply with an increase in temperature being reduced by 4-5 orders of magnitude at 120-180°C. There are two methods for applying glass coatings to the semi-

Card 1/2



L 64293-65

ACCESSION NR: AT5020458

conductor devices: a) immersion of the semiconductor device in the glass melt;  
b) vaporization of a glass film in vacuum. Experiments with the immersion method showed a reduction or no change in the reverse current, with good waterproofing qualities. This method is not applicable to germanium semiconductor devices since the melting point of the glass is considerably higher than that of the material for the rectifying contact. Therefore the method of precipitation of glass vapors in vacuum was used for these devices. Glasses containing selenium were the best in quality and had the best adhesion properties. It may be possible to create a glass coating with a coefficient of expansion close to that of the semiconductor device by adding germanium to the glass composition. This would eliminate thermal stresses caused by rapid changes in temperature during coating of the device. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 06Oct64

ENCL: 00

SUB CODE: MT, EC

NO REF SOV: 004

OTHER: 007

*LL*  
Card 2/2

L 42984-66 EWT(m)/EWP(e) WH

ACC NR: AP6013271

SOURCE CODE: UR/0413/66/000/008/0070/0070

INVENTOR: Sirotkin, A. A. ; Gaman, V. I. ; Presnov, V. A.

48 B

ORG: none

TITLE: Glass. Class 32, No. <sup>15</sup>180770 [announced by the Siberian Physicotechnical Scientific Research Institute at the Tomsk State University im. V. V. Kuybyshev (Sibirskiy fiziko-tekhnicheskii nauchno-issledovatel' skiy institut pri Tomskom gosudarstvennom universitete im. V. V. Kuybysheva)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 70

TOPIC TAGS: glass, silicon, thermal expansion, thermal expansion coefficient

ABSTRACT: An Author Certificate has been issued for a glass containing SiO<sub>2</sub>,

B<sub>2</sub>O<sub>3</sub>, Na<sub>2</sub>O, and Al<sub>2</sub>O<sub>3</sub><sup>15</sup>. To ensure the production of glass with the coeffieicnt of

thermal expansion<sup>15</sup> close to the coefficient of thermal expansion of silicon, the com-

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UDC: 666.112.7:666.117.3

L 42984-66

ACC NR: AP6013271

0

ponents are taken in the following quantities (weight %):  $\text{SiO}_2$ , 34.65—49.35;

$\text{B}_2\text{O}_3$ , 42.18—46.66;  $\text{Na}_2\text{O}$ , 5.8—6.4;  $\text{Al}_2\text{O}_3$ , 2.38—2.63. [Translation] [NT]

SUB CODE: 1120/SUBM DATE: 01Jul63/

Card 2/2 hs

SIROTKIN, A.A., inzh.

Methods and equipment for measuring injection pressure by an  
open-type pump and injector unit. Trudy MADI no.25:160-169 '60.  
(MIRA 13:10)

(Diesel engines)