

MALISHEVSK IY, N.A. (Khar'kov)

Work of circulatory cooling systems operated on sea water. Vod. 1
san. tekhn. no.9:8-10 S '60. (MIRA 13:11)

(Air compressors--Cooling)

(Apsheiron Peninsula--Petroleum engineering--Water supply)
(Sea water)

MALISHEVSKIY, N.A., kand.tekhn.nauk

Processing of sea water by the acidification method.
Elek.sta. 31 no.4:44-45 Ap '60. (MIRA 13:7)
(Sea water) (Feed-water purification)

MALISHEVSKIY, Nikolay Aleksandrovich; GERSHFEL'D, V.Ya., red.; VORONIN, K.P.,
tekh. red.

[Using sea water in cooling systems of electric power plants] Is-
pol'zovanie morskoi vody v sistemakh okhlazhdeniia elektrostantsii.
Moskva, Gos. energ. izd-vo, 1961. 198 p. (MIRA 14:8)
(Electric power plants--Cooling)

MALISHEVSKIY, N.A., kand.tekhn.nauk (Khar'kov)

Selection of an economical diameter for great pressure pipelines.
Vod. i san. tekhn. no.2:22-24 F '62. (MIRA 15:2)
(Pipelines)

MALISHEVSKIY, N.G., redaktor; KOLOBKOV, P.S.; KONDRAT'YEV, N.I.;
MALOVA, N.M.

[Design and operation of water supply and sewer pumping stations]
Proektirovanie i eksploatatsiia vodoprovodnykh i kanalisatsionnykh
nasosnykh stantsii. Pod red. N.G.Malishevskogo. Moskva, Gos. izd.
lit. po stroitel'stvu i arkhitekture, 1953. 411 p. (MLRA 7:11D)

MALISHEVSKIY, N.G.

A new concept of the principles involved in the action of siphons.
Dokl. AN SSSR 105 no.4:668-671 D '55. (MLRA 9:3)

1. Ukrainskoye otdeleniye nauchno-issledovatel'skogo instituta
vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy
i inzhenernoy gidrogeologii. Predstavleno akademikom L.I.
Sedovy.

(Siphons)

Malishevskiy, N. G.

USSR /Chemical Technology. Chemical Products
and Their Application
Water treatment. Sewage water.

H-5

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1694

Author : Malishevskiy N.G.

Title : AKKh Filters and Contact Clarifying Units

Orig Pub: Sb.: Issledovaniya po vodopodgotovke. M., Gos.
izd-vo lit. po str-vu i arkhitekt., 1956, 100-106

Abstract: On the basis of literature data, industrial and experimental data, the conclusion is arrived at that it is inappropriate to utilize AKKh filters and contact clarifying units for the clarification of surface water. In lieu thereof it is recommended to use ordinary clarifying units and rapid filters so as to be in a position to increase the rate of filtration up to 10-12 m/hour, with a trubidity of the water fed into the filter not above 15 mg per liter.

Card 1/1

MALISHEVSKIY, Nikolay Georgiyevich, prof., doktor tekhn.nauk; SINYAVSKIY,
N.M., kand.tekhn.nauk, otv.red.; TRET'YAKOVA, A.N., red.;
TROPIMENKO, A.S., tekhnred.

[Water intakes from open bodies of water] Vodopriemniki iz
otkrytykh vodoemov. Khar'kov, Izd-vo Khar'kovskogo gos.univ.
im. A.M.Gor'kogo, 1958. 141 p. (MIRA 12:8)
(Water-supply engineering)

MALISHEVSKIY, N.G. (Khar'kov)

Cuff sleeves for asbestos-cement pipes. Vod. i san. tekhn.
no.6:21-22 Je '58.

(MIRA 11:5)

(Pipe, Asbestos-cement)

MALISHEVSKIY, Nikolay Georgiyevich; KONDRAT'YEV, Nikolay Ivanovich;
ALESHKO, Pavel Ivanovich; MALOVA, Nadezhda Mikhaylovna; TRST'YA-
KOVA, A.N., red.; TROFIMENKO, A.S., tekhn.red.

[Water-supply and sewerage pumps and pumping stations] Vodo-
provodnye i kanalizatsionnye nasosy i nasosnye stantsii. Pod
red. N.G.Malishevskogo. Khar'kov, Izd-vo Khar'kovskogo gos.
univ. im. A.M.Gor'kogo, 1960. 394 p. (MIRA 14:5)
(Pumping stations)

MALISHEVSKIY, N.G. (Khar'kov); PICHAKHCHI, I.D. (Khar'kov)

Horizontal sedimentation tanks with a vertical water discharge
system. Vod. i san. tekhn. no.7:22-24 JI '61. (MIRA 14:7)
(Water--Purification)

MALISHEVSKIY, T.S., kapitan kabotazhnogo plavaniya Pol'skoy Narodnoy
Respubliki.

Prospects for the development of water transportation in the
Polish People's Republic. Rech.transp. 16 no.10:32-34 0 '57.
(MIRA 10:12)

(Poland--Inland water transportation)

1963, 1. 1; Kull, P. V. 1961, V.P.

Conductance of some aqueous solutions. (Print. 2011. No. 1)
62-65 '63.

1117003 1, 1. 1.

1117003 1, 1. 1.: "Izvestiya...
of operations...
the Higher Directorate...
V.I. Gilyarov (Lev)...
Degree of Candidate of Eng. Sci. (Science)."

30: Krishna, a Leto 1958, 22, 1958

AUTHORS: Nornevskiy, B. I., Docent, Candidate of Technical Sciences, 105-58-3-2/31
Bayko, V. F., Candidate of Technical Sciences,
Malishevskiy, V. Ye., Candidate of Technical Sciences,
Kuropatkin, P. V., Engineer, Rosin, Ye. I., Engineer

TITLE: Comparison of Two- and Three-Stage Rototrols
(Sravneniye dvukh- i trekhstupenchatykh elektromashinnykh usiliteley s prodol'nym polem)

PERIODICAL: Elektrichestvo, 1958, Nr 3, pp. 9-14 (USSR)

ABSTRACT: In recent time a series of works with the three-stage amplifier with longitudinal field were carried out in the laboratories of LEPI, LVIMU and LIIZhT. The results of these investigations are given here. At first the operation principle of the three-stage amplifier is given and by the example of a fourpole machine it is shown, how the amplification stages are formed in a three-stage amplifier. In the second part a comparative evaluation between the three-stage amplifier with longitudinal field and a two-stage amplifier is carried out. On the strength of the given

Card 1/3

Comparison of Two- and Three-Stage Rotors

103 58-3-2/31

experimental data it is shown that in the case of one and the same magneto system, of approximately equal weight of the effective materials, of one and the same ϵ - and i_y - the velocity increase of the electromotive force at the output of the three-stage amplifier is higher by the two- to 2,5 fold than in the case of a two-stage amplifier, ϵ is the compensation degree of the armature reaction by the compensating current i_{24} between the brushes 2-4 in the amplifier armature. On the other hand, the three-stage amplifiers in comparison to the two-stage amplifier are more inclined toward fluctuations and toward self-excitation which is due to the increase of the total amplification factor and the phase lagging. The three-stage amplifier has a somewhat simpler system compared to the two-stage amplifier, Comprisingly it is said that the three-stage amplifier in the case of one and the same control output is more quickly effective compared to the two-stage amplifier and that in the case of one and the same quick effect the three-stage amplifier is controlled by a lower output.

Card 2/3

Comparison of Two- and Three-Stage Rototrols

105-58-3- 2/31

There are 8 figures and 7 references, 4 of which are Soviet

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut imeni Ul'yanova
(Lenina)
(Leningrad Institute of Electrical Engineering imeni Ul'yanov
(Lenin))

SUBMITTED: May 21, 1957

Card 3/3

MALISHEVSKIY, V.Ye., kand.tekhn.nauk

Problems in the theory of three-stage dynamoelectric amplifiers
of longitudinal fields. Trudy TSNIIMP no.14:16-34 '58.

(MIRA 11:4)

(Electric current rectifiers)

MALISHEVSKIY, V.Ye., kand.tekhn.nauk; VYAZNIKOVITSEV, Ye.V.

Ways of increasing the output and improving operating conditions of the electric drive of a bucket dredger scoop chain. Inform. sbor. TSNIIMF no.68. Tekh. ekspl.mor.flota no.11:71-83 '61. (MIRA 15:9)
(Dredging machinery--Electric driving)

MALISHEVSKIY, V. Ye., kand.tekhn.nauk

Characteristics of the work of electric propulsion systems
on ice-breaking vessels with propellers hitting the ice and
being wedged in it. Sudostroenie 27 no.5:30-33 My '61.

(MIRA 14:6)

(Ship propulsion, Electric)
(Ice-breaking vessels)

MALISHEVSKIY, V.Ye., kand.tekhn.nauk; VYAZNIKOVITSEV, Ye.V., inzh.

Amplidynes in the electric drive control system of bucket chains
on multi-bucket dredgers. Sudostroenie 28 no.6:47-50 Je '62.
(MIRA 15:6)
(Rotating amplifiers) (Dredging machinery)

MALISHEVSKIY, V.Ye., kand. tekhn. nauk

Certain characteristics of operating electric propulsion systems on ships of the "Lena" type. Inform. sbor. TSNIMF no.81: Tekh. ekspj. mor. flota no.17:60-78 '62.

(MIRA 16:6)

(Ship propulsion, Electric)

MALISHEVSKIY, V.Ye., kand. tekhn. nauk; VYAZNIKOVTSSEV, Ye.V.

New diagram for the protection from overvoltage during the shock loading of electric propulsion systems on icebreakers of the "Kapitan Belousov" [Captain Belousov] type. Inform. sbor. TSNIIMF no.81: Tekh. ekspl. mor. flota no.17:79-89 '62. (MIRA 16:6)

(Ship propulsion, Electric--Safety measures)

MALISHEVSKIY, V.Ye., kand.tekhn.nauk

Graphoanalytical method of calculating the static characteristics of electric propulsion units with electromechanical amplifiers. Trudy TSNIIMF no.46:3-19 '62. (MIRA 16:6)
(Ship propulsion, Electric)

MALISHEVSKIY, V. Ye., kand. tekhn. nauk

Methods of adjusting electric propulsion systems on "Lena"-
type ships. Inform.sbor. TSNIMF no. 87 Tekh.eksp. mor. flota
no. 20:83-101 '62. (MIRA 17:5)

MALESHEVSKIY, V. Ye., kand. tekhn. nauk

Control of the state of air coolers of main electric machines.
Institute no. 63.9-52 of 1968. (MIRA 1848)

KOMIRNYY, V.N., otv. za vypusk; MALISHEVSKIY, Yu.S., red.; KREPSKIY,
E.F., tekhn.red.

[Agricultural machinery abroad] Sel'skokhoziaistvennaia tekhnika
za rubeshom. Kiev, In-t tekhn.informatsii, 1961. 104 p.
(MIRA 15:5)

1. Ukraine. Gosudarstvennyy nauchno-tekhnicheskii komitet.
(Agricultural machinery)

MIROVSKIY, E.I.; MALISHEVSKIY, Yu.S., red.

[Transformations in steel during heat treatment] Prevra-
shchenia v staliakh pri termicheskoi obrabotke. Kiev,
ITI, 1964. 42 p (MIRA 17:10)

SAKHNENKO, V.L.; MALISHEVSKIY, Yu.S., red.

[Novikov gear transmissions; survey of their design and
methods of construction] Zubchatye peredachi Novikova;
obzor konstruktsii i metodov rascheta. Kiev, Politekhn.
in-t, 1964. 69 p. (MIRA 18:6)

MALISHKEVICH, M.

PA 1/50T99

USSR/Radio - Television
Engineering - Motors, Wind

Sep 49

"Kiev Residents Prepare for the Ninth All-Union
Correspondence Radio Exhibit," M. Malishkevich,
1 p

"Radio" No 9

Technician Fed'ko is building an inexpensive,
simple wind motor for the exhibit. Wind motors
are now being used to supply electric power in
villages of Baryshevskiy Rayon, Kiev Oblast.
Dombrovskiy is building a decimeter oscillator
for the coming exhibit. Work has started on
construction of the Kiev television center.

1/50T99

MALISHKEVICH, M.

PA 171T87

USSR/Radio - Radio Amateurs
Exhibits

Sep 50

"Meeting of Young Ukrainian Radio Amateurs," M.
Malishkevich, Kiev

"Radio" No 9, p 9

Meeting held at Kiev in Jun to discuss year's achievements. Addresses by Dean of Radio Faculty, Kiev Order of Lenin Polytech Inst, on "Soviet Radio Engineering," and Prof V. V. Volerner, Cand Tech Sci, on "What Young Radio Amateurs Should Work On." Exhibition included many examples of amateur designs of radio equipment.

171T87

MALISHKEVICH, M.

188T100

USSR/Radio - Exhibitions

Mar 51

"Kiev Exhibition of Radio Amateur Talent," M.
Malishkevich

"Radio" No 3, p 10

In the short-wave section, prizes were awarded for 100-w transmitter, 5-w transmitter, and 10-tube receiver. One amateur, who works in the Inst imeni Bogomolets, designed a device for electronarcosis. Other exhibits: portable receivers, automatic wired radio center, measuring instruments, etc. Over 5,000 people visited the exhibition.

188T100

MALICHKEVICH, M.

Radio in Education

Radio hobby helps education. Radio No. 2 1952.

Monthly List of Russian Accessions, Library of Congress, April 1952. Unclassified.

MALISHKEVICH, M.

Radio, Short-Wave - Ukraine

Fourth Radio-Telegraph Contest of Short Wave Operators, members of the All-Union Volunteer Society for Assistance to the Army, Aviation and Navy of the Ukrainian SSR Radio no. 9, 1952.

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

1. GEYZER, I.; MALISHKEVICH, M.; MOSHCHEENNIKOV, N.; SHPILEVOY, V.; AKHEND, A.;
COLOVANENKO, V.V.
2. USSR (600)
4. Radio - Exhibitions
7. Radio amateurs are getting ready for the Eleventh All-Union Radio Exhibition.
Radio. No. 10, 1952

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

1. MALISHKEVICH, M.
2. USSR (600)
4. Radio - Short-Wave
7. High skill and operating ability, Radio No. 1, 1953.

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

MALISHKEVICH, M.

Radio, Short-Wave

Elena Godon, the short-wave operator. Radio No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

MALISHKEVICH, M. (Kiyev).

Dissemination of radio-technical literature among the young. Radio no.6:
63 Je '53. (MLBA 6:6)

(Radio--Juvenile literature)

MALISKI, A. N.

DIKIS, M. IA.

Canning plants machinery Moskva, Pishchepromizdat, 1953. 540 p. (54-42747)

TX603.D57

1. Canning and perserving - Apparatus and supplies. I Mal'skii, A.N.

MALISOV, L.Z.

~~Cast-iron cutting tools equipped with hard alloy tips. Stan.1~~
instr. 28 no.3:38-39 Mr '57. (MLRA 10:5)
(Cutting tools)

603

AUTHOR: Malisov, L.Z.

TITLE: Cast Iron Cutting Tools with Carbide Tips. (Lityye Chugunnyye Reztsy S Plastinkami Tverdogo Splava).

PERIODICAL: "Stanki i Instrument" (Machine Tools and Cutting Tools, No.3, 1957, pp.38-39 (U.S.S.R.)).

ABSTRACT: The procedure for making grey cast iron tool holders with cast in carbide tool tips in a multi-pattern mould is described in detail. Best results were obtained with a runner situated above the insert. For a tool holder of 25 x 20 mm cross-section and 125 mm length the runner cross-section is 0.3-0.6 cm² and the riser cross-section 1.2 to 1.4 cm².

There are two illustrations.

Card 1/1

Malisova, V.

RASKA, K;MALISOVA, V;MAZACEK, M.

Practical significance of phagocyte type determination in the
epidemiology of intestinal infections. Cas. lek. cesk. 89 no. 30:835-
838 28 July 1950. (CJML 20:1)

SOV/4966

Sovesheniya 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, izdatel'stvo SSSR, 1957. 129 p. Errata slip
inserted. 3,200 copies printed.

Sponsored by: Akademiya nauk SSSR, Institut metallurgii i teorii
i fiziki poluprovodnikov, Moscow, 1957.
Ed. of Publishing House: P. P. Zolotarev.

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.

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

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

Polzov, I. B. Investigation of Hole Zones of Diamond-Type Crystals
in the Case of the Multiplication Theory
Szigeti, Mendelkhan (Academy of Sciences, Hungarian People's Republic).
Concerning the Problem of Semiconductor Point-Contacts. 29

Makowski, Z. (Institute of Basic Technical Problems, Polish Academy of
Sciences). Properties of p-n Junctions in Germanium Single Crystals
Withdrawn from the Melt by Pulling. 40

Somowski, L. (Institute of Physics, Polish Academy of Sciences).
Effect of the Introduction of Minority Current Carriers on Light Re-
action From Germanium. 43

Bury, A. I., V. Ye. Kosanko, and Ye. G. Misulynk. Diffusion and Solu-
bility of Iron and Silver in Germanium. 49

Franklin, A. E., and V. A. Frenkel. Investigation of Moistening of
Semiconductors with Salt. 54

Vasilerskaya, V. K., and Ye. G. Misulynk. Investigation of Segregation
and Solubility of Some Impurities in Germanium During Crystallization
From a Melt. 57

Trosvil (Institute of Technical Physics, Czechoslovak Academy of
Sciences). Problem of Obtaining Pure Silicon. 62

Petrov, D. A., Yu. M. Shabun, V. V. Rozhdakovskaya,
M. I. Zhuravskaya, and V. D. Eroshina. Etching of Silicon Single
Crystals. 68

Esting Iron-etching (Institute of Applied Physics, Chinese People's
Republic) Importance of Using Pure Water for Washing Materials Used
in Semiconductor Engineering. 69

Abdulrazov, G. B., M. I. Aliyev, A. A. Bababayev, and G. M. Aliyev.
Effect of Halide Impurities on the Physical Properties of Selenium. 78

Abdullayev, D. B., G. A. Akhmedov, A. A. Khabiyev, and Z. A. Aliyeva.
On the Diffusion of Certain Metals in Polycrystalline Selenium. 80

Dudkin, L. D., and M. E. Abramoov. Problems of Alloying Semicon-
ductor Alloys. 85

Mitselava, I. B., M. I. Vlasovskiy, and V. D. Puzosko. Effect of
Growth Conditions of Single Crystals of GeS and GeSe on Their Physical
Properties. 94

Profisanko, A. P., and G. A. Fedorov. Effect of Temperature and Certain
Impurities on the Dark Resistance and Photoconductivity of GeS Single
Crystals. 107

Belikov, I. (Institute of Technical Physics, Czechoslovak Academy of
Sciences). Semiconductor Compounds With an Excess of One of the Com-
ponents. 112

Prokhorov, V. I. Effect of Surface Condition on the Electrical Properties
of Type II-VI Compounds. 117

Prasolov, I. A., M. A. Ervov, L. E. Vertokobayev, A. G. Gerasimov,
and Ye. V. Mikhlin. Production and Investigation of New Semicon-
ductor Materials. 120

AVAILABLE: Library of Congress. 127

27/47/86
3/50/83

Handwritten text: MPP/LSOVA/VEV

9.4300 (3203, 3005, 1137)

21513

S/139/61/000/002/008/018

26.2532

E032/E414

AUTHORS: Krivov, M.A., Malisova, Ye.V., Presnov, V.A. and Synorov, V.F.

TITLE: A Study of Some Physical Properties of Polycrystalline GaAs

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1961, No.2, pp.66-70

TEXT: This paper was first reported at the Third Conference of Schools of Higher Education on Semiconductors and Dielectrics, Leningrad, 1960.

The resistivity, thermoelectric power and the Hall coefficient of polycrystalline specimens of gallium arsenide were measured. The original material was synthesized directly from arsenic and gallium and was zone refined six times (this will be described in a separate paper). The final specimens were rectangular in form and their dimensions were $2 \times 2 \times 7 \text{ mm}^3$. The resistivity and the Hall coefficient were measured with the aid of ohmic tin contacts fused into the specimens in a vacuum at temperatures of the order of 600 to 700°C. Before measurements were begun, the specimens

Card 1/6

21513

A Study of Some Physical ...

S/139/61/000/002/008/018
E032/E414

were immersed in a solution containing 20 ml of NaOH and 4 ml of 30% H₂O₂ (G.A.Averkiyeva, O.V.Yemel'yanenko, Ref.1) After this treatment they were washed in boiling distilled water. Fig.1 shows the temperature dependence of the electrical conductivity and carrier concentration calculated from the Hall measurements under the assumption that the hole concentration was negligible. It is estimated from the slope of the curve representing concentration as a function of temperature that the activation energy of the donor impurities was 0.12 ev. Fig.2 shows the thermoelectric power as a function of temperature for two gallium arsenide specimens at different average temperatures. Using the Pisarenko formula (Ref.2) the magnitude of the effective mass of the carriers was estimated to be of the order of 0.27 m₀. The experimentally determined temperature dependence of the concentration was compared with its theoretical value computed from the formula

Card 2/6

A Study of Some Physical ...

S/139/61/000/002/008/018

E032/E414

$$n = \frac{K_A + N_A}{2} \left\{ \left[1 + \frac{4K_A(N_A - N_D)}{(K_A + N_A)^2} \right]^{1/2} - 1 \right\};$$

$$K_A = (2\pi m_e^* k T / h^2)^{3/2} e^{-\Delta\epsilon_D / kT},$$

where N_D and N_A are the donor and acceptor impurity concentrations, m_e^* is the effective electron mass, and $\Delta\epsilon_D$ is the donor activation energy. It was found that $N_D = 1.18 \times 10^{18} \text{cm}^{-3}$ and $N_A = 1.10 \times 10^{18} \text{cm}^{-3}$. In addition, the contact potential difference of gallium arsenide specimens relative to a standard platinum electrode was measured. The measurements were carried out on polished and etched specimens in air and in vacuum at various temperatures in the range 20 to 85°C. Fig.4 shows the temperature dependence of the contact potential difference of germanium and gallium arsenide in air. The continuous and dashed curves refer to etched and polished specimens respectively. Fig.5 shows the contact potential difference as a function of air pressure after etching. Fig.6 shows the variation

Card 3/6

21513

A Study of Some Physical ...

S/139/61/000/002/008/018
E032/E414

in the contact potential difference on heating in vacuum. A quantitative analysis of these results is not given since the specimens were polycrystalline and the results are therefore said to be "not entirely reliable". The general conclusion is that changes in the surface properties of gallium arsenide are associated with the properties of surface compounds formed during the etching process and subsequent adsorption of components from the surrounding medium. Students I.A.Vinitskaya and L.Ye.Smirnova took part in the measurements. Acknowledgments are expressed to the Senior Scientist of SFTI, Candidate of Physical Mathematical Sciences A.P.Izergin and Engineer V.A.Zgayevskiy of the Technical Division for taking part in discussions of the results. There are 6 figures and 6 references: 3 Soviet and 3 non-Soviet.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva (Siberian Physicotechnical Institute at the Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: October 17, 1960
Card 4/6

A Study of Some Physical ...

S/139/61/000/002/008/018
E032/E414

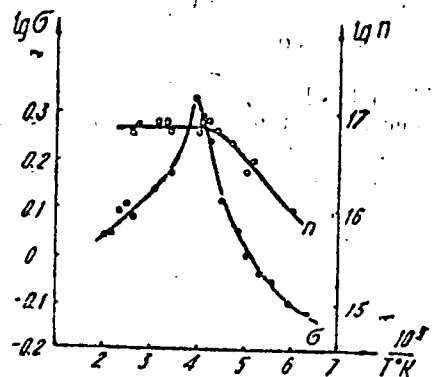


Fig.1.

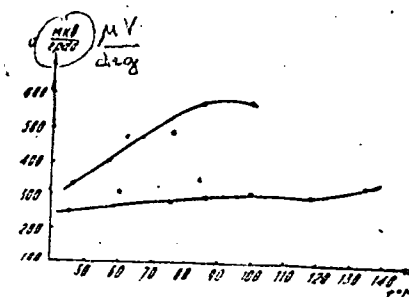


Fig.2.

Card 5/6

21513

A Study of Some Physical ...

S/139/61/000/002/008/018
E032/E414

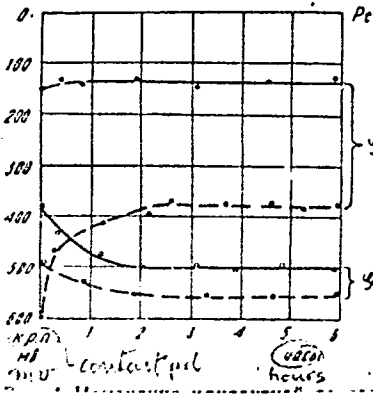


Fig. 4.

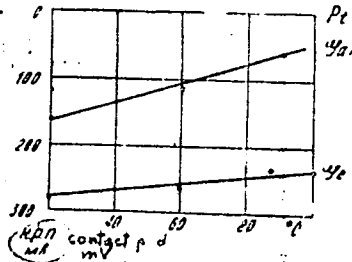


Fig. 6.

Card 6/6

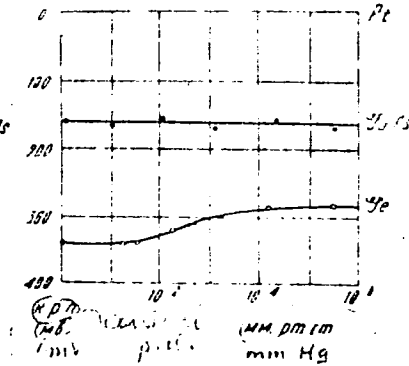


Fig. 5.

MALISOVA, YE V.

S/137/62/000/002/059/14
A006/A101

AUTHORS: Presnov, V. A., Izergin, A. P., Krivov, M. A., Vyatkin, A. P.,
~~Stroitelov, S. A.~~ Mel'chenko, E. N., Malisova, Ye. V., Selivanova,
V. A., Grigor'yeva, A. G.

TITLE: Investigation of gallium arsenide

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 40, abstract 20304
(V sb. "Vopr. metallurgii i fiz. poluprovodnikov", Moscow, AN SSSR,
1961, 70 - 75)

TEXT: The authors studied electrophysical and rectifying properties of GaAs crystals. Specimens were obtained by alloying in ampoules and were purified by zonal melting. Single-crystal or coarse-domain moldings were cut out of the specimens. It was found that the specific resistance of specimens produced by alloying in ampoules was lower by 20 times than that of specimens prepared by synthesizing during zonal melting. The anomalous course of resistance changes in a magnetic field was established. The effective electron mass was estimated to be $m^* = 0.027$. Activation energies of admixtures $\Delta E_{acc} = 0.25$ ev and $\Delta E_{don} = 0.12$ ev were found. For the n-type, higher rectifying factors ($10^4 - 10^5$ and

Card 1/2

Investigation of gallium arsonide

3
S/137/62/000/002/059/144
A006/A101

more, and for the p-type (10^2), counter voltages, and voltage breakdown resistance were obtained. The height of the rectifying barrier was found to be equal to 0.8 ev.

B. Golovin

[Abstracter's note: Complete translation]

Card 2/2

24.7700

37720

S/139/62/000/002/C16/C28
E039/E435

AUTHORS: Krivov, M.A., Malisova, Ye.V., Presnov, V.A.,
Chernova, N.V.

TITLE: The properties of germanium alloyed with titanium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika.
no.2, 1962, 108-113

TEXT: The Ge-Ti alloy was formed by the diffusion of a thin film of Ti deposited on germanium in a vacuum and then heated to 800°C for 8 hours. The samples were subsequently annealed at 450°C for 7 hours and then cooled slowly. Under these conditions the concentration of Ti changes exponentially with depth in the sample. In order to obtain data for a more uniform distribution, measurements were made on the face of the sample which was initially coated with Ti and then ground after alloying. The electrical conductivity and Hall effect in alloyed and control samples were measured for temperatures in the range 100 to 400°K. The temperature dependence of these parameters for the alloyed samples had the same general form as for Ge. Typical values for the concentration of donors and acceptors in n-type samples are
Card 1/2

The properties of germanium ...

S/139/62/000/002/016/028
E039/E435

$N_D = 4.79 \times 10^{15} \text{cm}^{-3}$; $N_A = 4.71 \times 10^{15} \text{cm}^{-3}$ and in p-type
 $N_D = 2.4 \times 10^{15} \text{cm}^{-3}$ and $N_A = 2.58 \times 10^{15} \text{cm}^{-3}$. It is shown that
atoms of Ti have a large diffusion coefficient in Ge
($D = 5.5 \times 10^{-7} \text{cm}^2/\text{sec}$). In the germanium lattice titanium
produces acceptor levels with $\Delta E = 0.2 \text{ eV}$. The adsorption of
atoms of Ti on the surface of Ge is accompanied by a lowering of
the negative surface charge. It is possible to form an inversion
n-type layer on the surface of p-type germanium owing to the
formation of a positive surface charge with the absorption of a
large quantity of Ti atoms. The diffusion of atoms of Ti into
germanium from a film is accompanied by the formation of electron-
hole transitions; hence it can be used in the preparation of
diodes and triodes. There are 5 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii institut pri Tomskom
gosuniversitete imeni V.V.Kuybysheva (Siberian
Physicotechnical Institute at Tomsk State University
imeni V.V.Kuybyshev)

SUBMITTED: August 5, 1961

Card 2/2

Investigation of the kinetic characteristics of highly doped indium antimonide. V. A. Kokoshkin (10 minutes).

Synthesis, doping, and preparation of single crystals of gallium arsenide. A. P. Izergin, A. G. Grizor'yeva, V. N. Chernigovskaya, G. M. Ikonnikova.

Crystallization of gallium arsenide under different pressures of arsenic vapor. S. S. Khlubkov, V. A. Celivanova, G. M. Ikonnikova.

Influence of impurities on the electrical properties of gallium arsenide. M. A. Krivov, Ye. V. Malisova, C. V. Malyanov.
(Presented by M. A. Krivov--15 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

ACCESSION NR: AP3000933

S/0139/63/000/002/0114/0118

AUTHOR: Krivov, M. A.; Malisova, Ye. V.; Malyanov, S. V.

TITLE: Effect of Gamma irradiation on some properties of gallium arsenide

SOURCE: Izv. VUZ; Fizika, no. 2, 1963, 114-118

TOPIC TAGS: irradiation of semiconductors, gallium arsenide, Gamma irradiation, irradiation, semiconductors

ABSTRACT: The effect of gamma irradiation on the electroconductivity and Hall effect of n- and p-type gallium arsenide monocrystals has been investigated. Rectangular 10 x 2 x 2-mm specimens with a current-carrier concentration of 10^{16} - $10^{17}/\text{cm}^3$ were used. Measurements were made by the compensation method. Co^{60} with an energy of 1.25 Mev served as the gamma source. It was found that gamma irradiation decreases conductivity in both n- and p-type specimens. Irradiation at room temperature reduces the Hall coefficient and carrier mobility, while it increases carrier concentration in both types of specimens. Irradiation causes stable radiative distortion of the crystal lattice, which produces the acceptor and donor levels. The concentration of holes in the specimens is higher after irradiation. The increase in current-carrier density over the entire temperature range from 150 to 473K is the result of ionization of acceptor levels, Card 1/2

ACCESSION NR: AP300933

which appears due to irradiation. Acceptor ionization energy was found to be 0.051 ev. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosuniversitete imeni V. V. Kuybyshcheva (Siberian Physicotechnical Institute at the Tomsk State University)

SUBMITTED: 10Mar62

DATE ACQ: 11Jun63

ENCL: 00

SUB CODE: NS

NO REF SOV: 001

OTHER: 004

Card 2/2

L 6920-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(q)/EWP(b) Pr-4/Pu-4 IJF(c)/AFWL/ 72
 AS(mp)-2/ASD(a)-2/SSD/RAEM(a)/AFETR/ESD(gg)/ESD(t)/RAEM(t) GG/JD
 ACCESSION NR: AR4039930 S/0058/64/000/004/E083/E083

SOURCE: Ref. zh. Fiz., Abs. 4E650

AUTHORS: Krivov, M. A.; Vyatkin, A. P.; Malisova, Ye. V.; Malyanov, S. V.

TITLE: Effect of x-ray and gamma irradiation on certain properties of germanium and gallium arsenide

CITED SOURCE: Mezhevuz. sb. tr. Zap.-Sib. sovet po koordinatsii i planir. nauchno-issled. rabot po tekhn. i yestestv. naukam, vy*p. 2, 1963, 117-121

TOPIC TAGS: germanium, gallium arsenide, gamma irradiation, x ray irradiation, pn junction, electric conductivity, Hall constant, carrier mobility, carrier density

TRANSLATION: The effect of x-ray irradiation (45 kV, 14 mA) on the

Card 1/3

L 6920-65

ACCESSION NR: AR4039930

electric conductivity (EC) of n- and p-type germanium and on p-n junctions in germanium was investigated. It is established that the EC of high-resistivity germanium samples increases with the radiation dose to saturation within 1.5--2 hours. The recovery of the EC at room temperature occurs after 5--30 minutes, but from then on the EC decreases below the initial values and is re-established completely only after several hundred hours (for n-type) or several thousand (for p-type). Low-resistivity germanium samples behave in analogous fashion, the only difference being that the EC does not increase following irradiation, but decreases. When the surface of a p-n junction is irradiated, the inverse current increases and the forward current decreases. Irradiation of germanium outside the junction decreases both the forward and inverse currents. Re-establishment of the inverse current is more rapid, while that of the forward current occurs after 300--400 hours. The change in the EC and in the Hall constant of n- and p-GaAs was also investigated as a function of the gamma-radiation dose (up to $\sim 5 \times 10^{16}$ quanta/cm²).

Card 2/3

L 6920-55

ACCESSION NR: AR4039930

It is established that irradiation leads to a decrease in the EC, in the Hall constant, and in the carrier mobility, and to an increase in the carrier density. L. By*strov.

SUB CODE: SS

ENCL: 00

Card 3/3

L 2716-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) LJP(c) JD/JE
ACCESSION NR: A250171B5 UR/0139/65/000/003/0148/0150

AUTHOR: Krivov, M. A.; Malisova, Ye. V.; Shishkova, G. S.

TITLE: Electric properties of gold-doped gallium arsenide

SOURCE: IVUZ. Fizika, no. 3, 1965, 148-150

TOPIC TAGS: gallium arsenide, gold containing alloy, ionization, impurity level

ABSTRACT: This investigation was undertaken because gold is used for contacts in gallium-arsenide devices, but there are no published data on the electric activity of the gold in gallium arsenide. The tested crystals were doped with gold either by introducing the gold in the melt or by diffusion from a gold film deposited on the crystal surface. The doped crystals had n-type conductivity, with the number of electrons in the crystal decreasing with increasing gold content. The ionization energy of the gold levels could not be determined, probably because of the high donor density and the limited solubility of the gold. Comparison of the surface-diffusion sample with a standard undoped sample shows that the introduction of the gold should give rise to two new acceptor levels in the gallium arsenide. One of the levels is at 0.046 ev, but the identification of the second level is difficult. It is most likely that the gold replaces a gallium atom at the lattice point, and forms together with the interstitial copper present in the original

Card 1/2

13
42
B

L 2716-66

ACCESSION NR: AP50171B5

material a complex with ionization energy 0.046 ev. Orig. art. has: 3 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii institut imeni V. D. Kuznetsova
(Siberian Physicotechnical Institute)

SUBMITTED: 28 July 64

ENCL: 00

SUB CODE: SS, EM

NR REF SOV: 000

OTHER: 003

mlr
Card 2/2

MALISZEWSKA, Elzbieta; BORKOWSKA, Anna

From the history of the Library of the Institute of General
Chemistry. Przem chem 42 no.12:725-728 D'63.

MALISZEWSKA, W.

"Influence of Inoculation with Nitrogen - Fixing Microorganisms on the Yields of Nonleguminous Plants" p. 58 (Acta Microbiologica Polonica, Vol. 2, No. 1, 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress March, 1954, Uncl.

GOLEBIOWSKA, J.; KOBUS, J.; MALISZEWSKA, W.; SOBIESZCZANSKI, J.; STRZEMSKA, J.

Dynamic aspect on the development of some groups of microorganisms
in the soil. Roczn. nauk roln. rosln 84 no.1:1-13 '61.

1. Zakład Mikrobiologii, Instytut Uprawy, Nawożenia i Gleboznawstwa,
Pulawy i Katedra Mikrobiologii Rolniczej, Wyższa Szkoła Rolnicza,
Wrocław.

BALISKA, Natalia; GOLEBIOWSKA, Jadwiga; MALISZEWSKA, Wanda

Interrelations between microorganisms and plant roots;
an international symposium. Postepy nauk roln 11 no. 2:
143-148 M. Ap '64.

KOSTRZENSKI, Wladyslaw; MALISZEWSKA, Zofia

Differentiation of acid fast bacilli isolated from cases of human osteoarticular tuberculosis and from material obtained from cattle and hogs. Gruzlica 30 no.1:1-12 '62.

1. Z Pracowni Bakteriologicznej Wojewodskiej Przychodni Przeciwgruzliczej w Warszawie Kierownik: mgr W. Kostrzanski Dyrektor: dr med. J. Gackowski.

(MYCOBACTERIUM TUBERCULOSIS culture)

KOSTRZEŃSKI, Władysław; PAKIERSKA-POBRATYN, Hanna; MALISZEWSKA, Zuzanna

The detectability of tubercle bacilli using the culture method and its relation to the management of the specimens. *Gruźlica* 33 no.1s35-39 Ja '65

1. Z Zakładu Mikrobiologii Instytutu Gruźlicy (Kierowniks doc. dr. M. Baraczewska) i z Pracowni Bakteriologicznej Wojewódzkiej Przychodni Przeciwgruźliczej w Warszawie (Kierowniks dr. F. Kostrzeński).

BUJKO, Klaudia; ZAPASNIK-KOBIERSKA, Maria Halina; MALISZEWSKA, Zofia;
KOSTRZENSKI, Wladyslaw

Primary drug-resistance to principal antitubercular agents
used in children. *Pediat. Pol.* 40 no.8:773-780 Ag '65.

1. Z Kliniki Terapii Chorob Dzieci AM w Warszawie (Kierownik:
prof. dr. med. M. H. Zapasnik-Kobierska) i z Wojewodzkiej
Przychodni Przeciwgruzliczej w Warszawie (Dyrektor: dr. med.
J. Gackowski).

ACC NR: AP6031702 (N) SOURCE CODE: PO/0099/66/040/003/0487/0488

AUTHOR: Hurwic, Jozef; Smialek-Kazmierowska, Sonia; Maliszewski, Bogdan 43
B

ORG: Department of Physics, Chemical Faculty, Institute of Technology, Warsaw
(Katedra Fizyki na Wydziale Chemicznym Politechniki)

TITLE: Dipole moments of some phosphoroorganic compounds with sulphur and selenium

SOURCE: Roczniki chemii-Annales societatis chimicae polonorum, v. 40, no. 3, 1966,
487-488

TOPIC TAGS: organic phosphorus compound, dipole moment, sulfur, selenium

ABSTRACT: Dipole moments of 6 phosphoorganic compounds with sulfur and selenium were
determined by the dilute solution method (in dry benzene) with an accuracy of
 $\Delta\mu = \pm 0.1D$. Orig. art. has: 1 table. [JPRS: 36,002]

SUB CODE: 07 / SUBM DATE: 19Oct65 / ORIG REF: 001 / SOV REF: 001
OTH REF: 002

Card 1/1 ZLH

BLAIM, Kazimierz; MALISZEWSKA-BLAIM, Halina

Studies on the chemical composition of the fruits of buckwheat
(*Fagopyrum sagittatum* Gibb.) and Tartarian buckwheat (*Fagopyrum*
tataricum Gartner). Roczn. nauk roln. rosl. 81 no.3:621-629 '60.
(EEAI 9:10)

1. Laboratorium Biochemiczne Instytutu Uprawy, Nawożenia i
Gleboznawstwa w Pulawach.
(Poland--Buckwheat)

MALISZEWSKI, Stanislaw, mgr inz.

Principles of selecting the power of electric motors. Soap
paliw 12 no.12:423-42" D '64.

MALISZEWSKI, Wladyslaw

Preparation of technological support bases. Przegl techn
26 no.11:7 14 Mr '65.

FREYDIN, A.S.; MALINSKIY, Yu.M.; KARPOV, V.L.

Effect of ionizing radiation on natural polymers. Carbohydrate-lignin complex and its components. Vysokom.sped. 1 no.5:784-790 M, '59. (MIRA 12:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruksiy Akademii stroitel'stva i arkhitektury SSSR i Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Gamma rays) (Lignin)

RIVLINA, Yu.L.; MALINSKIY, Yu.M.; YAKUBOVICH, S.V.; Primalni uchastiye:
LARINA, A.N.; YEVINZON, I.I.

Investigating the processes of aging of lacquer and paint
coatings. Report No.1. Investigation of the aging process
of alkyd and alkyd-melamine coatings. Lakokras. mat. 1 ikh
prim. no.6:31-35 '61. (MIRA 1:3)
(Protective coatings)

S/081/62/000/008/055/057
3158/B1C1

15 0 1 60
AUTHORS: Blokh, G. A., Karpov, V. L., Malinskiy, Yu. M., Ol'shanskiy, L. P., Khlop'yankina, M. S.

TITLE: The action of ionizing radiation on cable rubbers

PERIODICAL: Referativnyi zhurnal. Khimiya, no. 7, 1961, 502, abstract SP357 (Vestn. elektroprom-sta, no. 8, 1961, 52-56)

TEXT: The effect of direct ionizing radiation on different cable structures was studied as well as on insulating and hose rubbers subjected to irradiation in air, in vacuum, in water and at high temperatures. The insulating and hose rubber was irradiated separately and in replicate with Co^{60} over a wide range of doses up to 300 Mrad, intensity 0.3 Mrad/hr. Ionizing radiation causes deterioration in the physico-mechanical and dielectric properties of the cable rubbers. With increase in the radiation dose >50 Mrad, an abrupt fall in the specific elongation and an increase in hardness were observed. The rubbers maintain satisfactory durability, do not possess elasticity. In regard to a number of indices

Card 1/2

3/08/62/000/008/055/057
3:58/3101

The action of ionizing radiation ...

the electrical insulating properties of all the rubbers (starting from 50 Mrad) do not comply with the requirements of "ГОСТ" (ГОСТ). Up to 50-100 Mrad irradiation in water or in vacuum, changes in the properties of the rubbers are considerably smaller. Rubbers from natural rubber or СКБ (СКБ) are more stable to the simultaneous action of heating and irradiation than those from nairit. [Abstracter's note: Complete translation.]

Card 2/2

S/844/62/000/000/099/129
D234/D307

AUTHORS: Blokh, G. A., Karpov, V. L., Malinskiy, Yu. M., Ol'shanskiy, L. P. and Khloplyankina, M. S.

TITLE: The effect of ionizing radiations on cable rubbers and structures

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 581-588

TEXT: Specimens were irradiated by a Co^{60} source. Up to a dose of 50 megarad the properties of rubbers changed relatively little. At higher doses, relative elongation decreases to less than a third and strength diminishes. Above 100 megarad complete destruction of rubberized fabric in cables is observed. In insulating rubbers strength decreases considerably, especially with 200 megarad. An increase of the dose to 350 megarad increases the strength again. In hose rubber *ИИ-40* (ShN-40) strength drops by 25 - 30% with 50 - 100 megarad, but between 100 and 300 megarad it became higher than

Card 1/2

S/844/62/000/000/009/129
D234/D507

The effectio of ionizing . . .

initial strength. Hardness increased with the dose. Relative elongation was below GOST standards for doses higher than 50 megarad. Properties of rubbers placed in water or in vacuum (with 50 - 100 megarad) change much less than those of rubbers placed in air, which indicates the participation of oxygen in the processes caused by irradiation. Insulation rubber TC-35 (TJ-35) was more stable than hose rubber ShN-40 when subjected simultaneously to 70°C and 0.7 megarad/hour during 70 hours. Electrical insulating properties of all rubbers were below GOST standards beginning with 50 megarad. There are 3 figures and 5 tables.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskii institut im. F. E. Dzerzhinskogo (Dnepropetrovsk Institute of Chemical Technologi im. F. E. Dzerzhinskiy), Fiziko-khimicheskii institut im. L. Ya. Karpova, Zavod "Azovkabel" (Physico-Chemical Institute im. L. Ya. Karpov, "Azovkabel" Factory)

Card 2/2

S/191/62/000/004/002/017
B110/B138

15.8050
AUTHORS:

Bubis, L. D., Karpov, V. L., Malinskiy, Yu. M.,
Yanovskiy, S. M.

TITLE: Polymerization of vinyl chloride under the action of γ -rays

PERIODICAL: *Plasticheskiye massy*, no. 4, 1962, 3-6

TEXT: Industrial PVC with 0.5% impurities (vinylidene chloride, chloroethyl, methanol, acetylene, *p*-chloro propylene, methyl acetylene) was polymerized by means of γ -rays (Co^{60} , 18,000 g-equiv Ra). The kinetics showed it to be a case of radical polymerization. There was a long induction period at -78, -20, 0, and 20°C and $P = 15$ rad/sec, due to removal of primary radicals which reacted with the impurities. The total activation energy was 4.7 kcal/mole calculated from the temperature dependence of rate of polymerization between 10 and 20% conversion with constant radiation dose. This is quite close to the figures obtained for the radiation polymerization of methyl methacrylate (5.15 kcal/mole) and styrene (6.45 kcal/mole). It is lower than with initiated polymerization since under irradiation the radical formation is independent of temperature. X

Card 1/3

S/191/62/000/004/002/017
5110/B136

Polymerization of vinyl...

The radiation dependence of the rate of polymerization is: $v = AP^n$, where $A = \text{const}$ for a given temperature, $n = 0.56 \pm 0.07$. This indicates polymerization by the bimolecular mechanism. If the yield for 100 eV absorbed energy is calculated from the corresponding rates, $G = B/P^m$, where $G = \text{yield}$, $B = \text{const}$ for a given temperature, $m = 0.47 \pm 0.04$. Thus, an increased radiation dose accelerates polymerization but reduces the efficiency of the process. At -20 and 20°C and $1-10$ rad/sec, the characteristic viscosity decreases with increasing dose. This raises the initiation rate and the concentration of active centers, which causes a reaction in polymerization. Viscosity increases with a temperature drop from 20 to -20°C . A further drop, however, lowers it. The temperature coefficient of the degree of polymerization is positive. This was observed in PVC polymerization between -78 and 20°C . The temperature dependence of the characteristic viscosity was anomalous between -20 and 20°C . This is due to increased probability of the chain being broken due to transfer via monomer and impurities, which may lead to a change of the molecular weight. Characteristic viscosity and decomposition temperature increased up to $\sim 20\%$ conversion, falling with further increase. The initial decrease of characteristic viscosity and thermal stability is due to impurities which

Card 2/3

S/191/62/000/004/002/017
B110/B138

Polymerization of vinyl...

break the chain. The relative amount of impurities and their effect on the polymer properties decrease, and characteristic viscosity and decomposition temperature increase, as the degree of conversion rises. Destruction processes, formation of long-lived radicals and ramifications, occur under irradiation, which reduce characteristic viscosity and thermal stability. The color intensity increased with radiation dose owing to formation of conjugate double bonds. The polymer obtained at -20°C , $2 \cdot 10^5 - 5 \cdot 10^5$ rad had $T_v \approx 100^{\circ}\text{C}$; in radical polymerization, $T_v = 75-80^{\circ}\text{C}$. Therefore, high-purity vinyl chloride must be used for radiation polymerization, and irradiation of the polymer should be avoided to preserve its stability. It is recommended that polymers insoluble in the monomer should be continuously withdrawn from the radiation zone. There are 9 figures. The most important English-language reference reads as follows:
A. Charlesby, Atomic radiation of Polymers, N.Y., 1959.

Card 3/3

S/191/62/000/005/001/012
B110/B101

AUTHORS: Kargin, V. A., Malinskiy, Yu. M., Ratner, S. B.

TITLE: Development of the mechanics of plastics

PERIODICAL: *Plasticheskiye massy*, no. 5, 1962, 1-2

TEXT: An understanding of the behavior and service life of plastic products involves studying not only the purely mechanical relaxation processes but also the mechanical-chemical process of destruction, especially through repeated bulk fatigue failure or abrasion. Good mechanical properties are required for (1) use in supporting, shock absorbing, packing, etc., (2) dielectrics, (3) heat insulators, and (4) water- and gas-tight shells. In these respects, the fundamental mechanical indices must be known, such as (1) strength, (2) maximum elongation, (3) elasticity, (4) resilience, and (5) heat resistance. The mechanics of plastics must therefore be developed as an applied science able to evaluate the properties of plastics characterized as: (1) thermo-reactive and thermoplastic, (2) brittle and soft, (3) monolithic and porous, (4) filled and unfilled, (5) isotropic and anisotropic. For this
Card 1/3

S/191/62/000/005/001/012
B110/B101

Development of the mechanics ...

purpose, general mathematical theories need to be elaborated for: (1) strength, (2) elasticity, (3) plasticity, and (4) relaxation, considering the molecular, supermolecular, and macroscopic structure of different plastics. The Komissiya po mekhanike polimerov Goskhimkomiteta (Commission for Polymer Mechanics of the Goskhimkomitet) is compiling records of experimental results regarding: (1) effect of temperature and pressure on viscosity, (2) density, (3) elastic relaxation, (4) coefficient of external friction, (5) thermophysical data, and (6) effect of temperature on the yield curves. By 1963 it is hoped to have so compile the (a) elastic, (b) relaxation and (c) strength properties of all rigid plastics, for various temperatures and static and dynamic loads. Similar records are needed for the behavior of thermoreactive plastics during processing as well as for technical evaluation of foam plastics, films, soft and semirigid plastics. It is also necessary to work out uniform methods for evaluating the properties of plastics as regards workability, and to design suitable experimental apparatus. To afford reliable basis for calculating the strength and hardness of many plastic constructions, a theory of the mechanical behavior of plastics under complicated stresses should be elaborated by the Institutes of the Akademiya nauk (Academy of

Card 2/3

S/191/62/000/005/001/012
B110/B1C1

Development of the mechanics ...

Sciences) in collaboration with universities and leading scientists. The planned Nauchno-issledovatel'skiy institut po primeneniyu plastmass v mashinostroyeni (Scientific Research Institute for the Application of Plastics in Machine Building) is to supply designers with methods of calculation for complicated machine parts and constructions, and to pursue the development of research methods for plastic products. The Institutes of the AN SSSR (AS USSR), the related industry and advanced schools are to train students conversant with physico-mechanical investigation methods for polymers, in the field of the mechanics of plastics and polymers. Comprehensive studies in all fields appertaining to the mechanics of plastics are to be undertaken in the institutes of the Goskhimkomitet jointly with scientific, technical and other organizations, aiming to achieve highly effective methods of processing, rational application and extensive replacement of expensive materials.

Card 3/3

32348

S/190/62/004/001/010/020
B*01/B110

54600 1304

AUTHORS: Yegorova, Z. S., Malinskiy, Yu. M., Karpov, V. L. Kalmanson,
A. E., Blyumenfel'd, L. A.

TITLE: Kinetics of disappearance of free radicals in irradiated
polyvinyl chloride

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962 64 - 65

TEXT: The authors studied the decrease of concentration of free radicals
in irradiated polyvinyl chloride in vacuo at 70 - 100°C by means of epr.
Degassed polyvinyl chloride powder was irradiated with 200-kev electrons
($0.6 \mu\text{a}/\text{cm}^2$) for 10 min in vacuo (about 10^{-4} mm Hg) at 77° K. The epr
signal was recorded by the apparatus of A. G. Semenov, N. N. Bubnov (Pri-
bory i tekhnika eksperimenta, 1. 92, 1959) and compared with that of the
standard diphenyl picryl hydrazyl.

Card 1/3

32348

S/190/62/004/001/010/020
B101/B110

Kinetics of disappearance of

Results:

Temperature, °C	70	80	90	100
$(1/T) \cdot 10^3$	2.92	2.83	2.76	2.68
$k \cdot 10^{22}$	0.06	0.28	2.76	8.04

T = absolute temperature. k = constant of the rate of disappearance of radicals (number of paramagnetic particles $\cdot g \cdot sec^{-1}$). The function $\log k = f(1/T)$ is linear (second-order reaction). In the temperature range studied the activation energy of recombination was 24-5 kcal/mole. There are 2 figures and 4 references. 2 Soviet and 2 non-Soviet. The two references to English language publications read as follows: A. A. Miller, J. Phys. Chem., 63, 1755, 1959; Z. Kuri, H. Ueda, S. Shida, J. Chem. Phys., 32, 371, 1960

ASSOCIATION: Fiziko-khimiicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov), Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

Card 2/3

Kinetics of disappearance of

12-1P
0 100/10/102/101 117/090

SUBMITTED January 30, 1961

X

Card 3/3

06210

SOV/64-59-6-2/28

25(5)

AUTHORS:

Karpov, V. L., Malinskiy, Yu. M., Mitrofanova, L. V., Sinitsyn, S. T., Finkel', E. E., Fridman, A. S., Cherntsov, S. M.

TITLE:

Increase in the Thermostability of the Polyethylene Insulation of Cables by Means of Exposure to Ionizing Radiation

PERIODICAL:

Khimicheskaya promyshlennost', 1959, Nr 6, pp 468 - 474 (USSR)

ABSTRACT:

The thermostability of polyethylene can be increased by the action of ionizing radiations (Ref 1). Polyethylene exposed to a sufficiently large dose of radiation at 110-115° possesses properties similar to those of rubber (Ref 3). An investigation was made of the irradiation conditions and testing methods of cables (1 mm thick copper wire) insulated with polyethylene (type OKhK-501). The insulating material was exposed to γ -rays of Co⁶⁰ (gamma plant "K-20000" (Ref 8)) with a capacity of 0.6-0.9 Mrad/h or to fast electrons from a linear accelerator of 1 Mev. The tensile strength of the exposed samples was tested by means of a dynamometer designed by V. A. Belynskiy, S. D. Prokudin, and B. I. Zverev at the Fiziko-khimicheskii institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov). The thermostability of the irradiated samples was determined by means of an apparatus (Ref 10). At the same time, the dependence of the deformation on time was investigated at

Card 1/2

Increase in the Thermostability of the Polyethylene Insulation of Cables by Means of Exposure to Ionizing Radiation ~~06210~~ SOV/64-59-6-2/28

a definite load and a constant rate of temperature increase (50°C/h). The thermodynamic curves obtained (Figs 2-10), the tensile-strength coefficients (Table 1), and the data of electric resistance (Table) as well as data concerning the thermal aging of the irradiated samples permit the following statements: an irradiation of either of the two above-mentioned kinds permits an increase in the temperatures to which polyethylene insulations may be exposed. The optimum mechanical properties of the insulation were reached in the case of γ -irradiation in a vacuum with doses up to 100-150 Mrad and in the case of electrons in air during 2-4 minutes at a tension of 1 mgv or during 8 minutes at 0.6 mgv and a current density of approximately $15 \mu\text{A/cm}^2$. The cables irradiated with the optimum dose operate without failure for some hours at temperatures up to $230-250^{\circ}$, some ten hours at 130° , and several hundred hours at 110° . The use of corresponding stabilizers may essentially lengthen the life of irradiated polyethylene insulation and increase the maximum working temperature. There are 10 figures, 3 tables, and 11 references, 7 of which are Soviet.

Card 2/2

FREYDIN, A.S.; MALINSKIY, Yu.M.; KARPOV, V.L.

Effect of ionizing radiation on the chemical stability of wood.
Gidroliz i lesokhim.prom. 12 no.4:4-7 '59. (MIRA 12:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki dereva (for Freydin). 2. Fiziko-khimicheskiy institut im. L.Ya. Karpova (for Malinskiy, Karpov).
(Wood--Chemistry) (Radiation)

15.5560

S/183/60/000/03/03/007
B020/B054

15.5560

AUTHORS: Nechayeva, S. A., Malinskiy, L. A. ⁸²⁰⁶² Malinskiy, L. A.

TITLE: Investigation of the Possibility of Increasing Thermal Stability of Polyolefin Fibers by the Action of Ionizing Radiation ¹²

PERIODICAL: Khimicheskiye volokna, 1960, No. 3, pp. 7-9

TEXT: It is known that the polyolefin fibers hitherto used in the industry have a low thermal stability. These fibers and the products made of them have the following disadvantages: a) Irreversible shrinking at increased temperatures, and b) considerable decrease in strength with increase in temperature. To increase the thermal stability of polymeric materials, mainly fibers, various methods have been used; one of the most efficient methods is the formation of chemical bonds between the macromolecules of the polymer which is, however, rendered difficult by the fact that these polymers do not contain reactive functional groups by which a reticulation could occur. It was the object of the investigation under review, the results of which are briefly outlined, ^X

Card 1/3

Investigation of the Possibility of Increasing
Thermal Stability of Polyolefin Fibers by the
Action of Ionizing Radiation

S/183/60/000/03/03/007
B020/B054
82062

to study the possibility of an increase in thermal stability of polyolefin fibers by radioactive radiation; the behavior of polypropylene-¹⁵ and polyethylene fibers² obtained by shaping in a thermoplastic state was studied by a method described previously (Ref. 1). The shaped and additionally drawn fiber was irradiated in the vacuum with γ -rays of Co^{60} in a device described in Ref. 3 (K = 20000) with a dosage of 0.7-0.8 Mrad/h. The increase in thermal stability of the fiber after irradiation was mainly determined by the change in shrinking at different temperatures between 50 and 100°. Besides, the authors investigated the change in strength and elongation at increased temperatures of not irradiated fibers and of polyethylene fibers irradiated with different doses of γ -rays. Figs. 1 and 2 illustrate data on the change in the shrinking degree of polypropylene fibers irradiated with different doses of γ -rays, at increased temperatures. Polypropylene with a content in amorphous phase of 10% and a yarn number of 730 was used in the irradiation. Table 1 lists data on the influence of the radiation dose on the change in mechanical properties of polypropylene fiber.

Card 2/3

Investigation of the Possibility of Increasing
Thermal Stability of Polyolefin Fibers by the
Action of Ionizing Radiation

S/183/60/000/03/03/007
B020/B054

0206

Figs. 3 and 4 show the curves of the change in tearing strength and breaking dilation of irradiated and not irradiated polyethylene fibers at increased temperatures. The results obtained show that the shrinking of polypropylene fiber at increased temperatures is considerably reduced by irradiation with a simultaneous considerable deterioration of the mechanical properties. In the polyethylene fiber, an irradiation under the conditions mentioned reduces the flowing of the fiber at increased temperatures but cannot reduce the losses of strength at such temperatures. This publication is the 15th of the series "Investigations in the Field of Production of New Types of Synthetic Fibers". There are 4 figures, 1 table, and 4 references: 3 Soviet and 1 British.

ASSOCIATION: MTI (Moscow Textile Institute)

X

Card 3/3

FREYDIN, A.S.; MALINSKIY, Yu.M.

Effect of ionizing radiations on polysaccharides. Usp. khim. 1
tekhn. polim. no.3:130-159 '60. (MIRA 13:9)
(Polysaccharides) (Radiation)

S/629/60/000/003/008/011
D202/D305

AUTHORS: Freydin, A. S., and Malinskiy, Yu. M.

TITLE: The effects of ionizing radiation on polysaccharides

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo imeni D. I. Mendeleeva. Uspekhi khimii i tekhnologii polimerov, sb.3. Moscow, Goskhimizdat, 1960, 130-159

TEXT: A summary of experimental results of the irradiation of mono- and polysaccharides with high-speed electrons, X- and γ -rays and neutrons, published both by Western and Soviet investigators. The authors describe many experiments in detail, illustrating them by tables, figures and reaction mechanisms taken from the original, mostly Western publications. The summary is divided into three parts: 1) The action of radiation on simple saccharides - glucose, fructose, lactose, sucrose and raffinose; 2) the action of radiation on polysaccharides (except cellulose) - agar, insulin, gum arabic, starch, amylose, pectin, amylopectin, dextran, alginic acid and some mucosaccharides; 3) the effects of irradiating

Card 1/2

S/629/60/000/003/008/011
D202/D305

The effects of ionizing ...

cellulose and its derivatives - wood and cotton cellulose, nitro-,
aceto- and ethyl cellulose and cellophane. There are 15 figures,
10 tables and 92 references: 21 Soviet-bloc and 71 non-Soviet-bloc.
The 4 most recent references to the English-language publications
read as follows: G. Phillips, and G. Moody, Appl. Rad. isotopes,
6, 78, October (1959); D. Kennaga and E. Cowling, For. Res. J. 9,
3, 112, (1959); W. Newell and H. Rutherford, 3-d industr. nuclear
technol. confer., Chicago, (1958); K. Ninnemann, Nucl. Sci. Abstr.
13, 766, (1959).

Card 2/2

TIKHOMIROVA, N.S.; MALINSKIY, Yu.M.; KARPOV, V.L.

Diffusion processes in polymers. Part 1: Diffusion of monatomic gases through polymer films of different structure. Vysokom. soed. 2 no.2:221-229 F '60. (MIRA 13:11)

1. Nauchno-issledovatel'skiy institut plasticheskikh mass i Fiziko-khimicheskiy institut imeni L.Ya. Karpova.
(Polymers) (Diffusion)

TIKHOMIROVA, N.S.; MALINSKIY, Yu.M.; KARPOV, V.L.

Diffusion processes in polymers. Part 2: Effect of the atomic diameter on the diffusion of gases in the polymer. Vysokom. soed. 2 no.2:230-237 F '60. (MIRA 13:11)

1. Nauchno-issledovatel'skiy institut plastmass i Fiziko-khimicheskiy institut imeni L.Ya. Karpova. (Diffusion) (Polyethylene) (Polyamides)

83702

S/190/60/002/008/007/012
BO:5/BO64

11.2210

AUTHORS: Yegorova, Z. S., ~~Malinskiy, Yu. M.~~ Karpov, V. L.
Kalmanson, A. E., Blyumenfel'd, L. A.

TITLE: Chemical Changes of Polyvinylchloride Under the Influence
of Ionizing Radiations¹⁵

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 5
pp. 891-898

TEXT: The present paper investigates the dependence with time of the color change of PVC irradiated¹⁹ or non-irradiated under different conditions. The structural changes brought about by irradiation were also investigated. PVC powder samples and films (40, 180, and 200 μ thick) were irradiated at 293°K and 77°K in vacuum (approximately 10^{-4} torr) and stored in vacuum or in the air. Irradiation was made with fast neutrons with an energy of 200 kev, with a current density of 0.6μ a/cm² being applied to the samples provided for determining the absorption spectra (on the C ϕ -4 (SF-4) spectrometer) and paramagnetic electron resonance, and for determining the infrared spectra 1.2μ a/cm². An

Card 1/3

83702

Chemical Changes of Polyvinylchloride Under
the Influence of Ionizing Radiations

S/190/60/002/006/007/012
B015/B064

electron accelerator with extracted beam was used as electron source. L. A. Vasil'yev irradiated the samples. In the infrared spectrum of the non-irradiated PVC (Fig. 1) a strong absorption band lies at 1256 cm^{-1} for the $-\text{CHCl}-$ group (Ref. 8), at 1428 cm^{-1} for the deformation oscillations of the methylene group (Ref. 9), and at 1330 cm^{-1} for the CH group (Ref. 9), at 1097 cm^{-1} for the C-C bond of the carbon chain, at 960 cm^{-1} for the methylene group and the C-C bond of the carbon skeleton, as well as at 698 cm^{-1} for the C-Cl bond. The intensity of the 1256 cm^{-1} and 698 cm^{-1} band is reduced in the spectrum of PVC irradiated in vacuum at room temperature for 3 hours which indicates a reduction of the chlorine content, as well as of the 1428 cm^{-1} and 960 cm^{-1} indicating a reduction in the amount of methylene groups. In this connection conjugate double bonds are formed under the separation of HCl (new band in the range of $1720-1530\text{ cm}^{-1}$). The further results obtained by spectral analyses and paramagnetic electron resonance indicate that the color change of PVC is due to processes occurring under the participation of radicals. By the method of the paramagnetic electron resonance the concentration of the radicals was found to decrease with time. In vacuum, this decrease is apparently due to a recombination of the radicals.

Card 2/3