GENKIN, A.N.; OGORODNIKOV, S.K.; KOGAN, V.B.; NEMTSOV, M.S.; PRESMAN, B.I.

Influence of polar substances on the relative volatility of
C$_5$ hydrocarbons. Zhur.prikl.khim. 36 no.1:142-147 Ja '63.
(MIRA 16:5)

(Hydrocarbons) (Volatility)

BARDINA, V.; ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.; STRUMPE, P.I.,kand. tekhn.nauk, otv.red.; ARAKELOV, V.M.,nauchnyy red.; PRESMAN, D.Ya.,red.; FRISHMAN, Z.S.,red.izd-va; KOTLYAKOVA, O.I.,tekhn.red.

[Protection of tanks used on oil tankers] Protektornaia zashchita tankov neftenalivnykh sudov. Leningrad, Izd-vo Morskoi.transport. 1959. 47 p. (Leningrad. tsentral'nyi nauchno-issledovatel'skii institut morskogo flota. Trudy no.24)   (MIRA 12:5)
(Tank vessels) (Tanks) (Corrosion and anticorrosives)

OROGORNIKOV, S.K.; RABOVSKAYA, R.V.; KOROL', N.G.; PRESMAN, B.I.

Azeotropy in binary systems formed by perfluorotriethylamine
and C$_5$ and C$_6$ hydrocarbons. Zhur.prikl.khim. 37 no.7:1597-
1601 Jl '64.   (MIRA 18:4)

L 30071-65   EWT(d)/EWF(1)/T/EEC(b)-2/EWA(h)   Pm-4/Po-4/Pq-4/Pg-4/Peb/Pl-4   IJP(c)

ACCESSION NR: AT5004333   8/2517/64/071/000/0078/0081

AUTHOR: Pressman, E. L.

TITLE: Time of stay of a system in a faulty state

SOURCE: AN SSSR. Matematicheskiy institut. Trudy, v. 71, 1964. Sbornik rabot po teorii veroyatnostey (Collection of papers on the theory of probability), 78-81

TOPIC TAGS: probability theory, Markov process, reliability

ABSTRACT: The author is interested in the time taken by a system, initially having $m-1$ of its m components operating, to be completely repaired, under the assumptions of exponential waiting times between failures, exponential repair times, and independence between components. It is assumed that in time dt the probability that one of the faulty units is repaired is $Q_2(m-k)dt$, while the probability of one of the good units failing is $Q_1 k dt$. He therefore considers a Markov process with states $E_0,\ldots,E_n$ starting in state E_{n-1} and concluding at the first arrival into E_n, where the probability of going from E_k to E_{k+1} in time dt is $\lambda_k dt$ and the probability of going from E_k to E_{k-1} is $M_k dt$. He computes $E(\tau_n)$ and $E(\tau_n^2)$ where τ_n is

Card 1/2

L 30071-65
ACCESSION NR: AT5004333   Z

the time between failures of the system (i.e., time from the end of perfect opera-
tion to complete repair). "In conclusion I wish to thank my instructor Professor
Yu. V. Prokhorov who posed this problem."   Orig. art. has: 21 formulas.

ASSOCIATION: Matematicheskiy institut, AN SSSR (Mathematical Institute, AN SSSR)

SUBMITTED: 00   ENCL: 00   SUB CODE: MA

NO REF SOV: 001   OTHER: 002

Card 2/2

PRESMAN, E.L. (Moscow)

Waiting time in a queueing system with many servers. Teor. veroiat. i ee prim. 10 no.1:70-81 '65.

(MIRA 18:3)

NIVINSKAYA, M.M.; TAGER, I.L.; PRESMAN, I.I.

Clinical X-ray characteristic of metastatic melanomas of
bones. Vest. rent. i rad. 38 no.6:3-8 N-D '63.

(MIRA 17:6)

1. Iz rentgeno-radiologicheskogo otdela (zav.- zasluzhennyy
deyatel' nauki prof. I.L.Tager) Instituta eksperimental'noy
i klinicheskoy onkologii (direktor - deystvitel'nyy chlen
AMN SSSR prof. N.N. Blokhin) AMN SSSR i khirurgicheskogo
otdeleniya (nachal'nik I.I. Presman) TSentral'noy klini-
cheskoy rentgeno-radiologicheskoy bol'nitsy (nachal'nik
A.I. Yur'yev) Ministerstva putey soobshcheniya.

PRESMAN, I.S., inzh.; KOVALEVA, Yu.F., inzh.

Design of the frame and body of 2TE10L diesel locomotives.
Trudy VNITI no.19:55-65 '64.
(MIRA 18:5)

PRESMAN, M.S

KLIMETS, M.V., inzh.; PRESMAN, M.S., inzh.

Automatizing the new D-333 concrete mixer. Stroi. i dor.
mashinostr. 3 no.2:16-22 F '58.   (MIRA 11:2)
                    (Mixing machinery) (Automatic control)

GALITSKIY, B.M.; SEMIBRATOV, V.N.; SMIRNOV, B.K.; BASHINSKIY, S.V.,
    retsenzent; PRESMAN, S., red.; BEREZOVSKIY, N., tekhn. red.;
PAVLICHENKO, L., tekhn. red.

[Norms and estmates for repair and construction operations] Nor-
my i rastsenki na remontno-stroitel'nye raboty. Kiev, Gos. izd-
vo lit-ry po stroit. i arkhit. USSR, 1961. 911, 3 p.
                                              (MIRA 14:10)
    (Apartment houses—Maintenance and repair)
    (Public buildings—Maintenance and repair)

KASPIN, L.A.; MENDELEVICH, I.R. [deceased]; PERNYATIN, A.Z.; GADASHEVICH,
     A.M.; BASHINSKIY, S.V., retsenzent; GOBERMAN, M.D., spetsred.;
     PRESMAN, S., red.; BEREZOVSKIY, N., tekhn.red.

     [Production norms, estimates, and specifications for building and
     assembling operations; general construction] Proizvodstvennye
     normy, rastsenki i pravila na stroitel'no-montazhnye raboty;
     obshchestroitel'nye raboty. Izd.3., perer. Kiev, Gos.izd-vo
     lit-ry po stroit. i arkhit. USSR, 1959. 954 p.   (MIRA 12:12)
                    (Construction industry)

YEKEL'CHIK, Mikhail Solomonovich, inzh.. Prinimal uchastiye:GALITSKIY,
B.M., inzh., PRESMAN, S., red.; NEMCHENKO, I., tekhn.red.

[Handbook for normsetters in the construction industry] Spra-
vochnik normirovshchika-stroitelia. Izd.2., perer. i dop.
Kiev, Gos.izd-vo lit-ry po stroit. i arkhit.USSR, 1959. 277 p.
                                                    (MIRA 12:12)

              (Construction industry)

KASPIN, L.A.; MENDELEVICH, I.R. [deceased]; PERNYATIN, A.Z.; GADASHEVICH,
    A.M.; RASHINSKIY, S.V., retsenzent; GOBERMAN, M.D., spetsred.;
    PRESMAN, S., red.; BEREZOVSKIY, N., tekhn.red.

[Production standards, wages, and regulations for construction
and fitting work; general construction] Proizvodstvennye normy,
rastsenki i pravila na stroitel'no-montazhnye raboty; obshche-
stroitel'nye raboty. Izd. 2., perer. Kiev, Gos.izd-vo lit-ry
po stroit. i arkhit. USSR, 1958. 932 p.   (MIRA 12:7)
            (Construction industry)

KOLCHIN, O.P.; BERLIN, I.K.; PRESNETSOVA, N.V.

Induction zone melting of high-melting rare metals. TSvet. met.
36 no.9:59-65 S '63.   (MIRA 16:10)

PRESNIAKOV, ALEKSANDR EVGEN'EVICH.

PRESNIAKOV, ALEKSANDR EVGEN'EVICH. Obrazovanie Velikorusskago gosudarstva.
Ocherki po istorii xiij-xv stoletii. Petrograd, 1918. vi, 485 p.
    "Istoriograficheskii zametki": p. 1-26.
    Bibliographical footnotes.
C.ot-R   CtY   NN   LC: DK30.P7

SO: LC, Soviet Geography, Part I, 1951, Uncl.

SHIMKO, I.G.; PRESNAYA, V.V.

Textolite expanding sleeve for the winding of rayon from packages.
Khim. volok. no.1:30-31 '62.   (MIRA 18:4)

ROZHINSKIY, M.M.; PRESNAYA, Ye.I.

Treatment of hemorrhagic diathesis in children. Pediatriia 37
no.5:90 My '58.   (MIRA 12:8)

1. Iz Belgorodskoy gorodskoy detskoy bol'nitsy.
      (HEMOPHILIA)

PRESNETSOV, V.D.; PONOMAREV, V.D.; PANFILOV, P.F.; SHUMAKOV, V.V.

Treatment of reverberatory furnace dusts at the Karsakpay copper smelting plant. TSvet. met. 37 no.10:26-29 O '64.   (MIRA 18:7)

PANFILOV, P.F.; KULINICH, I.D.; PRESNETSOV, V.D.; TSEFT, A.L.; SENYUTA,S. Yu.

Treatment of oxidized Achisay zinc ores. TSvet. met. 38 no. 12:
70-71 D '65   (MIRA 19:1)

L 8087-66   EWT(1)/EWT(m)/EWP(i)/T/EWP(t)/EWP(b)   IJP(c)   JD/GG

ACC NR: AP5027132   SOURCE CODE: UR/0126/65/020/004/0504/0507

AUTHOR: Rodichev, G. M.; Presnetsov, V. N.; Kim, P. D.

ORG: Krasnoyarsk Polytechnic Institute (Krasnoyarskiy politekhnicheskiy institut)

TITLE: Irreversible processes in the quasistatic alternating magnetization of thin films

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 4, 1965, 504-507

TOPIC TAGS: irreversible process, magnetization, magnetic thin film

ABSTRACT: Although the hysteresis loops obtained experimentally in the quasistatic alternating magnetization of thin films in general recall theoretically obtained hysteresis loops, there is a main difference between them. In a theoretical hysteresis loop, the process of alternating magnetization appears to be a homogeneous rotation of the magnetization (reversible and irreversible). The process of quasistatic alternating magnetization is not a homogeneous rotation, and the appearand and growth of domains plays a large role in it. By a study of the Barkhausen effect and observation of the domain structure, the present article attempts to analyze the processes of the shift in boundaries and the rotation of the magnetization and to evaluate their contribution

Card 1/2   UDC: 539.216.2:538.24

L 8087-66

ACC NR: AP5027132

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to the change in the magnetic moment of a film. The tests were made on films of 80NKhS alloy produced by vaporization of the metal in a vacuum. The spraying time was 6 sec. The thickness of the films was 2000-2500 Å and the diameter of the patch was 9 mm. Hysteresis loops obtained on one of the films at a frequency of 400 cycles, at different angles to the axis of weak magnetization, exhibit a well developed monoaxial anisotropy. An oscillographic study was made of the Barkhausen skips, with alternating magnetization at different angles to the axis of weak magnetization, and with the application of a transverse field. It was concluded that there are no significant regions of the film which are subject to alternating magnetization by a skipping type or rotation. A figure shows the dependence of the contribution of the skips to the total change in the magnetic moment of the film on the angle between the alternating magnetization field and the axis of weak magnetization. A second figure shows the dependence of the contribution of the skips on the magnitude of the direct current field perpendicular to the alternating magnetization field. The smallest of the skips observed had a duration of about 0.5 microseconds, and the largest from 150-200 microseconds. The dependence, obtained experimentally, of the irreversible change in the moment of the film on the magnitude of the transverse field differs strongly from the theoretical. Orig. art. has: 2 figures.

SUB CODE: EM/ SUBM DATE: 25Sep64/ ORIG REF: 003/ OTH REF: 003

Card 2/2

RODICHEV, G.M.; KUZNETSOV, V.N.; KIM, P.D.

Irreversible processes during the quasistatic magnetic polarity reversal in thin films. Fiz. met. i metalloved. 20 no.4:504-507 O '65.
(MIRA 18:11)

1. Krasnoyarskiy politekhnicheskiy institut.

$P h \bar{E} S N I A K \bar{U} V \quad V. Y a.$

ALEKSANDROV, A.Ya., professor, doktor tekhnicheskikh nauk;
MONAKHOV, B.F., inzhener; KLYACHKO, S.D., student;
PRESNIKOV, V.Ya., student

Investigation of plane contact problems for soils by means
of photoelasticity. Trudy NIIZHT no.11:89-101 '55.   (MLRA 9:10)

(Photoelasticity) (Soil mechanics)

PRESNIKOVA O.E.

USSR.

Interaction of halogens and interhalogen compounds with certain organic molecules in carbon tetrachloride solutions. L. S. Lilich and O. E. Presnikova. Uchenye Zapiski, Leningrad Gosudarst. Universitet, Zhdanova, No. 163, Ser. Khim. Nauk No. 12, 3-14(1953); cf. C.A. 48, 6252e.— The reaction between ICl, IBr, I_2, and Br_2, and dioxane or MeOH was studied in soln. of CCl_4. Stability consts. were detd. spectrophotometrically for the intermol. compds. that were formed. The stability of these compds. is explained in terms of the ability of the mol. to accept electrons from the electron donor. The value of the dipole moments of the alc. and dioxane has no significant effect on the stability of the compd.   J. Rovtar Leach

PRESHITSKIY, S., inzhener.

Building the Irkutsk Hydroelectric Power Station dam. Stroitel'
no.2:5-6 F '57.
(Irkutsk Hydroelectric Power Station)   (MIRA 10:3)

8(6), 14(6)   SOV/98-59-7-8/22

AUTHOR: Presnitskiy, S. M., Engineer

TITLE: Foundation Drainage in Earth Dams

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 7, pp 37-
               40 (USSR)

ABSTRACT: The article deals with the initial work on the foun-
               dation of a hydro-electric dam, which was constructed
               in two stages in order to provide a temporary reser-
               voir cofferdam prior to the icing-over of the river;
               time did not allow for the lengthy and complex cons-
               truction of a core in the first stage, and Fig 1 shows
               how this difficulty was obviated by building the first
               stage dam, which was 99 m high and faced by a loam
               slope protection, extending 200m along the island dam.
               A drainage system was installed in the base of the
               downstream slope of the dam, which was to filter off
               all the water from both the island dam and the river-
               bed dam, as shown in Fig 2. Figures are given for
               the rise in the amount of water discharged through
               the drainage system in proportion to the rise in the
               level of the reservoir. However, this rise had to be
Card 1/2   curbed when it was found that the drainage stream

Foundation Drainage in Earth Dams   SOV/98-59-7-3/22

being discharged from outlets 4 and 4a was working
some of the gravel loose; it was established that the
drainage flow in the island dam, traveling perpendi-
cular to the axis of the dam, had worn away a cavity
in the loam core (Fig 4). The eroded area was cleaned
out and filled up with a sand/gravel mixture for a
distance of 25m along the dam. A brief account of
this repair process is given, which was only a tempo-
rary measure until the central loam core could be
constructed at the second stage of construction. Con-
clusions drawn from the breakdown in the filtration
system are enumerated at the end of the article, the
chief one being the necessity to avoid excessive pres-
sure during the winter months. There are 3 diagrams
and 1 graph.

Card 2/2

PRESNITSKIY, S.M.

Engineer - wrote about the Salar Hydroelectric Power Plant, near Tashkent -
Tashkentskaya O., Uzbekskaya SSR.

Soviet Source: P: Gidrotekhnicheskoye Stroitel'stvo No. 7, 1947, Moscow.
Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information
Division, Report No. 109918. Unclassified.

GORIN, D.I., kand.tekhn.nauk; VLASOV, P.S., kand.tekhn.nauk; RUDEL'SON, V.G.,
    inzh.; PRESHOV, G.B., inzh.; CHAYKOVSKIY, A.A., inzh.

    Pneumatic caterpillar treads. Trakt. i sel'khozmash. 33 no.12:14-
    16 D '63.   (MIRA 17:2)

    1. Belorusskiy institut mekhanizatsii sel'skogo khozyaystva.

PRESNOV, I.N.

     Brief news. Zhur.mikrobiol., epid. i immun. 42 no.2:156-157 F '65.

                                       (MIRA 18:6)

L 42433-65

ACCESSION NR: AP5007999   S/0016/65/000/002/0156/0157

AUTHOR: Presnov, I. N.

TITLE: Sixth session of the Interdepartmental Scientific Method Commission on Anthrax Control

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 2, 1965, 156-157

TOPIC TAGS: anthrax, epidemiology, epizootiology, immunization, preventive measures

ABSTRACT: The Sixth Session of the Interdepartmental Scientific Method Commission on Anthrax Control convened March 12-14, 1964 in Moscow at the Central Scientific Research Institute of Epidemiology of the Ministry of Health. Forty papers were presented (authors and titles of many are given) on various aspects of anthrax control: epidemiology, epizootiology, preventive immunization, and indications of a causative agent in an external medium. A recommendation for the organization of an anthrax laboratory at the Institute of Epidemiology was approved and the immediate objectives of the anthrax control

Card 1/2

L 42433-65
ACCESSION NR: AP5007999

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program were decided. The principle objectives of this program are:
1) to sharply reduce the anthrax incidence rate, 2) to develop
methods of identifying anthrax soil foci and improving the sanitary
conditions of the soil, 3) to continue research on improving
scarification faccinations, 4) to investigate the state of preventive
immunization, and 5) to expand the educational program, especially
in areas with conditions favorable for anthrax development. Orig.
art. has: None.

ASSOCIATION: Mezhduvedomstvennaya nauchno-metodicheskaya komissiya
po bor'be s sibirskoy yazvoy (Interdepartmental Scientific Method
Commission on Anthrax Control)

SUBMITTED: 00   ENCL: 00   SUB CODE: LS

NR REF SOV: 000   OTHER: 000

Card 2/2

PRESHCV, I. V.

Electric Transformers

Repairing a transformer without removing the core. Reb. energ. 3 No. 2, 1953.

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

KRYLOVA, N. V.; PRESNOV, M. A.

Changes in the blood supply system in sarcoma 45 during the process
of sarcolysin therapy. Vop. onk. 8 no.1:47-55 '62.

(MIRA 15:2)

1. Iz kafedry normal'noy anatomii I Moskovskogo ordena Lenina
meditsinskogo instituta im. I. M. Sechenova (zav. - chl.-korr.
AMN SSSR prof. D. A. Zhdanov) i laboratorii eksperimental'noy
khimioterapii (zav. - chl.-korr. AMN SSSR prof. L. F. Larionov)
Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR
(dir. - deystv. chl. AMN SSSR prof. N. N. Blokhin).

(BLOOD VESSELS)   (ALANINE)   (TUMORS)

PELIKOV, N. A.

    "Histochemical Investigation of Phosphates of Normal and Tumor
Tissues and Their Changes Under Roentgen and Radium Irradiation."
Cand Med Sci, Central Sci Res Roentgeno-Radiological Inst, Leningrad,
1953. (RZhBiol, No 1, Sep 54)

SC: Sum 432, 20 Mar 55

PRESNOV, M.A.; OPARIN, A.I., akademik.

Glycerophosphatase activity of cytonuclear nucleoprotein. Dokl.AN SSSR 93 no.1:123-126 N '53.

(MLRA 6:10)

1. Akademiya nauk SSSR (for Oparin).   (Nucleoprotein) (Phosphatase)

PRESNOV, M.A.

Histological study of phosphatases in the normal tissue following x-ray irradiation of the organism. Vest.rent. i rad. no.2:6-10 Mr-Ap '54.

(MIRA 8:5)

1. Iz eksperimental'no-rakovogo otdela Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir. -prof. M.N.Pobedinskiy zdravookhraneniya SSSR)
    (ROENTGEN RAYS, effects,
      on phosphatase metab.)
    (PHOSPHATASES, metabolism,
      eff. of x-rays)

PRESNOV, M. A.

Histochemical investigation of phosphatase in normal tissues. M. A. Presnov. Zhur. Obshchei Biol. 15, 321–35(1954).—Alk. phosphatase in histochem. prepn.: fixation in cool 80% alc., 96% alc., abs. alc., Cedar oil, $CHCl_3$, $CHCl_3$ with paraffin (37–40°), paraffin 64–66°; drying of sections in xylol, 90% alc., 70% alc., distd. water; incubation at 37°, in 1% $CaCl_2$, 1% $CoCl_2$, distd. water, 1% $(NH_4)_2S$, tap water, 70% alc., 96% alc., and xylol. Substrate for alk. phosphatase: 2% Na glycerophosphate (α and β forms) 25 cc., 2% medinal 25.0 cc., distd. water 50.0 cc., 2% $CaCl_2$ 5.0 cc., 2% $MgSO_4$ 2.5 cc. The procedure for prepn. of acid phosphatase is the same as above up to the 37° incubation. The incubation is carried with an acid substrate: buffer (100 cc. NaOAc, 13.6%, plus 50 cc. 6% AcOH) 30 cc., 5% Pb acetate 10 cc., distd. water 60 cc., 2% Na glycerophosphate 20 cc. The mixt. is allowed to settle for a few hrs., and then placed in a refrigerator. Before use part is filtered

off and mixed with 2–3 vols. of water. After incubation the sections are washed in distd. water and transferred to a 1.5% soln. of $(NH_4)_2S$ and the resulting PbS noted. Acid phosphatases are widely distributed throughout the organism. The acid phosphatase predominates in liver, spleen, lymph nodes, pancreas, thymus, prostate, muscles, connective tissue, skin, and seminal vesicles. The activity of the alk. phosphatase is greater than that of the acid in the kidneys, ileum, and endothelium of blood vessels. Both activities are equal in the brains and spinal cord. The findings agree with those obtained with chem. methods. Alk. phosphatase was also demonstrated in Golgi organs using as substrate either glycerophosphate or ribonucleic acid. Expts. were also carried out with non-fixed sections of rat liver, spleen, and intestines with either glycerophosphate, ribonucleic acid, or deoxyribonucleic acid as substrate at pH 9.4. The phosphatase was evenly distributed through the nuclei of the non-fixed cells, but after fixation they were in the nuclear structures. This redistribution is apparently the result of fixation. Adenosinetriphosphatase was not found.   A. S. Mirkin

Exptl. Cancer Dept. –
Cent. Sci. Res. Roentgenology–Radiology Inst., Min. Health, USSR

PRESNOV, M. A.

USSR/Biology - Biochemistry

Card 1/1

Authors   : Aleksandrov, S. N., and Presnov, M. A.

Title   : Effect of desoxyribonucleinic acid depolarization on thelife and deadened cells of tissue cultures

Periodical   : Dokl. AN SSSR, 97, Ed. 2, 289 - 292, July 1954

Abstract   : Experiments with the pancreas of a large animal (cow) showed that the depolarization of DNK (desoxyribonucleinic acid) has a specific effect on the nuclear nucleoproteides but only in the case of their denaturation. A severance in the bond between the albumin and the DNK during autolysis takes place under the effect of proteolytic ferments. Five references.

Institution : Central Roentgenological, Radiological and Cancer Institute

Presented by : Academician V. A. Engel'gart, May 8, 1954

2860.   PRESNOV M. A. Cancer Res. Dept., Central Roentgen Inst., Leningrad
*Histochemical investigation of phosphatases of the normal tissues during X-ray action on the body
(Russian text)* Vestn. Roentgenol. Radiol. 1955, 2 (6-10) Illus. 3
Gomori's method was used for estimation of acid and alkaline phosphatases (phos-
phomonoesterases) in normal rat tissues after single total irradiation (doses 300 r.,
1000 r., 3000 r.), after total repeated irradiation (dose 300 r.) and after irradiation
of the head only (dose 4500 r.). Thymus, spleen, bone marrow, intestine, seminal
vesicles, pancreas, brain, liver and kidneys were examined. It was found that after
general irradiation there is an increase in acid and alkaline phosphatase activity in
the spleen, thymus and duodenum. After a dose of 3000 r. there was increased alkal-
ine phosphatase activity in the liver. In other organs there was no change in phos-
phatase activity. After head irradiation there was a slight increase of alkaline phos-
phatase activity in the thymus, spleen and liver at the time of death of the animals
(6-8th day). These results indicate profound changes in the phosphorus metabolism
in the organs where X-rays cause destructive changes (cell necrosis).

USSR/General Biology - General Histology.   B

Abs Jour   :   Ref Zhur Biol., No 6, 1958, 23568

Author   :   Aleksandrov, S.N., Presnov, M.A.
Inst   :   -
Title   :   The Action of Depolymerase of Desoxyribonucleic Acid
                on Live and Killed Cells in Tissue Cultures.

Orig Pub   :   V sb.: Vopr. radiobiologii, L., 1956, 338-346

Abstract   :   Experiments were conducted on cultures of spontaneous
                adenocarcinoma of mammary gland of mice and fibroblasts
                of the heart of chicken embryo. Even a lengthy stay
                (15 hours) of the culture in Ringer solution (I), which
                contained 40   /ml of DRA depolymerose (II) does not
                lead to a change of the intensity of staining of nuclei
                according to Felgen. In incubation of explants in borate
                or veronal buffer, which contained II, a weakening of
                the staining ability of nuclei was noted. The effect in-
                creases with increase of II concentration and lengthening
Card 1/3

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USSR/General Biology - General Histology.   B

Abs Jour   : Ref Zhur Biol., No 6, 1959, 23568

              of the incubation period. By means of neutral red, it
              was descovered that a buffer medium irreversibly injures
              the cells. In action of II on cultures which were killed
              by heating, hydrochloric acid, alcohol, or "suza" fixa-
              tive, weakening of staining according to Felgen was noted
              independently of whether the cells were in the buffer
              solution or in I. Irradiated cultures (irradiation sour-
              ce- radon) were placed for 3 hours into a buffer solution
              with II (experimental group) or without enzyme (control).
              A certain weakening of staining of nuclei in the experi-
              ment was noted, which did not exceed that in non-irradi-
              ated cultures which were incubated in the buffer solution
              with II. In incubation with I, these differences between
              the experiment and the control were absent. The authors
              showed that the polymeric DNA in solution under influence
              of irradiation does not lose the ability to depolymerize
              under effect of II. The latter induces a weakening of

Card 2/3

USSR/General Biology - General Histology.   B

Abs Jour   : Ref Zhur Biol., No 6, 1959, 23568

          the staining ability of nuclei according to Felgen in
          cells killed by irradiation and subjected to autolysis
          of cultures. The authors feel that in irradiation, in
          differentiation from other injuring agents, nucleoproteide
          is isolated in which DNA and protein are securely bound.
          This bond is disturbed only in autolysis. -- I.M. Shapiro

Card 3/3

-- 10 --

Presnov, M. A.

The role of phosphatase in the process of tumor growth. M. A. Presnov. *Voprosy Onkologii*, 2, 423-31(1956).—The study was limited to that of phosphomonoesterase (1). The activity of alk. phosphatase in the epithelial cells during the development of skin cancer in mice rises, while in the cancer cells of the lungs and of the mammary glands it is reduced or completely absent. The activity of acid phosphatase rises considerably in the cells of cancer of the prostate, but is below normal in the cells of practically all other cancers. The phosphatase activity in cancer growth was found to be affected by histogenesis of the tumor, animal species, biol. characteristics of the organism, etc. P. doubts the validity of the theory which maintains that the basic phases of metabolism in different types of tumors are similar.   B. S. Levine

Experimental Cancer Dept. — Cent Sci Res Inst /
Roentgenology–Radiology, Min Health, USSR

PRESNOV, M.A., PRIGOZHINA, Ye.L., SVYATUKHINA, O.V., TRAPEZNIKOV, N.N.

Second All-Union Oncological Conference, Leningrad, 1958.
Vest.AMN SSSR 13 no.7:78-83 '58   (MIRA 11:8)
    (ONCOLOGY—CONGRESSES)

PRESNOV   /6 /   .   .   _ _ __ _.: bne

EXCERPTA MEDICA Sec 16 Vol 7/10 Cancer October 59

*4220. **Yoshida sarcoma in chemotherapeutic experiments** (Russian text)
PRESNOV M. A. and SPASSKAYA I. G. Inst. of Exp. Pathol. and Ther. of Cancer,
Moscow *Vopr. Onkol.* 1959, 5/7 (38–43) Tables 1 Illus. 3
. The Yoshida sarcoma (especially its ascitic form) can serve as a model for the
selection and study of anticancer drugs. The following experiments are described:
rats inoculated subcutaneously and intraperitoneally with the Yoshida tumour were
treated with sarcolysin, dopan, and E-39. The effect of the drugs was evaluated
by means of the percentage of inhibition and resolution of the tumour, the body
weight, the life span of the animals, and the morphological and cytological changes
in the subcutaneous nodes and the ascitic fluid. Sarcolysin and dopan caused com-
plete resolution of the subcutaneous nodes in 25% of the animals; E-39 in 12%.
All ascites tumour bearing animals were cured with sarcolysin. The cytological
changes in the tumour cells from the subcutaneous nodes and the ascitic fluid
were identical: cellular disintegration, mitotic disturbances, the appearance of
pathological mitoses and multinuclear cells, and a marked increase in cellular
and nuclear size were noted. The disintegration of the tumour cells is followed by
the development of collagen fibres and the disappearance of argyrophil fibres.
(XVI, 2, 5)

KRYLOVA, N.V.; IRESTOV, M.A.

Vascular bed of sarcoma-45 inoculated intramuscularly during
the course of growth and treatment with sarcolysin. Arkh.
anat., gist. i embr. 47 no.9:73-79 S '64.
                                              (MIRA 18:11)

1. Kafedra normal'noy anatomii (zav. - chlen-korrespondent AMN
SSSR prof. D.A.Zhdanov) Universiteta druzhby narodov imeni
Patrisa Lumumby i Laboratoriya eksperimental'noy khimioterapii
(zav. - chlen-korrespondent AMN SSSR prof. L.F.Larionov) Instituta
eksperimental'noy i klinicheskoy onkologii AMN SSSR. Submitted
April 21, 1964.

PRESNOV, M.A.; YUSHKCV, S.F.

Development of mastopathies and fibroadenomas of the mammary glands
in rats following intra-abdominal injections of sarcolysin. Vop.
onk. 10 no.5:66-72 '64.   (MIRA 18:8)

1. Iz laboratorii eksperimental'noy khimioterapii (zav. - chlen-
korrospondont AMN SSSR prof. L.F.Larionov) Instituta eksperi-
mental'noy i klinicheskoy onkologii AMN SSSR (dir - deystvitel'nyy
chlen AMN SSSR prof. N.N.Blokhin). Adres avtorov: Moskva, I-110,
ul. Shchepkina, 61/2, korpus 9, Institut eksperimental'noy i
klinicheskoy onkologii AMN SSSR.

PRESNOV, M.A.; ABBASOV, A.T., PRESNOVA, Ye.A.

Effect of sarcolysine and thioTEPA on ascites tumors in mice
and rats. Vop. onk. 8 no.11:36-45 '62.   (MIRA 17:6)

1. Iz Laboratorii eksperimental'noy khimioterapii (zav.- chlen-
korrespondent AMN SSSR prof. L.F. Larionov) Instituta eksperimental'noy
i klinicheskoy onkologii AMN SSSR (dir.- deystvitel'nyy chlen AMN
SSSR, prof. N.N. Blokhin).

KRAMORENKO, I. T.; PRESNOV, M. A.; YUSHKOV, S. F.

Morphological regularities in the curative process in skin cancer in man during the use of a novoomain ointment. Vop. onk. 8 no.7:3-9 '62.   (MIRA 15:7)

1. Iz klinicheskogo otdeleniya (zav. - deystv. chl. AMN SSSR, prof. N. N. Blokhin) i laboratorii eksperimental'noy khimio-terapii (zav. - chl.-korr. AMN SSSR, prof. L. F. Larionov) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystv. chl. AMN SSSR, prof. N. N. Blokhin)

(SKIN—CANCER)   (COLCHICINE)

PRESNOV, M.A.

Thermostat for histochemical reactions with small volumes of substrate media.   Biul.eksp.biol.i med. 53 no.6:102-104 Je '62.
                                                        (MIRA 15:10)
1. Iz laboratorii eksperimental'noy khimioterapii (zav. - chlen-korrespondent AMN SSSR prof. L.F.Larionov) Instituta eksperimental'-noy i klinicheskoy onkologii (dir. - deystvitel'nyy chlen AMN SSSR N.N.Blokhin) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR A.D.Timofeyevskim.
                    (HISTOCHEMISTRY--EQUIPMENT AND SUPPLIES)

PRESNOV, M. A.

Histochemical study of the oxidizing enzymes of sarcoma 45 during sarcolysin treatment of it. Vop. onk. 8 no.2:15-21 '62.
(MIRA 15:2)

1. Iz laboratorii eksperimental'noy khimioterapii (zav. - chl. - korr. AMN SSSR, prof. L. F. Larionov) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystv, chl. AMN SSSR, prof. N. N. Blokhin).

(TUMORS)   (OXIDASES)   (ALANINE)

PRESNOV, M.A.; KHALEYEVA, T.G.

Cytological and cytochemical changes in a culture of cells of the
HeLa strain following the action of sarcolysine. Arkh.anat., gist i
embr. 43 no.7:51-59 Jl '62.   (MIRA 15:9)

1. Laboratoriya eksperimental'noy khimioterapii opukholey (zav. -
chlen-korrespondent AMN SSSR prof. L.F.Larionov) Instituta
eksperimental'noy i klinicheskoy onkologii AMN SSSR. Adres
avtorov: Moskva, I-110, 3-ya Meshchanskaya ul., 61/2, korp. 9,
Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.
                (SARCOLYSINE) (CANCER RESEARCH)

LARIONOV, L.F.; PRESNOV, M.A. (Moskva)

Histological and histochemical modifications in a rat sarcoma
during treatment with sarcolysin and dopan. Arkh.pat. 20 no.1:
32-39 '58.   (MIRA 13:12)

1. Iz laboratorii eksperimental'noy khimioterapii opukholey (zav. -
chlen-korrespondent AMN SSSR prof. L.F. Larionov) Instituta eksperi-
mental'noy patologii i terapii raka AMN SSSR (dir. - chlen-korrespondent
AMN SSSR prof. N.N. Blokhin).
       (TUMORS)   (ALANINE)   (URACIL)

PRESNOV, P.

Road construction in Ivanovo Province. Avt. dor. 24 no. 1:6-7
Ja '61.   (MIRA 14:2)

1. Nachal'nik obldorupravleniya Ivanovskoy oblasti.
      (Ivanovo Province—Road construction)

PRESNOV, S.I.

    Organismal teratoma. Zdrav. Belor. 6 no.9:70 S '60. (MIRA 13:9)

    1. Iz Shchuchinskoy rayonnoy bol'nitsy (glavnyy vrach G.A.Gavril'yev,
    zaveduyushchiy khirurgicheskim otdeleniyem S.I. Presnov).
                       (TUMORS)

PRASNOV, S. I.

"A Rare Case of Enteroptasis," Vest. Khirurgii, 69, No. 2, 1947.

PRESNOV, V., Inzhener-podpolkovnik

Contactless voltage regulator, Tekh. i vooruzh. no. 1-2-3,
My '64.

PPESNOV, V.A.

USSR/Physics - Dielectrics, Polarization   Jun 52

"Problem of the Dependence of High-Voltage Polariza-
tion of Dielectrics on Electric Field Intensitv,"
V. A. Presnov, Siberian Phys Tech Inst, Tomsk State U

"Zhur Tekh Fiz" Vol XXII, No 6, pp 955-960

Shows that the method of measuring the elec cond of
dielectrics in strong elec fields during various
short time intervals may be used for studying the
high-voltage polarizatior of dielectrics. Methods
by Ioffe are applied (cf. A. V. Ioffe and A. F. Ioffe
"Zhur Eksper i Teoret Fiz" 9, 1428, 1939. Received
15 May 51.

219T84

LAT Y, V. A. and YAUN Ya, ...

"Selecting of Counter ... ... ," 437-461, ..., 14 ref

Abst: An account is given of ...

S TC: Investig ... ... , 3. ..., ...
Tomsk Polytechnic Institute (...), ...
Conference on Solid Dielectrics, Tomsk, September 1956, Tomsk, ...
House of the Polytechnical Institute, 1956

Sum 1954

67207

/5.3130

SOV/58-59-7-16006

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 195 (USSR)

AUTHORS: Presnov, V.A., Lavrent'yeva, L.G.

TITLE: Study of Vacuum-Tight Ceramics

PERIODICAL: Tr. 1-y Mezhvusovsk. konferentsii po sovrem. tekhn. dielektrikov i
             poluprovodnikov, 1956, Leningrad, 1957, pp 76 - 84

ABSTRACT: The authors studied the process of formation of the crystalline phase
             in "VK-92" ceramic pastes consisting of 90% talc and a small amount of
             kaolin and boracite. The following addition agents were introduced into
             the ceramic paste in order to intensify the process: MgO, BaO, N_2O.
             The MgO was introduced with the further aim of binding a part of the
             free silica and thereby reducing the total effect of cristobalite
             transition, which has a positive effect on the thermal expansion and
             stability coefficients of the investigated ceramic. It is shown that
             on introducing MgO into the ceramic paste, the dielectric properties
             of the ceramic improve and its mechanical strength increases. Similar
             results can be obtained by introducing the oxides of other alkali and
Card 1/2   alkali-earth metals. The authors also studied the process of enhancement

Study of Vacuum-Tight Ceramics

67207

SOV/58-59-7-16006

of solderability of metals with ultra-porcelain-ceramic of high mechanical strength. It was found that the physical properties of the ceramic are chiefly determined by the properties of its amorphous phase and the presence of the admixtures that occur in it. Bibliography: 17 titles. (Sibirsk. fiziko-tekhn. in-t, USSR).

V.V. Filippovskiy

Card 2/2

SYNOROV, V.F.; PRESNOV, V.A.

Investigating electric properties of thin layers fixed on
isolating base layers in high vacuum. Prib.i tekh.eksp. no.6:
115 N-D '57.   (MIRA 10:12)

1.Sibirskiy fiziko-tekhnicheskiy nauchno-issledovatel'skiy institut.
        (Semiconductors--Electric properties)

SUBJECT	USSR / PHYSICS	CARD 1 / 2	PA - 1952
AUTHOR	PRESNOV,V.A., SYNOROV,V.F.		
TITLE	The Production and Investigation of Intermetallic Compounds in Thin Layers.		
PERIODICAL	Zurn.techn.fis, 27,fasc. 1, 123-126 (1957)		
	Issued: 2 / 1957		

The present work endeavors to explain the possibilities of the production of

compounds of the type $A^{III}B^{V}$ by the method developed by the Academician

S.A.VERSINSKIJ. Here A^{III} and B^{V} denote elements of the third and fifth group
respectively of the periodic system.
By reciprocal evaporation several groups of binary preparations of the systems
Al-Sb, In-Sb, Ga-Sb were obtained on glass bases. The electric properties were
investigated in dependence on the concentration of the components. On this
occasion this concentration changed steadily along the sample. The investigated
layers had a thickness of from 10^{-4} to 10^{-5} cm. The specific esistance and the
coefficient of the thermoelectromotoric force were measured by the compensation
method with the following results: The specific resistance of the thin metal
films changed only little along the sample and is near the known value. The
specific resistance of the samples with binary composition changes considerably
along the sample (maximum $\rho = 30$ ohm.cm). The course taken by the modification
of the coefficient of thermoelectromotoric force agrees well with the course
taken by the curve of the specific resistance. Maximum values of up to 220

Žurn.techn.fis,27,fasc.1,123-126 (1957)   CARD 2 / 2   PA - 1952

microvolt/∇ were found. In the domain with maximum semiconductor properties also HALL'S constant was measured. The sign of HALL'S constant agreed with the sign of the coefficient of thermoelectromotoric force, and was positive in every case. Within the limits of measuring accuracy the maximum of semiconductor properties is near the ratio 1:1 of atomic concentrations. Thus, an intermetallic compound with the stoichiometric composition $A^{III}B^{V}$ probably forms within certain domains of the binary alloy with varying concentration. This is also confirmed by investigation of x-ray structure.

Measurements of the course taken by the temperature of electric properties are shown in form of a diagram; the results obtained are: electric conductivity changes only little within the entire measuring domain from the temperature of liquid air up to 150° C. Also HALL'S constant changes only little up to room temperature, but it diminishes rapidly at high temperatures. Further data concern the concentration of the charge carriers, activation energy, the mobility of holes and the coefficient of the thermoelectromotoric force. The electric properties of the thin layers of AlSb, InSb and GaSb differ considerably from the properties of the massive samples of these compounds.

INSTITUTION: Siberian Physical-Technical Institute Tomsk.

PRESNOV / A.

. AUTHOR: PRESNOV,V.A., GAMAN,V.I.   PA - 3544
  TITLE: Electric Conductivity of Glass. Dependence on Electric Field
          Strength. (O zavisimosti elektroprovodnosti stekol ot napryaz-
          hennosti elektricheskogo polya, Russian)
  PERIODICAL: Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 5, pp 936-939 (U.S.S.R.)

  ABSTRACT: On the basis of theoretical deliberation and of the results ob-
          tained by research it was established that:

          1.) The increase of the electric conductivity of glass in strong
             electric fields develops according to an exponential law
             of the type $\sigma = \sigma_0 e^{\alpha E}$. The coefficient α can be
             determined from the comparison of theoretical with experimen-
             tal formulae. E denotes the voltage of the electric field.

          2.) The increase of the electric conductivity of glass in
             sufficiently strong electric fields is caused by:
             a) increased mobility of ions, and
             b) by the increase of the concentration of the conductivity
              ions in strong fields.

Card 1/2

PA – 3544

Electric Conductivity of Glass. Dependence on Electric Field
Strength.

3.) The theoretical value of the exponential multiplier agrees
    quite well with experimental results. (Wit 1 Table, 3 Illustra-
    tions and 6 Slavic References).

ASSOCIATION: Siberian Institute for Physics and Technology, Tomsk
PRESENTED BY:
SUBMITTED: 24.4.1956
AVAILABLE: Library of Congress

Card 2/2

PRESNOV, L.A

AUTHOR   PRESNOV, V.A.,GAMAN,V.I.,

TITLE   On the Connection Between the Electrical Properties of Crystals and
           the Parameters of the Crystal Lattice.
           (O svyazi elektricheskikh svoystv kristallov s parametrami kristalli-
           cheskoy reshetki -Russian)

ABSTRACT   The paper under review computes,on basis of rough calculation,the de-
           pendence of the electric resistance of crystals on the parameters of
           the lattice.In presence of a strong electric field the mean energy of
           the electron-taking into consideration the interaction with the pho-
           non gas-amounts to $\varepsilon \sim mv^2 \sim eEl(v/a) \sim eE(1/a)\overline{1\,(kT/m)}$. In this context,
           m denotes the mass of the electron,k the Boltzmann constant,T the ab-
           solute temperature,E the electric field intensity,l the free length
           of path of the electron,a the velocity of propagation of the phonons
           (in the case under consideration,one thinks of the beginning of the
           acoustic branch of the oscillations).The electrical breakdown of the
           crystal takes place when the energy of the electrons is higher than
           or equal to the width of the prohibited zone.Therefore the condition
           of breakdown may be written in the following form: $eE_{du}(1/a)\sqrt{(kT/m}\sim u_o$

           In this context,u_o stands for the width of the forbidden zone inthe
           energy spectrum of the crystal.Then the paper under review lists an
           expression for the velocity of propagation of the phonons and substi-
           tutes it into the condition of breakdown.Thus we obtain for NaCl the

Card 1/2

On the Connection Between the Electrical Properties of
Crystals and the Parameters of the Crystal Lattice,

breakdown field-intensity $E_{du}(NaCl) \sim 1.92 \cdot 10^6 V/cm$ This value arrived
at by computation,is in good agreement with the experimental value
Thenthe paper under review proceeds to list an expression for the co-
efficient of the quasi-elstic condition and substitutes it into the
formula for the breakdown field-intensity.Thus we obtain,after modi-
fication of all constants, $E_{du} \sim 30.85 \; n^{1/2} U^{1/2} u_0/r_0 \sqrt{2(M_1 \; M_2)}$.

In this context,U denotes the energy of the crystal lattice per ion
pair,r_0 the lattice constant, M_1 and M_2 the masses of the particles
constituting the crystal,whereas n has different values depending on
the data listed by different authors.The curve $E_{du} = F(u_{du})$ must be
straight line;certain experimental data are more or less in agreement
with this assumption.The electrical resistance of crystals and the
critical field strength(at which lattice constant,and on the mass of
the particles constituting the crystal.
(1 reproduction and 1 chart),

ASSOCIATION   Siberian Physical-Technological Institute,State University Tomsk,
PRESENTED BY   IOFFE A.F.,ᴬember of the Academy.
SUBMITTED   17.12.1956
AVAILABLE   Library of Congress.
Card 2/2

S/123/60/000/02/10/015

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 2,
p. 148, # 6140

AUTHOR: Presnov, V. A.

TITLE: Soldering Ceramics With Metal

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958,
             No. 36, pp. 133-143

TEXT: The author investigates the applied methods of soldering
metals to ceramics with the aid of glazing materials, and metal oxides
(e.g. Cu_2O), by pressing metal powder with the green (unburnt) ceramic
mass on the basis of using titanium hydride, or active metals (zirconium,
titanium etc.), and by way of coating ceramics with high-melting metal
powders (e.g. molybdenum). The author describes the physical-mechanical
nature of a stable cohesion between metal and ceramics, cites the hypo-
theses existing in this field and also the results of experimental investi-
gations into the mechanism of forming a stable cohesion between ceramics
and metal in soldered joints which are obtained by the metallization of
ceramics with high-melting metals and by other methods. There are 2 figures,
and 14 references.   L. S. N.
Card 1/1   V B

/8. 6/00

69522

SOV/81-59-9-32100

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 9, p 360 (USSR)

AUTHORS: Presnov, V.A., Yakubenya, M.P.

TITLE: An Investigation of the Structure of the Transitional Region in the Soldered Joint of Ceramics With Metal

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958, Nr 36, pp 159 - 171

ABSTRACT: The idea of acidic-basic interaction in the metallization of ceramics has been tested by experiment. Investigations have been carried out on the metallization of acidic ceramics by pastes prepared on the basis of acidic (higher) and basic (lower) Mo oxides. The quality of metallization was judged by the data of the roentgenograms taken from the surface of the break of ceramic, as well as metal parts, and by the value of the mechanical resistance of the soldered joint to breaking. The data obtained confirm the idea of acidic-basic interaction in the metallization of ceramics. The necessity is shown of maintaining a definite composition of the gaseous medium which would promote the

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SOV/81-59-9-32100

An Investigation of the Structure of the Transitional Region in the Soldered Joint
of Ceramics With Metal

oxidation of the metal, adjacent to the ceramics to oxides of lower valencies. The
structures appearing in reactions between the components of ceramics and Mo have been
investigated. It has been shown that the lower Mo oxides interact with acidic ceramic
oxides, SiO_2 and B_2O_3, forming Mo silicates and borates and in some cases , poly-
silicates.

A. Danyushina

Card 2/2

660C4

SOV/81-59-8-28193

18.6100

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 8, p 374 (USSR)

AUTHORS: Vyatkin, A.P., Presnov, V.A.

TITLE: The Problem of the Nature of Soldering Ceramics With Metal

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta, 1958, Nr 36, pp 181 - 184

ABSTRACT: In an oxidizing medium at $1,200^\circ C$ soldered joints of magnoferrite
             ceramics with copper were obtained, having a high mechanical resistance
             and a good electrical contact without the effect of rectifying the
             alternating current. The ceramics and the metal oxides soldered with
             it, which were separated from the metal itself, were subjected to roent-
             genographic investigation after grinding. The analysis of the roentgeno-
             grams of the ceramics, the metal oxides and the transitional layer was
             cited, which have shown that in the soldering process a chemical inter-
             action of the metal oxides with the components of ceramics takes place
             and that the structure of the transitional layer obtained is different
             from the structure of the reacting substance. The roentgenograms of the

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60004

The Problem of the Nature of Soldering Ceramics With Metal   SOV/81-59-8-28193

transitional layer show the presence of a structure in it which is similar to spinel,
and point also to the appearance of new substances with unexplained structure.

G. Gerashchenko

Card 2/2

SOV/81-59-10-35733

Translation from: Referativnyy zhurnal. Khimiya. 1959, Nr 10, p 328 (USSR)

AUTHOR: Presnov, V.A.

TITLE: On the Problem of the Physical-Chemical Nature of a Soldered Joint of
             Glass With Metal

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958, Nr 36, pp 223-229

ABSTRACT:
In the soldering of glass (G) with metal (M) the wettability of the oxi-
dized M surface by molten G shows a great effect. In the process of wet-
ting of the oxidized M surface with molten G, displacement of the gaseous
interlayer takes place which separates the interacting phases. In the
soldering of G with M an interaction of the acidic-basic type takes place,
a transition layer is formed, into composition of which products of acidic
-basic interaction enter. A stable cohesion of G with M is caused by for-
ces of chemical interaction: 1) of G atoms and M atoms with the formation
of the chemical compound of the M-oxide type; 2) the interaction of the
M oxide with the components of G with the formation of products of inter-
action. There are 5 references.   From the author's summary

Card 1/1

S/123/59/000/010/035/058
A004/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 10, p. 121,
38101

AUTHORS: Presnov, V. A., Nogina, S. S.

TITLE: On the Problem of Copper Oxide Coating

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta, 1958, No. 36, pp. 231-240

TEXT: The authors investigated the oxide structures and conditions under
which it is possible to obtain a heat-resisting oxide, firmly adhering to the
metal during the high-temperature oxidation of copper.

Translator's note: This is the full translation of the original Russian abstract

Card 1/1

67990

SOV/81-59-12-42207

/P. 8100

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 144 (USSR)

AUTHOR: Presnov, V.A.

TITLE: A New Interference Method for Measuring the Coefficients of Thermal
Expansion of Solid Materials

PERIODICAL: Tr. Sibirsk, fiz.-tekhn. in-ta, 1958, Nr 36, pp 257-259

ABSTRACT: In the described method a microinterferometer of Linnik's system
of the IZK-50 type has been used as indicator part with a uni-
versal attachment prepared by the author permitting to measure
the change in the linear sizes of a body in dependence on the tem-
perature. The temperature of the solid sample placed between two
quartz rods of the universal attachment was measured by a thermo-
couple. The coefficient of thermal expansion was calculated by
the formula: $\alpha = \Delta l / L \Delta t$, where Δl is the expansion value; L the
initial sizes of the sample; Δt the temperature change in degrees.
The device can be used for measuring the radial expansion. The ac-
curacy of the method is increased by work in monochromatic light.

I. Zenkov

Card 1/1

p�â–“▓▓, V.▓., Doc Tech Sci — "Studies in the physics of ~~welding~~."

Leningrad, 1959. 21 pp (Min of Higher Education USSR. — Electri-

cal Engineering Inst im V. I. Ul'yanov-Lenin), 100 copies.

list of author's works at end of text (10 titles) (12,77-79, 113)

—79

PHASE I BOOK EXPLOITATION

SOV/4966

Soveshchaniye po poluprovodnikovym materialam. Moscow, 1957

Voprosy metallurgii i fiziki poluprovodnikov; trudy 3-go soveshchaniya. (Problems in the Metallurgy and Physics of Semiconductors; Transactions of the Third Conference) Moscow, Izd-vo AN SSSR, 1959. 129 p. Errata slip inserted. 3,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Resp. Ed.: M. Kh. Abrikosov, Doctor of Chemical Sciences; Ed. of Publishing House: P. F. Zolotov.

PURPOSE: This collection is intended for technical and scientific personnel concerned with the investigation and production of semiconductor materials. It may also be used by students in schools of metallurgy.

COVERAGE: The collection contains reports submitted at the Third Conference on Semiconductor Materials, held at the Institute of Metallurgy imeni A. A. Baykov, AS USSR, Moscow, in May 1957. The reports deal with problems of obtaining and investigating germanium, silicon, and semiconductor compounds. The collection was first edited by D. A. Petrov, Doctor of Technical Sciences. References accompany most of the reports.

Calmanov, I. V. On the Problem of the Role of Some Factors in the Growth Process of Single Crystals From a Melt   23

Polypro, K. B. Investigation of Hole Zones of Diamond-Type Crystals on the Basis of the Multielectron Theory   29

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AVAILABLE: Library of Congress

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PRESNOV, V.A.

AUTHOR: Syritskaya, Z. M.

S/072/60/000/03/021/023
B003/B008

TITLE: 3rd All-Union Conference on the Vitreous State

PERIODICAL: Steklo i keramika, 1960, Nr 3, pp 43-46 (USSR)

ABSTRACT:
The 3rd All-Union Conference on the Vitreous State was held in
Leningrad at the end of 1959. It was organised by the Institut
khimii silikatov AN SSSR (Institute of the Chemistry of Silicates
AN USSR), Vsesoyuznoye khimicheskoye obshchestvo imeni D. I.
Mendeleyeva (All-Union Chemical Society imeni D. I. Mendeleyev)
and Gosudarstvennyy opticheskiy institut imeni S. I. Vavilova
(State Optical Institute imeni S. I. Vavilov). More than 100
reports on the structure of glass, investigation methods of the
vitreous state, the mechanism of vitrification and physicochemical
and technical properties of glasses were delivered. The Conference
was opened by Academician A. A. Lebedev. [illegible]
[illegible]. At the 5th meeting, 9 reports dealt with
the investigation results of sodium-boron-silicate glasses. A. A.
Appen and Gan' Fu-Si, "Boron and Alumoboron Anomaly of the Prope-
ties of Silicate Glasses"; Ye. I. Galant, "On the Coordination Num-
bers of Aluminum and Boron in Some Glasses"; S. P. Zhdanov reported
on structural changes in boron-silicate glasses; Ye. A. Poray-Koshits
and S. P. Zhdanov reported on some controversial problems concerning
the structure of boron-silicate glasses and their porous products;
Ye. A. Poray-Koshits and N. S. Andreyev, "Submicroscopic Inhomo-
geneities in the Structure of Complex Glasses". The 15 reports at

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the 6th meeting dealt with the electric properties of glasses.
L. M. Belyavskaya reported on the structure determination of glass
with the aid of an inhomogeneous electric field; N. M. Varshavchik
and V. I. Odelevskiy, "Structure and Properties of Some Oxide Glas-
ses In the Light of the Polymer-theory of the Vitreous State";
R. L. Myuller reported on the agility and the degree of dissociation
as functions of the ionic and atomar composition of the glass;
V. I. Odelevskiy reported on the nature of dielectric losses in
glasslike and crystalline aluminosilicates; V. P. Petrosyan, "In-
vestigation of the Dielectric Polarization and the Losses in Phos-
phate Glasses"; V. A. Presnov, V. I. Gaman and L. M. Krasil'nikov
reported on investigations of the conductivity of glasses in elec-
tric high-tension fields, K. K. Yevstrop'yev on the diffusion of
Na^{22} and K^{42} in some silicate glasses, V. A. Ioffe, I. B. Patrushev-
skaya and G. I. Khvostenko on electric properties of crystalline
and glasslike aluminosilicates. O. V. Mazurin spoke on his studies
which were carried out under the supervision of Professor K. S.
Yevstrop'yev at the Kafedra stekla LTI imeni Lensoveta (Chair for
Glass of the Leningrad Technological Institute imeni Lensovet) in
the report: "The Dependence of the Electroconductivity of Glasses
on the Chemical Composition". V. A. Khar'yuzov, O. V. Mazurin and
N. N. Zobkova gave investigation results on the specific electro-
conductivity of glasses of the system $SiO_2 - B_2O_3 - BaO$ in the tem-

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perature range of from 400-1300° and on the influence of additions
of aluminum- and zinc oxide on the electric conductivity of these
glasses. At the 7th meeting, 6 reports dealt with glasses as semi-
conductors, 9 with the coloring of glasses and the influence of ra-
diation and 4 reports with technical properties of glasses. V. A.
Ioffe and G. I. Khvostenko, "Electric Properties of Some Semicon-
ductor Glasses". B. T. Kolomiyets, N. A. Goryunova and V. P. Shilo
reported on methods for the production of chalcogenide glasses,
on some of their general properties and on the limits of the vitreous
state in the systems $Tl_2Se - As_2Se_3$, $Tl_2Se - Sb_2Se_3$, $Sb_2Se_3 - As_2Se_3$,
Tl - As - Se. B. T. Kolomiyets and B. V. Pavlov reported on the op-
tical absorption in a number of binary chalcogenide systems. B. T.
Kolomiyets, T. N. Mamontova and O. F. Nazarova reported on the elec-
tron conductivity of chalcogenide glasses. A. A. Vaypolin, Ye. A.
Poray-Koshits, "Radiographic Investigation of the Structure of Vi-
treous Arsenic Chalcogenides". Ya. V. Tarasov and V. A. Romanovskiy
reported on the chain structure of the vitreous arsenious sulphide
determined by them with calorimetric measurements. K. P. Azarov
reported on structure and properties of ferrous boron glasses and

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(32)

PRESNOV, V. A.

S/081/61/000/020/067/089
B142/B101

15.2120

AUTHOR: Presnov, V. A.

TITLE: Structure of glass, and the nature of its joining with
                metals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 305, abstract
                20K230 (Sb. "Stekloobrazn. sostoyaniye." M.-L., AN SSSR,
                1960, 412-415. Diskus; 415-417)

TEXT: The process of development of stable cohesion between materials of
different type occurs in two stages: a preparatory and a final one. The
former stage is characterized by the phenomena of physical surface
adsorption, wetting, and diffusion. During this stage, the required
approach of interacting phases and their less strong cohesion are guaranteed.
Under favorable conditions, this stage gradually passes over to the second
one which is characterized by the formation of more solid bonds, e.g.,
bonds of the valence type. Three references. [Abstracter's note:
Complete translation.]

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61347
S/181/60/002/03/01/028
B006/B017

24.7700

AUTHORS: Fresnov, V. A., Synorov, V. F.

TITLE: Investigation of the Surface Electrical Conductivity of
             Germanium Single Crystals

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 3, pp. 381-387

TEXT: The authors investigated the influences exercised by various kinds
of processing and coating on the conductivity of samples of germanium
single crystals. Here, they report on the theory, experiments, and results
obtained from the investigations of these effects. In the first chapter
of this paper, some conceptions on the surface state of a semiconductor
are discussed. The nature of the electron surface states in a semi-
conductor may vary: 1) Tamm levels (I. Ye. Tamm, Ref. 6), which always
occur in a bounded crystal; 2) levels occurring due to increased
concentration of impurity ions in the layer near the surface; and 3)
levels produced by atoms which are bound to the semiconductor atoms by
covalent forces. Further, the conclusions drawn on the surface states by

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Investigation of the Surface Electrical   S/181/60/002,'03/01/028
Conductivity of Germanium Single Crystals   B006/B017

R. L. Myuller et al. from results of etching experiments are discussed,
and two cases of influence exercised by the surrounding medium on the
surface are discussed. The authors themselves conducted their investi-
gations in n-type and p-type germanium single crystals: To increase the
surface effects, very thin samples were used (0.15 - 0.2 mm). These
platelets had a size of 5 . 3 mm with two contacts each. An alloy
consisting of tin with 5-10% antimony served as "solder". Before the
measurement was made, the samples were etched for 5 - 10 minutes in
boiling hydrogen peroxide and then washed in distilled water. The further
preparation for the measurement is described. The current passing through
the samples was of the order of some milliamperes. Resistance was
measured by means of a ΠΠΤБ-1 (PPTV-1) potentiometer according to the
compensation method, a mirror galvanometer serving as zero instrument.
The temperature dependence of the resistance was investigated (see Fig. 2),
after which the samples were taken out of the ampoules, processed or
coated with lacquer, and the measurements were then repeated. The results
of measurement of the temperature course of resistance on etched and
processed samples (ground with sand or methyl alcohol, or treated with

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Investigation of the Surface Electrical   S/181/60/002/03/01/028
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paraffin), or on samples coated with lacquer are shown in a Table. Figs.
3 and 4 show the resistances of samples coated with lacquer as a function
of temperature. n-type germanium tends to reduce the relative resistivity
with increasing temperature, whereas p-type germanium shows a certain
increase (Fig. 5). As may be seen from Fig. 3, the electrical resistance
of the layer near the surface decreases in n-type germanium for samples
with lacquer coatings, whereas it increases in p-type germanium. The
authors try to explain some further results of the various processing
methods. Hence, e.g., the increase in the resistivity of n-type germanium
treated with CH_3OH is explained by the interaction between the OH-group
and the surface dipoles as well as by the resulting reduction of the
electron concentration in the layer near the surface. The decrease of the
resistivity of both germanium types after a treatment with finest sand
is explained by the occurrence of surface conductivity. Student E. A.
Anpilogova took part in the experiments. There are 5 figures, 1 table,
and 9 references: 6 Soviet, 2 US, and 1 English.

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Investigation of the Surface Electrical
Conductivity of Germanium Single Crystals

S/181/60/002/03/01/026
B006/B017

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom
               universitete im. V. V. Kuybysheva (Siberian Institute of
               Physics and Technology at Tomsk University imeni V. V.
               Kuybyshev)

SUBMITTED: June 23, 1959

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PHASE I BOOK EXPLOITATION   SOV/6328

Presnov, Viktor Alekseyevich, Yuriy Borisovich Novodvorskiy, and Mikhail
    Petrovich Yakubenya

Osnovy tekhniki i fiziki spaya (Fundamentals of Bonding Technology and Physics)
    Tomsk, Izd-vo Tomskogo univ., 1^61. 233 p. 3000 copies printed.

Ed. (Title page): V. A. Presnov, Doctor of Technical Sciences; Tech. Ed.:
    L. G. Mordovina.

PURPOSE: This book is intended for engineers working in the vacuum-tube
    industry and other branches of industry using combinations of metals and
    ceramics. It may also be used as a handbook by students of advanced
    courses specializing in electrical and chemical technology.

COVERAGE: The book reviews the results of physicochemical studies in bond-
    ing glass and ceramics to metal and has the object of clarifying the nature

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Fundamentals of Bonding Technology (Cont.)   SOV/6328

of the formation of a strong bond between dissimilar substances. Atten-
tion is given to the description of principal methods of producing vacuum-
tight ceramics and of joining them to metals. An attempt is made to sum-
marize theoretically the experimental findings in order to work out physico-
chemical principles of bond theory. On the basis of designs presented as
example, an outline is given for calculating thermal stresses developed in
ceramic-to-metal bonds. No personalities are mentioned. References
follow each chapter.

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24,7700 (1138, 1164, 1385)

3.951

S/576/61/000/000/008/020
E015/E153

AUTHORS. Prasnov, V. A., Izergin, A. P., Krivov, M. A.,
Vyatkin, A. P., Strodeley, S. A., Melichenko, E. N.,
Malisova, Ye V., Selivanova, V. A., and
Grigor'yeva, A. G.

TITLE: An investigation of gallium arsenide

SOURCE. Soveshchaniye po poluprovodnikovym materialam 4th
Voprosy metallurgii i fiziki poluprovodnikov. polu-
provodnikovyye soyedineniya i tverdyye splavy. Trudy
soveshchaniya Moscow, Izd-vo AN SSSR, 1961.
Akademiya nauk SSSR. Institut metallurgii imeni
A.A. Baykova. Fiziko-tekhnicheskiy institut. 70-75

TEXT: The large energy gap and high electron mobility in
gallium arsenide indicate its possible uses in the construction of
semiconductor devices for high temperature operation or as a
useful photo element. The present paper gives the results of
investigations into the electrophysical and rectifying properties
of gallium arsenide. The samples, obtained by fusing in ampoules
and zone refining, were subjected to measurement of Hall constant

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E036/E162

thermo-e.m.f. and electrical conductivity as a function of
temperature, as well as measurements of variation of resistivity
with magnetic field. The bars used in the measurements were either
single-crystal or had a coarse crystalline structure. Ohmic
contacts were made by alloying in tin in vacuum. Before zone
refining, resistivities twenty or more times less than that of the
material after zone refining can be obtained, and thus refining
gives crystals of increased purity. An anomaly was observed in
the curve of magneto-resistance $\Delta\rho/\rho$ as a function of
magnetic field for p-type material at 105 °K. The fractional
change in resistivity decreased to a minimum before increasing
again. Similar results were reported by Frank and Lark-
Horovitz (Ref. I, Phys. Rev., 1955, 99, 400), at 188 °K.
Compensation is stated to be involved in this effect. From the
variation of thermo-e m.f., a, with temperature, the effective
mass is evaluated using the Pisarenko formula, assuming that
electrons are scattered by lattice vibrations according to a $T^{-3/2}$
law, where T is the temperature in °K. The value of 0.027 agrees
with that obtained by Barrie (Ref. 2, Proc. Phys. Soc., 1956, 69,
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An investigation of gallium arsenide

The curves of log σ against $1/T$, where σ is the electrical conductivity, varied markedly with the degree of purity (that is, the number of passages of the zone during zone refining). In Fig.4a, curve 1 is for an unrefined sample showing little change in σ at low temperatures; curve 2 is for the sample after the passage of one zone; and in Fig.4b curve 3 is after the passage of six zones. The decreasing conductivity of the latter over the range 30-200° with increasing temperature is due to reduced electron mobility. Similar effects of zone refining on carrier concentration are also observed. From these curves the acceptor impurity activation energy was found to be 0.25 eV, and for the donor, 0.12 eV. Preliminary data showed that electro-purification in high electric fields and measurement by pulses was necessary. In addition to these measurements, current - voltage curves of point-contact diodes of GaAs are reported as a function of temperature. The surfaces were polished, etched and washed before a tungsten or phosphor-bronze point contact was applied. The ohmic contact was made by alloying tin, lead or silver. The rectifying characteristics of n-type material were significantly better than

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An investigation of gallium arsenide   E036/E162

for p-type, the rectifying coefficients being $10^4 - 10^5$ and 10^2 respectively. The reverse voltages and breakdown stability were also better in n-type samples. Reverse voltages of 10-15 V were obtained after the passage of six zones during purification. Temperature stability over the range 20-300° was very good for diodes with the silver ohmic contacts, as shown in the current-voltage curves of Fig. 7. The usual metal-semiconductor theory is applied to the results in the range below 1 V; that is the equation: (1)

$$I = I_o(e^{\alpha V} - 1)$$

is assumed, where V is the voltage drop across the barrier and I_o, the saturation current, is given by

$$I_o = Ce \exp(-qV_k/kt),$$

V_k being the barrier height. Both the constant α and V_k are calculated from the results. Although at room temperature $\alpha = 19$ V^{-1}, and thus deviates significantly from the theoretical value of 40 V^{-1}, this can have many causes, in particular

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failure to take account of surface conductivity. From the variation of the reverse saturation current with temperature the barrier height V_k is found to be 0.8 eV. For p—n junction rectification the barrier height would approximate to the energy gap of 1.4 eV, in considerable disagreement with the experimental value. A better agreement is possible if a metal-semiconductor contact is assumed, although the analysis cannot be considered final.

There are 9 figures and 5 references: 2 Soviet-bloc, 1 Russian translation from non-Soviet-bloc publication, and 2 non-Soviet-bloc. The English language references read as follows:
Ref.1: Fritzsche, Lark-Horovitz. Phys. Rev., 1955, Vol.99, 400.
Ref.2: Barrie, Physica, 1954, Vol.20, 11.

CAPTION TO FIG.7:   Temperature dependence of current-voltage curves. 1 - 20°; 2 - 100°; 3 - 140°; 4 - 234°.

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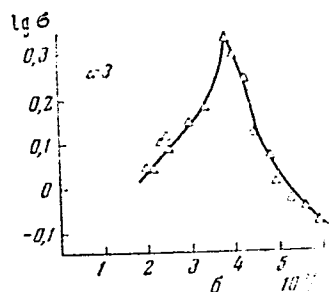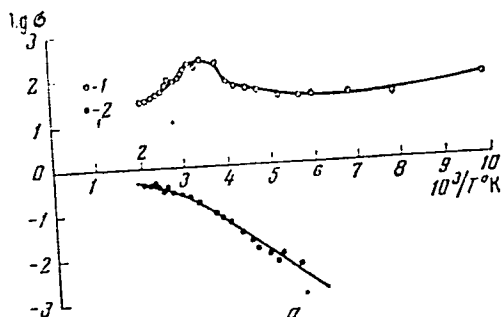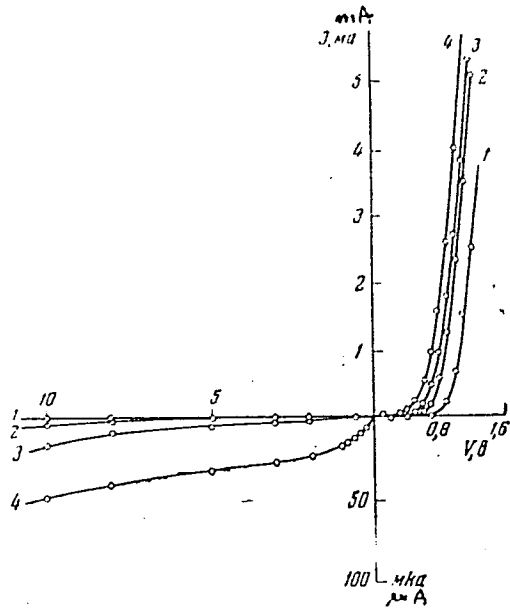S/576/61/000/000/008/020
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Fig. 4

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Fig.7

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9,4300 (1043, 1143, 1150)

S/139/61/000/001/003/018
E036/E435

AUTHORS: Presnov, V.A. and Khludkov, S.S.

TITLE: Methods of Obtaining p-n Junctions in Semiconductors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika,
            1961, No.1, pp.41-45

TEXT: The article describes properties of p-n junctions in:-
(i) p-type germanium, produced by diffusion of alkali metals;
(ii) n-type silicon, produced by alloying with an active phase
on a titanium base;
(iii) p-type gallium arsenide, produced by diffusion of sulphur
and selenium.
Diffusion methods are particularly suitable for high frequency
transistors and for large area junctions.   It is implied that the
methods described should also be suitable for these purposes.
Only the method for p-type Ge is described in any detail.   The
Ge is placed in one end of a quartz ampule and the metal halide
(LiF, LiCl, KI) at the other.   The ampule is evacuated, sealed
and placed in the furnace in such a way as to maintain a
temperature gradient.   The diffusion times were in the range
from a few minutes to three hours.   The diffusion produced a layer
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Methods of Obtaining p-n Junctions ... E036/E435

(a few microns to hundredths of a millimetre thick) of changed type
conductivity on the surface; this was removed from one side of
the crystal by grinding. After the grinding and soldering of
contacts, the samples were etched in perhydrol and washed in
methylated spirit.   In contrast to the common Sb or As diffusion
process, where control of the concentration in the gaseous phase
during diffusion is necessary, in the present method control is by
means of the temperature and diffusion time.   This latter is
stated to be much shorter than for Sb or As diffusion.   For
producing junctions in n-type Si, reference is made to previous work
of the author (Ref.1) reporting the wetting properties of titanium
and zirconium.   The method has previously been applied in soldering
metals to ceramics.   The junctions in GaAs are obtained by a method
resembling that used for Ge but diffusing S, Se or Te.   Quartz
ampules are also employed in this case.   Fig.1 shows the current-
voltage characteristics of Ge junctions obtained by diffusion of
potassium into 4.8Ωcm material, I mA/cm^2 vs V in volts.   The
curves 1, 2, 3 and 4 correspond to characteristics at 0, 15, 30 and
60°C. The variation of the forward current with temperature is

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Methods of Obtaining p-n Junctions .. E036/E435

discussed in some detail.   It is noted that the temperature
dependent curves all intersect at about 0.75 V.   Similar effects
are seen in diodes made by Li diffusion into 3.6Ωcm material.
Here the intersection occurs at about 0.7 V.   For Sb and As
diffused diodes this point is at ~1.0 V.   For small forward
current the formula

$$i = i_o (\exp(eV/kT) - 1)$$

holds.   In this range the forward current increases with
increasing temperature, being determined by the increase of i_o.
The decrease of current with temperature above the intersection
point is in agreement with a theory due to Tolpygo and Rashba
(Ref.2).   This theory gives the following expression for large
forward currents

$$i = \frac{8}{9} \sqrt{K(K-1)} \, L \left(\frac{e}{kT}\right)^{1/2} \frac{(V-V_k)^{3/2}}{d^2} ,$$

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where d - diode base thickness
       V_k - contact potential
       L - diffusion length
       K = u_p/u_n = ratio of hole to electron mobility.

For reverse current the formula

$$i = i_o\left(1 - e^{-\frac{eV}{kT}}\right),$$

$$i_o = kTn_i^2\, e^{\frac{E}{kT}}\left(\frac{u_p}{N_d L_p} + \frac{u_n}{N_a L_n}\right);$$

E - energy gap of Ge; N_d, N_a are the donor and acceptor concentrations respectively; L_p, L_n are diffusion lengths of holes and electrons. Theory predicts the presence of a saturation region of current for voltages of the order of 0.05 V. Experimentally it is found that at a particular voltage, which depends on the type of diffused atom, the current increases. For example, for diffused Sb diodes this voltage is 100 V, for Card 4/8