

GRILLER, I.; MAKSIM, S.

Conference on semiconductor rectifiers. Radio no.6:57 Jo '56.  
(MLRA 9:8)  
(Electric current rectifiers)

MESKIN, S.S., inzhener; GELLER, I.Kh., inzhener.

Conference on semiconductor rectifiers. Elektrichestvo no.6:93-94  
Je '56. (MIRA 9:9)  
(Electric current rectifiers)

677

PHASE I BOOK EXPLOITATION

Geller, Isaak Khaimovich and Maskin, Samuil Semenovich  
Poluprovodnikovyye vypryamiteli (Semiconductor Rectifiers) [2d ed., rev. and enl.]  
Leningrad, Leningradskiy Dom nauchno-tekhnicheskoy propogandy, 1957. 94 p.  
(Series: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy  
RSFSR. Poluprovodniki, vyp. 10) 15,000 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut poluprovodnikov, and  
Leningradskiy Dom nauchno-tekhnicheskoy propogandy.

Tech. Ed.: Freger, D. P.; Editorial Board: Ioffe, A. F., Academician (Ed. in  
Chief); Sominskiy, M. S., Candidate of Physical and Mathematical Sciences  
(Assistant Ed. in Chief); Maslakovets, Yu. P., Doctor of Physical and Mathe-  
matical Sciences; Smolenskiy, G. A., Doctor of Physical and Mathematical  
Sciences; Shalyt, S. S., Doctor of Physical and Mathematical Sciences; Regel',  
A. R., Candidate of Physical and Mathematical Sciences; Subashiyev, V. K.,  
Candidate of Physical and Mathematical Sciences; Shagurin, K. A., Engineer;  
Achkinadze, Sh. D., Engineer.

Card 1/4

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Ch.

Rectification

Parameters and

Card 2/4 APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R0005146200

General Properties of Rectifying Cells

12

*G. L. ...*

92.1

**PHASE I BOOK EXPLOITATION**

**PHASE I BOOK EXPLOITATION**  
Semi-conductors in science and technology v. 1. Moscow, Izd-vo AN SSSR, 1957. 316 p. 12,000 copies printed.

**Editor:** Ioffe, A.P.; **Tech. Ed.:** Arons, B.A.

**SCOPE:** The collection of articles "Semiconductors in Science and Technology" is intended for a wide circle of engineers and technicians.

**CONTENTS:** The first volume of the collection presents an overview of semiconductor theory concerning electric conductivity, thermo- and galvanomagnetic properties, contact phenomena, diffusion and thermoelectric properties. A description of semiconductor devices and their fields of application is given. References are given after each article.

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... Semiconductors in Science and Technology ...  
... who is chairman of the Semiconductors Institute,  
Academy of Sciences, USSR, and the responsible editor of his book,  
explains the aim of the present publication, namely, to fill the  
gap in the extremely meager literature dealing with the subject of  
semiconductors on an engineering level

PART I. PRINCIPLES OF SEMICONDUCTOR THEORY

Ch. I. Shalyt S.S. Electric Conductivity of Semiconductors 7

The author presents a table showing the 12 elements which exhibit  
semiconductor properties, grouped according to the Mendeleev  
periodic system (p. 9). He give a brief description of properties  
of each, considering germanium the most typical and best known among  
them and silicon the most promising but difficult to use because of  
the "still unsolved problem of refining it" (p. 10). Another

difficult problem of semiconductor materials with given electric and heat-resisting semiconductor materials with given electric and thermal properties to be used in economically profitable thermal generators. The author considers the scientific, technical and economic importance of the semiconductor problem to be equal to that of the problem of utilization of nuclear energy. He presents some general ideas on the electric conductivity of solids and on the concentration and mobility of current carriers (p. 10) on the charge sign of current carriers in semiconductors; on the intrinsic and impurity conductivity of semiconductors (p. 36); on the relation of semiconductor conductance to temperature (p. 49); on semiconductor photoconductivity (p. 61); on the influence of a strong electric field on semiconductor conductance (p. 68); on the influence of various corpuscular radiations on semiconductor conductance (p. 74); on the influence of deformation (p. 78); and on conductance of liquid, amorphous and polycrystalline bodies (p. 80). A table is given of the numerical values of basic physical parameters which

... intrinsic conductivity of ...  
temperature (pp. 82, 83). There are 3 ...  
... (5 Soviet and 5 translations).

... Scil'bens, L.S. Thermal Conductivity of ...  
The author explains the two modes of heat transfer ...  
by means of elastic lattice vibrations, or phonons, and (2) by the  
free electrons. He investigates these two components of thermal  
conductivity separately. As concerns electronic thermal conductivity,  
Ioffe, A.F. and Ioffe, A.V.; Devyatkova, Ye. D. and Gul'tyayev, F.V.  
recently demonstrated that the Wiedemann-Franz Law on the ratio of  
thermal to electric conductivity is true only as concerns impurity  
conductivity. As the temperature approaches levels at which  
intrinsic conductivity appears, thermal conductivity begins to  
grow more rapidly than electric conductivity. Further  
investigations in this field were made by Davydov, B.I. and  
Shmashkevich, I.M. (p. 88). Pikus, G.Ye. derived a formula for  
complementary thermal conductivity conditioned by exciton  
diffusion (p. 88). Ansel'm, A.I. demonstrated that the exciton



... conductivity (p. 88). Crystal lattice structure is also analyzed. There are 3 diagrams and 3 references (and 1 a translation).

... distribution function. There are 8 diagrams and 5 Soviet references.  
Ch. IV. Stil'bens, L.S. Thermoelectric Phenomena

The article explains the nature of the Peltier and Seebeck effects. Between 1930 and 1955 Ioffe, A.P. developed a quantitative and then a quantitative theory of thermoelectromotive force and of thermo-emf semiconductor generators (p. 115). The TUK-3 type of thermoelectric generator based on Ioffe's ideas and designed under his supervision is produced in the USSR as a power source for the collective radio stations of the "Urozhay" type in regions where there is no electric power supply (p. 115). Other models of higher capacity are under development. In 1950, Ioffe, A.P.

developed a theory of thermoelectric cooling with thermoelectric  
thermoelements. The Semiconductor Institute, Academy of Sciences,  
USSR, has already developed a domestic refrigerator and other  
devices based on this principle (p. 115). The author derives  
formulas for the Peltier factor and for the thermoelectromotive  
force using two different approaches: (1) either to obtain the  
Peltier factor from kinetic considerations and then to find the  
thermo-emf from the Thomson formula or conversely, (2) to find a  
formula for  $\alpha$  (the thermo-emf factor) and then to obtain the  
Peltier factor from the Thomson relation. He investigates two  
components of the thermo-emf, namely the contact and volumetric,  
and then studies the third component, the carrying along of  
electrons by phonons. According to the author, this phenomenon  
was first investigated in metals by Burevich, L.E. in 1945 and  
later (1951) in semiconductors by Pikus, G. Ye., who derived a  
formula for this source of thermo-emf (p. 122-123). Further  
investigations of this phenomenon by non-Soviet researchers  
are also mentioned. A method of measuring the thermoelectric  
properties of semiconductors and the apparatus used for this  
purpose are described in detail (p. 126). A comparison of experimental  
and theoretical results obtained for semiconductors and  
metals is made (p. 129) and data obtained by Gokhberg, B.M. and  
Sedinskiy, M.S. are presented (p. 131). It was found that

agreement of results is obtained only for temperatures below  
-300 C, and only for certain groups of materials. There are 11  
diagrams and 3 references (2 Soviet and 1 translation).

Ch. V. Stil'bens, L.S. Galvanomagnetic Phenomena 133

The author discusses galvanomagnetic phenomena occurring in  
conductors of the first type (i.e., in materials in which the  
current is carried by electrons and not by ions) when there  
is a simultaneous action of the electric and magnetic fields.  
He takes into consideration the case of perpendicularity of these  
fields when galvanomagnetic phenomena attain their maximum.  
Descriptions are given of the Hall effect (p. 137) and the  
Ettingshausen effect (p. 141); of conductance changes in a  
magnetic field (p. 142); of thermomagnetic phenomena (p. 144);  
of methods used in measuring semiconductor conductance and the  
Hall effect (p. 145). There are 8 diagrams and 3 references  
(2 Soviet and 1 translation).

Ch. VI. Pilyus, O. Ye. Contact Phenomena 148

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semiconductor devices: rectifier p-n diodes; p-n photodiodes; p-n-p junction transistors; high frequency p-n-p and n-p-n transistors; p-n-i-p and n-p-i-n transistors; point-contact transistors; channel transistors; and transistors with a high operating temperature. There are 34 diagrams and drawings and 34 references (7 Soviet, 7 translations, and 20 in English).

Ch. VII. Boltaks, B.I. Diffusion in Semiconductors

The author presents a review of experimental data on diffusive motion of impurities in various semiconductor materials. The following subjects are discussed: (1) Basic presentations of the mechanism of self-diffusion and hetero-diffusion in hard bodies (p. 222). This presentation results from the kinetic theory of real crystals developed by Frenkel' Ya. I. (2) Impurity diffusion in germanium and silicon (p. 226). The author, together with Sosinov, I., recently investigated the diffusion of copper in silicon for a temperature range of 800° to 1100° C. (p. 231). (3) Diffusion in sulfur, selenium and tellurium (p. 232). Maslakov, D. and Malyshev, Ye. studied the diffusion of mercury in

... presents basic data on the...  
... manufacture, basic temperature relationships, VPI, and...  
... dynamic characteristics (p. 250). According to the author,  
... Mechayev, G.K. was the first to develop a quantitative theory of  
... processes occurring during the operation of thermistors in  
... stationary conditions. This theory made possible the explanation of  
... the electrical static characteristics of thermistors and the  
... creation of bases for the design and construction of thermistors  
... with given characteristics (p. 258). Mechayev, G.K. developed  
... methods of graphic calculation and analysis of a-c circuits with  
... thermistors in which the latter may be combined not only with  
... resistances, but also with inductances and capacitances (p. 260).  
... II. Basic operational principles in circuits under small and  
... large loads with temperature control or temperature compensation  
... and voltage stabilization, and capacity measurements with UHF are  
... discussed (p. 265). Kaganov, M.A. is credited with the development  
... of devices for remote centralized measurement of temperatures (p. 267).  
... Mechayev, G.K. suggested a system of heat control based on utilizing  
... the relay effect arising at a specific temperature in a circuit with

thermistor (p. 271). He also investigated bridges with thermistors (p. 275). The Institute of Electrical Engineering, Academy of Sciences, USSR, developed and service-tested a system of automatic temperature signaling with thermistors of the KTR-10 type (p. 272). KTR-11 type thermistors are also used for industrial temperature control. An analysis of bridges used for measuring capacities at UHF was made by Kerstenetskaya, F.O. (p. 276). III. Industrial types of thermistors are described (p. 277) and the work of Kolomyts, B.T., is mentioned as the basis of the Soviet thermistor industry. Types produced in the USSR are enumerated: resistance thermometers of the NWT-1, -2 and KTR-1, -2 types (table of specifications p. 279); thermocompensators of the KTR-8 and -9 types (table p. 283); thermistors for heat control of the KTR-10 and -11 types (characteristics p. 284); voltage stabilizers of the TP2/0.5, TP2/2 and TP6/2 types (table p. 286); capacity meters of 11 types: T8M, T8D, T8R, T8C1, T9 and others; and thermistors with indirect heating of the TKP-300 type (table p. 288). There are 45 illustrations: photographs, drawings and diagrams and 22 references (18 Soviet, 2 translations, 1 in English and 1 German).

... Semiconductor Bolometers  
... principle of operation and basic characteristics of  
... meters and in particular of semiconductor bolometers (p. 290)  
... are described. A highly-sensitive Bi-Pb bolometer was recently  
... developed by Markov, M.N., at the Physics Institute, Academy of  
... Sciences, USSR (p. 293). In 1956 at the Semiconductor Institute,  
... Academy of Sciences, USSR, a method of producing low-inertia  
... Ge bolometers was developed (p. 307). Characteristics of semi-  
... conductor bolometers are presented (p. 308-313) and their applications  
... described. There are 12 illustrations: photographs and diagrams  
... and 22 references (7 Soviet, 3 translations and 12 English and

... (Varistors)  
... The author gives a brief description of symmetrical and  
... asymmetrical varistors. Symmetrical varistors for low voltages  
... and small currents are produced in some countries, but are not yet  
... produced by Soviet industry (p. 315). The development of such  
... types of varistors for various parameters is done at the Leningrad  
... Electrical Engineering Institute in Lenin (LETI), where small



are also produced at the VBI in Lenin and by the Ministry of the G.I.A. at the "Proletariy" Plant (p. 315).

Characteristics of the operation of varistors from silicon carbide (SiC) and data on manufacturing varistors from silicon carbide (SiC) are presented in tabular form, and the manufacturing process at the "Proletariy" Plant is shown schematically (p. 322). Properties of varistors developed at LERI are presented in tabular form and in a series of characteristic curves for the NPS-42 experimental type (pp. 325-331). Describing the various uses of varistors, the author gives details of their application in valve-type arresters used for overvoltage protection of insulation of 100-kV/a-n electric installations (pp. 331-336). These arresters were developed by the VBI jointly with the "Proletariy" Plant, where they are produced. The following persons contributed in their development: IVANOV, L.I.,

... V.I., Savel'yev, V.P., Blevan, P.S., ...  
... is studying the characteristics of the ...  
... Six basic types of arresters are produced at the  
... "Military" Plant ...satisfying the demand for them in the  
... Union as well as in several foreign countries... (p. 332).  
... specifications and basic electric characteristics of the  
... arresters are presented (p. 333), as well as detailed drawings  
... and a photograph. There are 27 illustrations and 23 references  
... (12 Soviet, 2 translations and 9 English, French and German).

Ch. 11. Seminskiy, M.S. Photoresistors 338

The author explains the physical origins of photoresistance and the history of its discovery and uses. He describes the methods of making photoresistors and, in particular, of applying the semiconductor layer by the method of evaporation in a vacuum. A rotary vacuum oil pump of the RVN-20 type is used to obtain a preliminary vacuum, and for the high vacuum, diffusion vacuum oil pumps of the TsVL-40 type or TsVL-100 type are used (p. 342). The properties of photoresistances are described. An example is

Given of using for sound reproduction in a narrow film movie, since photoresistor of the FS-A<sup>4</sup> type in a narrow film movie, since of the 16-KPZL-1 type produced in Moscow (p. 349). This proves that photoresistors can operate satisfactorily even with audio frequencies. The high stability of the industrial types of photoresistors is obtained after a definite period of operation, when the final stabilization of their electric properties occurs. Examples are given of the cadmium sulfide photoresistors of the FSK-M1 and FSK-M2 types and of the FS-K1 and FS-K2 types (p. 350). The following photoresistors and their characteristics are described: selenium photoresistors (p. 351); thalofide cells (p. 353); lead sulfide (p. 354); bismuth sulfide (p. 358); cadmium sulfide (p. 361); several types in each category are enumerated and technical data are given. There are 41 diagrams and 30 references (20 Soviet, 3 translations, 1 German and 6 in

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The Galvanic Aspect of the

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semiconductors in science and technology  
application with the recent development of semiconductor devices.  
The article includes the following: I. General information  
about electrical and galvanomagnetic properties of semiconductors  
(p. 368). II. Some information on semiconductors with high  
electron mobility (p. 376); data about the following semi-  
conductors are given in detail and presented in a table of  
specifications: Ge, Si, HgSe, HgTe, InAs, InSb. III. Hall emf  
transmitter as a network element (p. 384); a table showing some  
characteristics of transmitters made from different semiconductors  
is presented (p. 389). IV. Practical development of Hall emf  
transmitters and various errors (p. 389); descriptions are given  
of the production of transmitters made with HgSe, HgTe and their  
solid solutions, of cutting of thin semiconductor plates with  
abrasive carbide discs developed at the VNIIE in Leningrad and of  
the production of contacts. The author discusses the linearity of  
transmitter readings, errors of multiplication, and temperature  
influence. V. The applications of Hall emf transmitters for  
various technical purposes (p. 394) are discussed. Among these  
are measurements of the intensity of constant and variable

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... (p. 39) ...  
... electric motor of the PM-28.5 series were made by  
Yelpat'yevskaya, O.D. and Perchuk, V.A. (p. 399). They used  
film transmitters made of mercury selenide. As concerns  
measurements of the current and power in d-c and a-c networks  
(p. 399), Berman, L.S. from the Semiconductor Institute,  
Academy of Sciences, USSR, described two types of wattmeters for  
the long-wave range (395 to 500 kc) in which the transmitters  
were built using n-Ge and n-In Sb (p. 401); signal transformation  
and several aspects of it are described; work in that field by  
Bogomolov, V.M. (pp. 403-404) and the use of a linear detector  
by Bogomolov, and Vasil'yev, V.D. in an arrangement for measuring  
the Hall effect in semiconductors are described (pp. 405, 406).  
There are 36 diagrams and 66 references (14 Soviet, 2 translations  
and 50 English, French, German, Italian and Japanese).

13. Geller, I. Kh., and Maslin, S.S. Semiconductor Rectifiers  
The purpose of this article is to acquaint engineers and technicians  
working in Soviet industry with the manufacturing processes of the

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...widely-used types of semiconductor rectifiers. Their V-I characteristics and properties, measuring methods and rectifying diagrams. The following problems are discussed: I. Electric parameters and general properties of the rectifying components (p. 418). II. Conditions and methods of measuring the parameters of rectifying components and rectifiers (p. 421). III. Basic rectifying connection showing the four basic types of rectifiers and the relationships between some of their more important parameters in the case of ideal rectifying components. In real conditions the influence of voltage drop in these components has to be accounted for. IV. Copper-oxide rectifiers (p. 430); the various components of these rectifiers and the technology of their production are explained and illustrated with photographs and characteristic curves. V. Selenium rectifiers (p. 436); data are given as above and also tables showing some specifications concerning reverse current, voltage drop, rectified current and decline of voltage and rectified current with the rise of temperature of the surrounding air above 35° C. VI. Germanium power diodes (p. 450); a detailed description of germanium and methods of producing diodes is given; their properties are described and presented in tabular form according to types.

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Appendices (pp. 156-170) give the following specifications:  
I. Basic parameters of copper-oxide rectifiers (48 types are presented in 3 tables). II. Valves (9 types). III. Basic parameters of selenium rectifiers assembled from rectifying components with an operating voltage of 18 v per unit; there are 25 types of rectifiers of 6 different unit dimensions each and 37 types for the three largest unit dimensions. IV. Basic parameters of selenium rectifiers assembled from rectifying components with an operating voltage of 30 v per unit; there are 25 types of rectifiers of 4 different unit dimensions and 37 types for the 100 x 100 mm rectifier size. V. Basic parameters of Ge diodes at temperatures of  $20^{\circ} \pm 5^{\circ}$  C: 7 types are presented. There are 35 photographs and diagrams and 9 references (7 Soviet, 2 translations).

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SOV/181-1-11-5/27

AUTHORS: Abdullayev, G. B., Aliyev, M. G., Geller, I. Kh.

TITLE: The Influence of Impurities on the Strong Field Effect in Selenium Rectifiers

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 11, pp 1670 - 1675 (USSR)

ABSTRACT: A 50 $\mu$  thick selenium layer was deposited by vacuum evaporation on bismuth-coated aluminum base. The first selenium crystallization occurred at 110 $^{\circ}$ C in the course of 2 hours. Subsequently the samples were kept at 217 $^{\circ}$ C for 15 minutes. The selenium layer was coated with a thin, chemically pure sulfur layer. The working surface of all samples was 12.5 cm $^2$ . Various series of samples were prepared, first of 99.996% pure selenium. Next 0.016, 0.032, 0.065 and 0.13 percent by weight of bromine were added to these selenium samples. The statistical voltage versus current characteristic was measured in the conventional measuring arrangement. Figures 1, 2 and 3 graphically present the results in the temperature range -183 $^{\circ}$  to +40 $^{\circ}$ C for the relations  $\lg R: \sqrt{U}$  and  $\lg R: U^2$ . The results show that the bromine contents considerably influence the field strength where  $\lg R$  begins to be linearly dependent on  $\sqrt{U}$  and  $U^2$ .

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9,3250 (1143,1154,1331)

S/170/60/003/012/013/015  
B019/B056

AUTHORS: Nekrashevich, I. G., Geller, I. Kh., Tkachev, V. D.  
TITLE: Galvanic Effects in Selenium Rectifier Elements  
PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 12,  
pp. 114-118

TEXT: The authors investigated the effect produced by moisture upon selenium rectifiers. In several experimental series, the behavior of the elements in moist and dry air was investigated. The results indicate that by the air moisture in the elements a galvanic EMF is formed, which is produced by the forming of galvanic couples between the lower and the upper electrode and between selenium and the upper electrode. These two couples act within a closed circle of a rectifier element in an opposite direction. These galvanic effects and their changes with a change of the moisture penetrating into the element from outside are considered to be causes of the fluctuations of the return current and of the destruction of selenium rectifier elements. There are 3 figures and 2 tables. ✓

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88016

Galvanic Effects in Selenium  
Rectifier Elements

S/170/60/003/012/013/015  
B019/B056

ASSOCIATION: Belorusskiy gosudarstvennyy universitet im. V. I. Lenina,  
g. Minsk (Belorussian State University imeni V. I. Lenin,  
Minsk)

SUBMITTED: January 22, 1960

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Card 2/2

GELLER, I.KH.; ABDULLAYEV, G.B.; KOCHIN, S.I.; ALAYEV, M.G.

Selenium rectifiers involving a higher current density.

Izv. AN Azorb.SSR.Ser.fiz.mat. i tekh. nauk no.4:51 63

'61.

(MIRA 14:12)

(Electric current rectifiers)

(Selenium)



GELLER, I. Kh

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S/181/60/002/007/011/042  
B006/B070

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AUTHORS:

Geller, I. Kh., Sharavskiy, P. V.

TITLE:

Electric Parameters of Some Types of Selenium Rectifiers

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1441-1449

TEXT: Selenium rectifiers derive their rectifying properties from the formation of a p-n-junction. Cadmium sulfide or selenide serve as an n-type semiconductor. The purpose of the present work was to investigate how the properties of rectifiers are affected when the technological process of their manufacture is altered. For this purpose, the following rectifiers were investigated: 1) The ordinary mass-produced rectifiers of the type ABC (BCA) (AVS (VSA)) whose manufacture is described in Refs. 3-5. They have cadmium selenide as n-type semiconductor, which is formed as a result of the interaction of the cadmium of the upper electrode with the sulfur sputtered on selenium. The permissible back voltage for a rectifier plate of this type is 18 - 26 v. 2) The so-called "cadmiumized" rectifier whose selenium film is covered with a cadmium

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Electric Parameters of Some Types of Selenium Rectifiers

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film. The permissible back voltage is  $\geq 26$  v. 3) Thallium-sulfur rectifiers whose upper electrode contains 0.015 - 0.02% of thallium. These rectifiers, besides having a high permissible back voltage ( $\geq 26$  v), possess also a lower resistance in forward direction, thus making it possible to increase the permissible current by 100% per plate. 4) Selenium rectifiers of the type TBC (TVS) with a reversed order of their layers. These rectifiers have the p-n junction not under the upper electrode, but on the base layer. They have cadmium selenide as n-type semiconductor, which is formed by the interaction with sulfur of the cadmium film applied to a thin aluminum backing. This type is distinguished by a specially high back voltage (some of them work with a back voltage of 50-60 v). The working area of all types was  $1\text{cm}^2$ , except TVS for which it was  $2.36\text{ cm}^2$ . The data of measurement all refer to an area of  $1\text{cm}^2$ . At first, the measurements of the current-voltage characteristics are described. Table 1 gives the measured values of resistance of four types of rectifiers for 0.3 and 30 v, as well as the maximum values. Table 2 shows the fall of potential in forward direction. Fig. 1 shows the volt-ohm characteristics of the rectifiers. All types

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Electric Parameters of Some Types of Selenium Rectifiers

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show an exponential fall of resistance with increasing potential; only the TVS type shows a weak maximum for small potentials and then a linear fall. In the following four diagrams,  $\ln R = f(U)$  is shown for the four types investigated and for three different functions of  $U$  (three different abscissae). These diagrams are discussed in detail. AVS and thallium rectifiers show direct proportionality between  $\ln R$  and  $U$ , the cadmium rectifiers between  $\ln R$  and  $\sqrt{U}$ , and the TVS rectifiers between  $\ln R$  and  $U^2$ . Later, the results of capacity measurements are discussed. The mean effective thicknesses of the p-n junctions for different shift voltages  $U$  are given in Table 3. The "cadmiumized" rectifiers show the thinnest junction ( $3.68 \cdot 10^{-5}$  cm). Fig. 6 shows  $1/C^2 = f(U)$  (C-capacity); Fig. 7 shows the distribution of impurity centers of the thickness of the p-n junction, and Fig. 8 shows the temperature dependence of the latter. Finally, some additional investigations on the characteristics of semi-conductors are mentioned, and their results are collected in Tables 4-6. Frenkel' is mentioned. There are 8 figures, 6 tables, and 9 references: 4 Soviet and 5 German.

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Electric Parameters of Some Types of  
Selenium Rectifiers

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ASSOCIATION: Leningradskiy inzhenerno-stroitel'nyy institut  
(Leningrad Construction Engineering Institute)

SUBMITTED: January 15, 1960

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Card 4/4

ABDULLAYEV, G.B., BAKIROV, M.Ya., GELLER, I.Kh., NASIROV, Ya.I.

Effect of bromine on the characteristics of selenium photocells.  
Dokl.AN Azerb.SSR 16 no.4:323-326 '60. (MIRA 13:7)

1. Institutu fiziki AN Azerbaydzhanskoy SSR.  
(Bromine) (Photoelectric cells)

S/032/60/026/04/13/046  
B010/B006

AUTHORS: Mamedov, K. P., Geller, I. Kh., Mekhtiyev, K. M.

TITLE: X-Ray Diffractometric Determination<sup>21</sup> of the Thickness of Thin Coats<sup>21</sup> on Metals

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 4, pp. 445 - 446

TEXT: The method suggested by V. S. Kogan and B. Ya. Pines (Ref. 1) is inadequate for measuring the thickness of coats applied to solid metallic foundations. In such cases, the method developed by L. S. Palatnik (Ref. 2) can be used. It is based on a comparison of the intensity of two Debye lines reflected from the foundation and the coat. The coat, however, must be crystalline. The authors developed a method applicable for both crystalline and amorphous coats on metals. The intensity of a particular interference from the surface of the foundation itself and the part of the foundation covered with the coat is determined. In this case, the change in intensity is solely caused by the weakening of the X-ray in the coat. The method described was used to determine the thickness of thin cadmium- and bismuth coats on aluminum disks of selenium rectifiers. A URS-501 diffractometer was used, but any other apparatus allowing

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X-Ray Diffractometric Determination of the Thickness  
of Thin Coats on Metals

S/032/60/026/04/13/046  
B010/B006

for the measurement of reflected X-ray intensities may be applied. Measuring results obtained are given (Table). There are 1 figure, 1 table, and 2 Soviet references.

ASSOCIATION: Institut fiziki Akademii nauk Azerb. SSR (Institute of Physics of the Academy of Sciences of the Azerbaydzhanskaya SSR)

Card 2/2

S/194/62/000/003/040/066  
D201/D301

9.2150  
AUTHORS:

Sharavskiy, P. V. and Geller, I. Kh.

TITLE:

The influence of thallium on the electrical properties of selenium rectifiers

PERIODICAL:

Referativnyy zhurnal, Avtomatika i radioelektronika, no. 3, 1962, abstract 3-4-24d (V sb. 'Fizika i khimiya' L., 1961, 9-13)

TEXT: An investigation into the effect of Tl on electric conductivity of Se and on the properties of selenium rectifiers. It is shown that the increase in the resistivity of Se, containing halide impurities, becomes less by 2 orders of magnitude as compared with that of pure Se, when Tl is introduced. Selenium rectifiers were prepared into which Tl was introduced, either into the upper electrode consisting of a Sn + Cd alloy or under the upper electrode in a quantity of up to 0.1% into a Se layer  $\sim 10^{-3}$  cm thick. As compared with industrially manufactured rectifiers, the above rectifiers exhibit a smaller resistance in the forward direction, which permits

Card

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GELLER, I.Kh.; ABDULLAYEV, G.B.; KOCHIN, G.I.; ALIYEV, M.G.

Rectifying selenium elements suited to currents of higher density.  
Izv. AN Azerb. SSR. Ser.fiz.-mat. i tekh.nauk no.5:65-73 '61.  
(MIRA 15:2)  
(Electric current rectifiers) (Selenium)

BAKAYEV, A.V.; GELLER, I. Kh.; DORIN, V.A.; ZAKHAROV, M.P.; NASLEDGV, D.N.;  
SOLOV'YEV, R.A.

Method for investigating potential distribution in selenium  
rectifying cells. Zav.lab. 27 no.10:1240-1242 '61. (MIRA 14:10)

1. Leningradskiy politekhnicheskii institut im. M. I. Kalinina.  
(Selenium—Electric properties)

L 12904-63 EWP(q)/EWT(m)/BDS AFFTC/ASD RDW/JD 60  
ACCESSION NR: AT3002989 B/2927/62/000/000/0105/0111 59

AUTHOR: Geller, I. Kh.; Zaugol'nikova, Ye. G.; Karageorgiy-Alkalayev, P. M.;  
Karimova, I. Z.; Murygin, V. I.; Nechayeva, R. Ye. ✓

TITLE: Analyzing certain characteristics of selenium rectifiers [Report of the  
All-Union Conference on Semiconductor Devices held in Tashkent from 2 to 7  
October 1961] III

SOURCE: Elektronno-dy\*rochny\*ye perekhody\* v poluprovodnikakh. Tashkent, Izd-vo  
AN UzSSR, 1962, 105-111

TOPIC TAGS: AVS selenium rectifier, TVS selenium rectifier, selenium rectifier  
current-voltage, selenium rectifier capacitance, selenium rectifier

ABSTRACT: Experimental data on AVS and TVS selenium rectifiers is compared with  
theoretical considerations. Current-voltage and capacitance characteristics of  
these types were determined within -120 +160C range. It was found that the  
diffusion potential decreases linearly as the temperature increases which agrees  
well with some published theoretical data. Reverse current-voltage  
characteristics determined experimentally, with various temperatures as  
parameters, showed that they represent different exponential functions; the

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L 12904-63

ACCESSION NR: AT3002989

latter depend on the temperature, not on the type of rectifier alone as was supposed in earlier published works. Differential resistance and capacitance of the above rectifiers were measured within a broad range of temperatures. Forward and reverse current-voltage characteristics, a diffusion-potential-temperature curve, and capacitance-voltage relations are given in the article, as well as interpretations of the physical phenomena involved. Orig. art. has: 7 figures, 1 formula, and 2 tables.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences SSSR); Akademiya nauk Uzbekskoy SSR (Academy of Sciences UzSSR) Tashkentskiy gosudarstvennyy universitet (Tashkent State University)

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: 00

NO REF SOV: 009

OTHER: 001

Card 2/2

12037

S/233/62/000/003/005/010

1011/1211

217000

AUTHORS: Aliyeva, Z.A., Alekperova, Sh.M., Geller, I.Kh.

TITLE: Investigation of the temperature dependence of the inverse resistance in selenium rectifiers

PERIODICAL: Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no.3, 1962, 81-87 ✓

TEXT: The temperature dependence of the volt-ampere characteristics of selenium rectifiers that pass a trebled current density in the forward direction has not been investigated yet. The inverse current in these elements increases with a temperature increase up to 80°C and then decreases. At low temperatures the inverse current increases with a decrease in temperature more rapidly than in common elements. Experiments show that the temperature characteristics of selenium rectifiers and photoelements depend on the amount of impurities as well as on the existence and nature of intermediate films between the selenium and the upper electrode. Thus, in

S/233/62/000/003/005/010

1011/1211

Investigation of the temperature...

tration in the p-n transition region in selenium rectifiers brings a better temperature dependence of the inverse current. (2) A minimum is found in the high temperature region of the inverse current temperature dependence curve of selenium rectifiers with gallium impurities and artificial layers of CdSe and CdS. This minimum is displaced towards higher temperatures with a voltage increase. (3) The effect of a strong field is manifest at low temperatures in selenium rectifiers with gallium impurities much earlier than in common rectifiers with no gallium. The work of G.B. Abdullayev is mentioned. There are 5 figures. The most important English-language reference reads as follows: Sah C.T., Noyce R.N., Shockley W., Proc. I.R.E., v.45, 9, 1228, 1957.

Card 4/4

S/275/63/000/001/020/035  
D413/D308

AUTHOR: Geller, I. Kh. and Sharavskiy, P. V.

TITLE: On the effect of thallium doping on the forward branch of the voltage-current characteristic of selenium rectifiers

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 1, 1963, 19, abstract 1B 128 (In collection: Fizika, L., 1962, 42-45)

TEXT: The authors have investigated the forward branches of the voltage-current characteristics of selenium rectifiers prepared with the upper electrode doped with thallium. The reduction in forward resistance of this rectifier as compared with the normal selenium rectifier is explained by the injection of nonfundamental carriers through the electron-hole transition. 2 references. [Abstracter's note: Complete translation.]

Card 1/1

L 11150-61

BDS

ACCESSION NR: AT3002984

S/2927/62/000/000/0083/0086

AUTHOR: Asectorov, Yu. P.; Bakradze, O. G.; Geller, I. Kh.; Grinberg, I. S.;  
Murygin, V. I.; Nechayeva, R. Ye.; Smirnov, A. S.

45

TITLE: Effect of reverse current on forward resistance in selenium rectifiers  
[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, 83-86

TOPIC TAGS: selenium rectifier creep, TVS selenium rectifier

ABSTRACT: Experimental studies of the "forward current-voltage characteristic  
creep" are described. A considerable increase in the forward voltage drop upon the  
passage of a reverse current is referred to as a "creep". It is very pronounced in  
TVS-type selenium rectifiers. The creep was measured at various temperatures within  
-70+138C, on a-c and pulsating current, at various reverse voltages. Forward  
current-voltage, forward voltage-temperature, forward voltage-time, forward voltage-  
reverse voltage, and forward voltage-frequency curves are presented. This explana-  
tion is offered for the creep: the diffusion potential, i. e. the contact potential

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L 11150-63

ACCESSION NR: AT3002984

0

difference between Se and CdSe, may vary as a result of charge variation in the deep impurity centers due to impact ionisation. Orig. art. has: 8 figures.

ASSOCIATION: Akad. nauk SSSR(Academy of Sciences SSSR); Akad. nauk UzSSR(Academy of Sciences UzSSR); Tashkentskiy gosuniversitet im. V. I. Lenina (Tashkent State University)

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: 00

NO REF SOV: 001

OTHER: 000

cf/ *[Signature]*  
Card 2/2

S/139/63/000/001/012/027

E202/E420

AUTHORS: Bakayev, A.V., Gellor, I.Kh., Dorin, V.A., Zakharov, P.M.,  
Nasledov, D.N., Solov'yev, R.A.

TITLE: Distribution of potential in selenium rectifying  
elements between electrodes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika,  
no.1, 1963, 78-84

TEXT: Results of measuring potential distribution in selenium  
rectifying elements in the conducting direction are described.  
To explain in detail the mechanism of potential distribution between  
the electrodes, measurements were carried out at points separated  
by a distance of  $5\mu$ . Since the thickness of selenium layer varies  
from  $50$  to  $100\mu$  it was necessary to measure the potential at 10 to  
20 points. In order to carry out the measurements the layer of  
selenium and the p-n junction region were stripped and a transverse  
section prepared. Both types of rectifiers, i.e. those with p-n  
junction between the upper electrode and the layer of selenium,  
and those in which the p-n junction lies between the layer of  
selenium and the base, were investigated. The method was based on  
Card 1/3

Distribution of potential ...

S/139/63/000/001/012/027  
E202/E420

measuring the difference of potential between one of the electrodes and a probe, the latter being placed at various points on the surface of the transverse section of the element. A special instrument incorporating a microhardness gauge of the diamond pyramid type in which the latter was replaced by a steel wedge-shaped probe was used. During measurements the probe was pressed into the selenium in order to obtain reliable results. The width of the indentation made by the probe was 1.5 to 2  $\mu$ , hence the potential could be measured at points separated by a distance of 5  $\mu$ . Since the probe contact with selenium has a considerable resistance of the order of  $10^8$  to  $10^9$  ohms, a high resistance voltmeter was used in the measurements. This comprised a potentiometer with a center zero electrometer sensitive to a current of  $10^{-11}$  A. The measurements had an absolute error of 0.001 V. Considerable care was taken in the preparation of the transverse sections. The results have shown that the main fraction of the potential applied to the element in the conducting direction falls over the p-n junction region, on the other hand the layer of selenium accounts for not more than 25% of the above fall. In addition to plotting  
Card 2/3

Distribution of potential ...

S/139/63/000/001/012/027  
E202/E420

the potential against the distance over the CdS-(orCdSe)-Se-Bi<sub>2</sub>Se<sub>3</sub>-Al portions of the sandwich, preliminary volt-ampere characteristics of both types of rectifier were measured on polished and unpolished samples. There are 6 figures.

ASSOCIATION: Leningradskiy politekhnicheskii institut imeni M.I.Kalinina (Leningrad Polytechnic Institute imeni M.I.Kalinin)

SUBMITTED: August 22, 1961

Card 3/3

GELLER, Isaak Khaimovich; KUZ'MINOV, A.I., red.; BUL'DYAYEV, N.A.,  
tekhn. red.

[Selenium rectifiers] Selenovye vypriamiteli. Moskva, Izd-  
vo "Energia," 1964. 23 p. (Massovaia radiobiblioteka,  
no.49) (MIRA 17:4)

GELLER, I.M., kandidat meditsinskikh nauk.; CHAPEK, A.V., kandidat meditsinskikh nauk.

A portable device for studying human sleep by means of actography.  
Gig. i san. 21 no.2:60-61 F '56. (MLRA 9:6)

1. Iz Nauchno-issledovatel'skogo instituta Grazhdanskogo  
vzdušnogo flota.

(SLEEP, physiol.

portable device for studying human sleep by means of  
actography)

(MOVEMENT

in sleep, registration)

GELLER, I.M.

Development of refrigeration in the U.S.S.R. during the period  
from 1959 to 1961. Khol.tekh. 39 no.6:1-8 N-D '62. (MIRA 15:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut  
kholodil'noy promyshlennosti.  
(Refrigeration and refrigerating machinery)

GELLER, I.M.

Servicing zone of wholesale cold storage warehouses. Khol.tekh.  
42 no.2:50-54 Mr-Ap '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy  
promyshlennosti.



BERNARD, V.V., kand.sel'skokhozyaystvennykh nauk; GELLER, I.T.

Effect of gamma rays on some groups of soil microflora. Agrobiologiya  
no.4:610-616 J1-Ag '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i  
agropochvovedeniya, laboratoriya mikrobiologii.  
(SOIL MICRO-ORGANISMS) (GAMMA RAYS—PHYSIOLOGICAL EFFECT)

GELLER, I.Ye.

RUBINSHTEYN, M.Ye.; ~~GELLER, I.Ye.~~

Treatment of hymenolepiasis in chronic dysentery in children. Med. paras. i paraz. bol. no.4:302-304 O-D '54. (MLRA 8:2)

1. Is kafedry detskikh bolezney lechebnogo fakul'teta Denpropetrovskogo meditsinskogo instituta (i.o. sav. kafedroy dotsent I.B.Baskina) i yasley dlya detey s khronicheskoy dizenteriei (sav. B.Yu.Kamkhina)

(DYSENTERY, BACILLARY, in infant and child, with hymenolepiasis, ther., pumpkin seeds)

(TAPEWORM INFECTION, in infant and child, hymenolepiasis, ther., pumpkin seeds, in bacillary dysentery)

(SEEDS, pumpkin seeds, ther. of hymenolepiasis in bacillary dysentery in child.)

~~SMELLER, I. Yk.~~

VISHNEVSKAYA, S.M.; UDOVICHENKO, G.S.; BIRYUKOVA, K.V.; GEROIL'SKIY, V.L.;  
MUKVOZ, L.G.; RUBNITSKAYA, N.B.; KORNIYENKO, Ye.I.; GURNVICH, Ye.N.;  
PISARENKO, Ye.I.; ~~GILLER, I. Yu.~~; LOI, T.D.; SHEVCHUK, M.K.;  
KHVALIBOVA, Ye.K.

Epidemiology and prevention of helminth infections in the region of  
construction of the Kakhovka hydroelectric project and the South  
Ukrainian Canal. Med. paras. i paras. bol. no.3:244-248 J1-S '54.

(MLRA 8:2)

1. Iz gel'mintologicheskogo otdela Ukrainskogo nauchno-issledovatel'skogo instituta malyarii i meditsinskoy parazitologii imeni prof. Rubashkina (dir. instituta I.A.Demchenko, zav. otdelom prof. Ye.S. Shul'man), iz epidemiologicheskogo otdela Kiyevskogo instituta epidemiologii i mikrobiologii (dir. instituta S.N.Terekhov, zav. otdelom otsent Yu.Ye.Birkovskiy), iz kafedry biologii i parazitologii Dnepropetrovskogo meditsinskogo instituta (zav. kafedroy dotsent V.L. Gerbil'skiy), iz Zaporozhskoy oblastnoy protivomalyariynoy stantsii (zav. stantsiyey I.P.Agafonov), iz Dnepropetrovskoy oblastnoy protivomalyariynoy stantsii (zav. stantsiyey M.K.Shevchuk, iz Nikolayevskoy oblastnoy protivomalyariynoy stantsii (zav. stantsiyey S.I.Ganyuni).  
(HELMINTH INFECTIONS, prevention and control,  
Russia, on construction of waterways)

GELLER, I. Yu.

VISHNEVAKAYA, S.M.; SHEVCHUK, M.K.; KRAMARENKO, D.P.; KHVALIBOVA, E.I.;  
MUKVOZ, L.G.; GUREVICH, Ye.P.; KOHNIYENKO, Ye.I.; POTEYEVA, N.A.;  
PISARENKO, Ye.I.; LOY, D.D.; KORABLEV, N.G.; GELLER, I. Yu.

Epidemiology and prevention of helminth infections in the zone  
affected by the construction of Kakhovska reservoir and hydro-  
electric station and the Upper-Ingulets Canal. Med.paras. i paras.  
bol. 25 no.2:121-127 Ap-Je '56. (MLRA 9:8)

1. Iz gel'mintologicheskogo otdeleniya Instituta malyarii i meditsin-  
skoy parazitologii imeni prof. V.Ya.Bubashkina Ministerstva zdravo-  
okhraneniya Ukrainskoy SSR (dir. instituta I.A.Demchenko, sav.  
otdeleniyem - prof. Ye.S.Shul'man) i Dnepropetrovskoy Zaporozhskoy,  
Khersonskoy, Nikolayevskoy oblastnykh sanitarno-epidemiologicheskikh  
stantsiy.

(HELMINTH INFECTIONS, prev. and control  
in Russia, eff. of reservoir & canal constructions)

GELLER, I.Yu.

Case of combined invasion by the rat and dwarf tapeworm. Med.paras. 1  
paras.bol. 25 no.3:269 J1-S '56. (MIRA 9:10)

1. Iz Nikolayevskoy oblastnoy protivomalyariynoy stantsii (zav. N.G.Korob-  
lev)

(TAPWORMS)

GELLER, I YU.

HELMINTHS

"The Question on the Spreading of Echinococcosis in the Nikolayevskaya Oblast", by I.Yu. Geller, Meditsinskaya Parazitologiya i Parazitarnyye Polezni, No 2, March-April 1957, pp 163-166.

26

Echinococcosis, the author writes, is still insufficiently studied in the Ukraine, particularly in the Nikolayevskaya oblast'. Carcasses of cattle examined at the meat controlling station of the city of Nikolayev showed the following percentage of echinococcosis, according to rayons: Arbuzinskiy - 3.3 percent; Beriznigovatskiy - 4.4 percent; Bratskiy - 4 percent; Varvarovskiy - 2.8 percent; Veselinovskiy - 2.4 percent; Novo-Bugskiy - 2.4 percent; Oktyabr'skiy - 3.1 percent; and Tiligulo-Berezanskiy - 5.1 percent.

Echinococcosis in cattle and the weight of rejected parenchymatous organs, according to the data of the Nikolayevskiy Meat Packing Plant:

*Helminthology & Parasitology Dept,  
Nikolayev oblast' Sanitary-Epidemiology Station*

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HELMINTHS

Year	Number of killed cattle (bovine kind)	Number of found echinococcosis	Percentage of affection with echinococcosis	Percentage of affected cattle (sheep, goats, swine)	The weight of rejected parenchymatous organs (in kg.)
1949	9,405	1,788	19.00	8.7	2,400
1950	14,001	2,135	14.24	7.9	3,000
1951	19,139	1,230	6.4	5.	2,450
1952	19,648	2,322	11.8	3	3,600
1953	25,590	1,461	5.7	2	2,900
1954	33,816	1,340	3.9	-	1,500

The infection of human beings with echinococci here depends on the spread of cattle echinococcosis, it being known that for the greater part dogs are the transmitters. The author also points to the possibility of infection through insufficiently cleaned sheep wool.

Card 2/3

- 16 -

GELLER, I. YU., VISHNEVSKAYA, S. M., SHEVCHUK, M. K., EVALIBOVA, E. I.,  
MUDVOZ, L. G., KORNEYENKO, E. I., BEZFAMILNAYA, P. S., LOY, T. D. and  
KORABLEV, N. G.

"The Epidemiology and Prophylaxis of Helminthiasis in the Zone Af-  
fecting the Construction of the Kakhovka Hydroelectric Power Station,  
the Water Reservoir, and the Verkhne-Ingulets Canal."

Tenth Conference on Parasitological Problems and Diseases with Natural  
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of  
Sciences, USSR, Moscow-Leningrad, 1959.

GELLER, L. I. (Ufa)

Effect of splenopathy on the liver and on the pituitary-adrenal cortex system; experimental study. Arkh. pat. no.6:47-53 '62.  
(MIRA 15:7)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i profzabolevaniy (dir. - kandidat meditsinskikh nauk G. M. Mukhametova)

(SPLEEN—DISEASES) (LIVER) (PITUITARY BODY)  
(ADRENAL CORTEX)



GELLER, L.I.

Effect of the spleen on hematopoiesis; concerning the discussion articles by M.M. Zuzhinskaya, I.U.P. Urinson and Professor D.N. Ivanovskii. Probl.gemat.i perel.krovi no.7:37-38 '62.

(MIRA 15:9)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i professional'nykh zabolevaniy (dir. G.M. Mukhametova).  
(HEMOPOIETIC SYSTEM) (SPLEEN)

GELLER, L.I.

Myelolienal correlations in physiological and pathological conditions. Report No.1: The therapeutic use of diathermy of the spleen in injuries to the bone marrow by ionizing radiation and benzene; experimental studies. Probl.gemat. i perel.krovi no.9:17-23 '62. (LIRA 15:12)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i profzabolevaniy (dir. G.M. Mukhametova).  
(RADIATION SICKNESS) (SPLEEN) (DIATHERMY)  
(MARROW—DISEASES) (BENZENE—PHYSIOLOGICAL EFFECT)

PORSZASZ, J.; OELLER, J.; BERTA, M.; PORSZASZNE-GIBISZER K.

Changes in potassium and sodium in cardiac ventricles and auricles in frog under the influence of metabolic poisons and ions. Kiserletes Orvostudomány 11 no.6:605-614 D '59.

1. Orvostudományi Egyetem Elektani Intézete Szeged.  
(MYOCARDIUM metab.)  
(POTASSIUM metab.)  
(SODIUM metab.)

TAMAS, Gizella; GELLER, Jozsef

Data on the knowledge of the hydrosammon biotope of the Balaton. Annales biol Tihany 27:65-73 '60.

1. "Annales Instituti Biologici(Tihany)Hungaricae Academiae Scientiarum" szerkeszto bizottsagi tagja. (for Gellert).

GELLER, L.

GELLER, L.

Important sector of the control work of banks. Fin.SSSR 18  
no.11:61-64 N '57. (MIRA 10:12)

1. Starshiy inzhener Odesskoy kontory Prombanka.  
(Odessa--Banks and banking) (Construction industry)

GELLER, L.

Progressive method of payments. Fin. SSSR 21 no.10:78-80 0 '60.  
(MIRA 13:10)

1. Starshiy inzhener Odesskoy kontory Stroybanka.  
(Odessa--Payment)  
(Construction industry--Finance)

L 15252-66 EWT(d)/EWT(1)/EWP(1) LJP(c) BB/CG/GH

ACC NR: AP5025481

SOURCE CODE: UR/0203/65/005/005/0896/0900

AUTHOR: An, V. A.; Geller, L. A.; Kazak, B. N.

ORG: Institute of Physics of the Earth, AN SSSR (Institut Fiziki Zemli AN SSSR)

TITLE: Experiment in the use of analog-digital conversion for the recording of variations in the natural electromagnetic field of the earth

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 5, 1965, 896-900

TOPIC TAGS: analog digital conversion, analog digital converter, electromagnetic field, earth magnetic field

ABSTRACT: The paper describes an experiment, carried out during November and December of 1963 at the Lovozero Station (Murmansk Oblast), involving the recording of the microvariations of the Earth's natural electromagnetic field in a digital pulse-code form in the 0.3 — 10 cps band with inscription on a magnetic tape. In this recording, the natural field station, (SEP), a coding device (KDU), and decoding device (DKU) were used. A signal from a unit which acts as a sensor for the proper component of the electromagnetic field is boosted in the SEP and fed through a matching amplifier to the input

Card 1/2

UDC: 537.74

L 15252-66

ACC NR: AP5025481

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of the analog-digital converter unit (KDU). From the output of the KDU the signal (a series of binary numbers) is inscribed on the magnetic tape. Time markers are recorded over one of the KDU channels together and simultaneously with the field signal recording. The digital information on the tape can be converted by means of the decoding unit into analog form with the signals recorded on a type OMS loop oscillograph. A detailed description of each of the major components in this system is given, and there is a discussion of some preliminary results of the processing in a digital computer of the material obtained. In conclusion, authors express their gratitude to N. P. Vladimirov, who rendered a great deal of assistance in the preparation and the performance of the experiment, S. V. Fomin, who kindly presented the authors with the opportunity of using developed computation programs, O. D. Tereshkov and L. Ye. Sotnikova, who assisted in the gathering of data from the field, and V. A. Troitskaya, for constant attention and interest in this work. Orig. art. has: 4 figures.

SUB CODE: 08, 09/ SUBM DATE: 09Sep64/ ORIG REF: 005/ OTH REF: 002

Card 2/2

BC



VATULIN, Ivan Kuz'mich; GELLER, Leonid Il'ich; TROITSKIY, Petr Aleksandrovich; NOVOSPASSKIY, V.V., red.; ZAYTSEVA, L.A., tekhn. red.

[Principles of production planning for the information of the trade-union activist group] Profsoiuznomu aktivu o planirovani proizvodstva. Moskva, Profizdat, 1963. 95 p. (Bibliotechka profsoiuznogo aktivista, no.3(51))

(MIRA 16:7)

(Industrial management) (Trade unions--Officers)

GELLER, L.I.

Case of radiation sickness caused by radioactive cesium.  
Med.rad. 8 no.2:23-25 F'63 (MIRA 16-11)

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GILLER, L. I.

HELLER L. I.

O prioritete russkikh khirurgov v razrabotke operativnykh dostupov k organam briushnoi polosti. [Advances of Russian surgeons in techniques of surgery of the abdominal cavity] Vest. khir. 70:1 1950 p. 8-13.

1. Of the Department of Surgical Diseases (Head -- I. P. Vinogradov) of the Leningrad State Stomatological Institute (Director -- M. I. Gavrilov).

CIML 19, 1, July 50

GELLER, L.I., kand.med.nauk (Ufa)

Influence of the spleen on the activity of certain endocrine glands  
[with summary in English]. Probl.endok. i gorm. 4 no.4:43-51  
Jl-Ag '58 (MIRA 11:10)

1. Iz klinicheskogo otdela (ispolnyayushchiy obyazannosti rukovoditelya-  
kand.med.nauk L.I. Geller) Ufinskogo nauchno-issledovatel'skogo  
instituta gigiyeny i profsabolevaniy (dir. kand.med.nauk M.D.  
Razumovskiy).

(SPLEEN, eff. of excis.

on endocrine funct. in rabbits & rats (Rus))

(ENDOCRINE GLANDS, physiol.

eff. of splenectomy in rabbits & rats (Rus))

GELLNER, L.I.

Role of the spleen in the immunological reactivity of the organism.  
Zhur. mikrobiol. epid. i imman. 29 no. 10:73-77 0 '58. MIRA 11:12)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i professional'nykh zabolevaniy.

(ANTIBODIES,

form, eff. of total body x-irradiation with protection of spleen (Rus))

(ROENTGEN RAYS, effects,

total body with spleen protection, on antibody form (Rus))

(SPLEEN, physiol.

eff. of x-ray protection in total body irradiation on antibody form (Rus))

GELLER, I.I.

Relation of lienal function to other organs. Report No.1: Effect of experimental splenopathy on thyroid and ovarian function. Biul. eksp. biol. i med. 46 no.11:17-21 N '58. (MIRA 12:1)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i prof-zabolevaniy (dir. - kand. med. nauk. M.D. Razumovskiy). Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(SPLEEN, physiol.

eff. of excis. & exper. splenomegaly on ovaries & thyroid

(Rus))

(THYROID GLAND, physiol.

eff. of exper. splenomegaly & splenectomy (Rus))

(OVARIES, physiol.

same)

GELLER, L.I. (Ufa)

Effect of splenectomy and diathermy of the spleen on the course of toxic hepatitis. Pat. fiziol. i eksp. terap. 3 no.3:52-56 My-Je '59.  
(MIRA 12:7)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i profzabolevaniy.

(HEPATITIS, experimental,

eff. of splenectomy & diathermy of spleen (Rus))

(SPLEEN, physiol.

eff. of diathermy & excis. on exper. hepatitis (Rus))

GELLER, L.I. (Ufa)

Role of the spleen in the reaction of the body to irradiation. Med. rad.  
4 no.5:87-89 My '59. (MIRA 12:7)

(ROENTGEN RAYS, eff.

role of spleen in reaction of body in rats (Rus))

(SPLEEN, physiol.

role in reaction of body to x-irradiation in rats (Rus))



OKLER, L.I.

Effect of the spleen on prothrombin in the blood. Probl.gemat. i  
perel.krovi 4 no.8:35-39 Ag '59. (MIRA 13:1)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i prof-  
zabolevaniy (dir. M.D. Razumovskiy).  
(SPLEEN physiol)  
(PROTHROMBIN)

EXERCITA MEDICA Sec 2 Vol 12/11 Physiology Nov 59

5474. COMBINED ACTION OF THE SPLEEN WITH OTHER ORGANS. II. RATE OF RENEWAL OF PROTEINS, UREA SYNTHESIS AND ANTIANEMIC FACTOR IN LIVERS OF WHITE RATS WITH EXPERIMENTAL SPLENOPATHY (Russian text) - Geller L.I. - BYULL. EKSPER. BIOL. I MED. 1959, 47/1 (35-38) Tables 3

In experimental splenomegaly induced by i.p. injection of methylcellulose the rate of protein renewal in the liver (incorporation of radioactive methionine) was decreased and the urea-forming function (urea synthesis in liver slices) was also disturbed. Enlargement and functional impairment of the spleen were also accompanied by a decreased anti-anemic-factor content of the liver. This may to some extent account for the anaemia occurring in various diseases accompanied by splenomegaly.

GELLER, L.I., kand.med.nauk (Ufa)

Splenic and endocrine correlations under pathological conditions;  
diathermy of the spleen in the treatment of thyrotoxicosis. Probl.  
endok.i gorm. 5 no.6:11-18 N-D '59. (MIRA 13:5)

1. Iz Ufimskogo nauchno-issledovatel'skogo instituta gigiyeny i  
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(THIOURACIL rel.cpts.)

(SPLEEN surg.)

(HYPERTHYROIDISM exper.)

(DIATHERMY)

GELLER, L.I.

Association between the activities of the spleen and of other organs. Report No.3: Effect of diathermy of the spleen and of splenic extracts on conditions of the liver and of the hemopoietic system in pathological conditions. *Biul.eksp.biol.i med.* 48 no.11:50-57 M '59. (MIRA 13:5)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i profsabolevaniy. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(SPLEEN physiol.)

(LIVER physiol.)

(BLOOD PROTEINS physiol.)

(BLOOD SUGAR physiol.)

(EPINEPHRINE blood)

GELLER, L.I.

Effect of the spleen on some metabolic processes under normal  
physiological and pathological conditions. Vop. med. khim. 8  
no.2:155-162 Mr-Apr '62. (MIRA 1514)

1. State Research Institute of Hygiene and Occupational Diseases, Ufa.  
(SPLEEN) (LIVER--DISEASES) (METABOLISM)

MUKHAMETOVA, G.M., otv. red.; GIMADEYEV, M.M., otv. za vypusk;  
GELLER, I. I., red.; MIKHAYLETS, G.A., red.; TROFIMOV, V.A.,  
red.

[Materials of the Scientific Conference Devoted to Problems of  
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in Petroleum and Petrochemical Industries] Materialy Nauchnoy  
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khimicheskoi promyshlennosti, Ufa; M-vo zdravookhr. RSFSR, 1961. 200 p.

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i professional'noy patologii i promyshlennoy toksikologii v nef'tyanoy  
i nef'tekhimicheskoy promyshlennosti, 1961. 2. Ufimskiy nauchno-  
issledovatel'skiy institut gigeny i profzabolevaniya (for Trofimov).

(MEDICINE, INDUSTRIAL CONGRESSES)

(PETROLEUM CHEMICALS)

(PETROLEUM INDUSTRY--HYGIENIC ASPECTS)

GIMADEYEV, M. M.; GELLER, L. I.; UZHDAVINI, Ye. R. ~~1962~~

Conference on the problems of industrial hygiene, occupational pathology and industrial toxicology in the petroleum and petrochemical industries. Gig. truda i prof. zab. no.3:55-57 '62.  
(MIRA 15:4)

(PETROLEUM INDUSTRY--HYGIENIC ASPECTS)

GELLER, L.I. (Ufa); ZAKHAROV, S.V., prof.

Clinical biochemist or a medical chemistry specialist?  
Concerning A.V. Sigris't's article, "On the problem of  
clinical biochemistry". Vop.med. khim. 8 no.5:550-552  
S-0'62 (MIRA 17:4)



MUKHAMEDOVA, G.M., kand. med.nauk, otv. red.; GEMIN, I.I., kand. med. nauk, red.; GIMALEYEV, M.M., red.; MIKHAYLITS, G.A., doktor med. nauk, red.; CHEVPETSOV, V.R., red.

[Industrial hygiene and health protection for the workers of the petroleum and petrochemical industries] Gigena truda i okhrana zdorov'ia rabochikh v neftianoi i neftekhimicheskoi promyshlennosti. Ufa. Vol. 2. 1963. 547 p. (MIRA 18:3)

1. Ufinskiy nauchno-issledovatel'skiy institut gigiyeny i profzabolevaniy. 2. Direktor Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i profzabolevaniy (for Mukhamedova).

GELLER, L.I. (Ufa)

Humoral influences of the spleen on the bone marrow in lesions caused by ionizing radiation and benzene. Pat. fiziol. i eksp. terap. 7 no.1:65-70 Ja-F'63. (MIRA 16:10)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigi-yeny i professional'nykh zabolevaniy (dir. - kand.med.nauk G.M.Mukhametova).

(RADIATION SICKNESS) (SPLEEN) (MARROW)  
(BENZENE--TOXICOLOGY)

GELLER, L.I. (Ufa)

Effect of the spleen on the liver in some pathological states.  
Pat.fiziol. i eksp. terap. 7 no.2:66-67 Mr-Apr'63.

(MIRA 16:10)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny  
i professional'nykh zabolevaniy.

(SPLEEN) (LIVER—DISEASES)

GELLER, L.I.

Myelo-lienal correlations under physiological and pathological conditions. Report No.2: Characteristics of hematological indices in experimental splenopathy. Probl. gemat. i perel. krovi 8 no.7:43-45 J1 '63. (MIRA 17:10)

1. Iz Ufimskogo nauchno-issledovatel'skogo instituta gigiyeny i professional'nykh zabolevaniy (dir. G.M. Mukhametova).

GELLER, L.I.; SAKAYEVA, S.Z.; MUSINA, S.S.; KOGAN, Ya.D.; BELOMYTTSEVA,  
L.A.; OSTROVSKAYA, R.S.; VOLOKHOV, Ya.P.; LUK'YANOVA, Ye.S.;  
POPOVA, R.M.; MOSKATEL'NIKOVA, Ye.V.

Effect of noise on arterial pressure; etiology of hypertension.  
Ter. arkh. 35 no.7:83-86 J1'63 (MIRA 17:1)

1. Iz kliniki ( zav. - starshiy nauchnyy sotrudnik L.I.Geller)  
Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i  
professional'nykh zabolevaniy ( dir. - kand. med. nauk G.M.  
Mukhametova).

GENERAL, I.I.

Effect of normal and pathologically changed spleen on indices of the blood coagulation system. Biul. eksp. biol. i med. 55 no.3: 38-41 Mr '63. (MIRA 18:2)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta glijyeny i profzabolevaniy (direktor - kand. med. nauk G.M. Makhmetova). Submitted September 16, 1961.

1960, Lev Isaikovich; 1960, 1961, 1962.

[Physiology and pathology of the spleen; the role of the spleen in the blood system, its correlation with the liver and some endocrine glands] Fiziologiya i patologiya splezenki; rol' splezenki v sisteme krovi, korelyatsii ee s pechen'iu i nekoterymi prikladnymi aspektami. Moskva, Medicina, 1961, 100 p. (Sib. 17:7)

GELLER, L.I.

Role of the spleen in the processes of physiological hemolysis.  
Probl. gemat. i perel. krovi 9 no.1:27-30 Ja '64.

(MIRA 18:1)

1. Iz Ufinskogo nauchno-issledovatel'skogo instituta gigiyeny i  
professional'nykh zabolevaniy (direktor - G.M. Mukhametova).



GELLER, L.I.; SAKAYEVA, S.Z.; MUSINA, S.S.; BELOMYTTSEVA, L.A.; OSTROVSKAYA,  
R.S.; KOGAN, Ya.D.

Significance of heredity in the development of hypertension.  
Sov. med. 27 no.2:35-36 F '64. (MIRA 17:10)

1. Klinika (zav. L.I. Geller) Ufinskogo nauchno-issledovatel'skogo  
instituta gigiyeny i professional'nykh zabolevaniy (dir. - kand.  
med. nauk G.M. Mukhametova).

GELLER, I.I.; MUKHAMETOVA, V.A.

Normal leucocyte count in human blood. Probl. genet. i perel.  
krovi 10 no.2:25-27 F '64. (MIRA 19:1)

1. Klinika (zav. L.I. Geller) Ufimskogo nauchno-issledovatel'skogo  
instituta gigiyeny i professional'nykh zabolevaniy (dir. G.M.  
Mukhametova).

ACC NR: AF6028238 (N) SOURCE CODE: UR/0392/66/000/002/0019/0020

AUTHOR: Bongard, E. M.; Geller, L. I.; Karimova, A. Kh.; Pedrez, Z. G. 35

ORG: Ufa Scientific Research Institute of Hygiene and Occupational Diseases  
(Ufimskiy NII gigiyeny i professional'nykh zabolevaniy) B

TITLE: Vibration sickness of polishers

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 2, 1966, 79-80

TOPIC TAGS: biologic vibration effect, physiological parameter, industrial medicine, drug treatment, metal polishing, nervous system

ABSTRACT: Workers occupied in polishing metal parts by pressing the parts manually onto a rotating abrasive disc were affected by vibration sickness. The disc rotated at a velocity of 5,700 rpm, the vibration frequency was 96 cycles, and the amplitude of vibrations 0.33 mm; the polishers were thus exposed to the action of high-frequency vibrations with unfavorable characteristics. The clinical symptoms exhibited by the workers corresponded to those described in the literature. In addition to general symptoms (tiredness, irritability, headaches), the workers exhibited local symptoms affecting principally the hands and arms, which included anesthesia, spastic vascular disturbances, lowering of the temperature of the skin, etc. Depending on the severity of the vasovegetative and angiospastic disturbances, the patients developed a mild or pronounced pain syndrome. Clinical treatment of the patients comprised

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administration of nicotinic acid, pachycarpine, and vitamin B<sub>1</sub> as well as application of novocain, galvanodiathermy, therapy with paraffin, and treatment with ultra-high frequency current. In the majority of cases the workers could not return employment as polishers even after treatment without recurrence and aggravation of vibration sickness. [JPRS: 36,932]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 002

Card 2/2