

ARKAD' YEV, B.A.; GANNITSA, V.M.; POLORATSKAYA, N.B.

Problem of the heating of a flanged joint. Inzh.-fiz. zhur. 8 no.6:  
735-741 Je '65. (MIRA 18:7)

1. Turbinnyy zavod imeni Kirova, Khar'kov.

L 00929-66 EWT(l)/EW<sup>m</sup>(m)/EWP(w)/EPF(c)/EPF(n)-; /EWG(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/  
EWA(c)/ETC(m)/EWP' HM/EM/JD/WW

ACCESSION NR: AP5020210

UR/0170/65/009/001/0015/0019  
536.25

AUTHOR: Arkad'yev, B. A.

56  
B

TITLE: Free heat convection in turbine cavities

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 1, 1965, 15-19

TOPIC TAGS: turbine rotor, heat transfer, heat convection, turbine cooling

ABSTRACT: Free heat convection in axisymmetrical turbine cavities taking into account the effects of centrifugal forces is analyzed and formulas are derived for heat transfer computation. Using these formulas, the heat convection in the cavity of the welded rotor of the Kharkov Turbine Plant, turbine was evaluated. At accelerations corresponding to the mean radius of the cavity and at a moderate temperature difference (30C) between the disks and walls of the cavity, the effective heat transfer is 200 times greater than in a stationary medium (air) under similar conditions. Thus, the necessity of taking heat convection in closed cavities of turbine rotors into account in design calculations is clearly demonstrated. Orig. art. has: 6 formulas and 2 figures. [AC]

ASSOCIATION: Turbinnyy zavod im. S. M. Kirova, Kharkov (Turbine Plant)

Card 1/2

L 00929-66

ACCESSION NR: AP5020210

SUBMITTED: 13Nov64

ENCL: 00

SUB CODE: PR, <sup>0</sup>TD

NO REF SOV: 007

OTHER: 000

ATD PRESS: 4077

Card 2/2 *SP*

L 04062-67 EWP(k)/EWP(m)/T-2/EWP(w)/EWP(v) IJP(c) EM

ACC NR: AP6027316

SOURCE CODE: UR/0114/66/000/005/0007/0009

AUTHOR: Sobolev, S. P. (Engineer); Arkad'yev, B. A. (Engineer);  
Mel'nik, S. M. (Engineer)

52  
B

ORG: none

TITLE: Selection of guiding <sup>ve</sup>vane grids

SOURCE: Energomashinostroyeniye, no. 5, 1966, 7-9

TOPIC TAGS: turbine design, turbine blade

ABSTRACT: The article presents a method for optimization of the grid profiles for the guiding vanes of turbines and gives the results of a comparison of three types of profiles. In the comparison of the profiles, no corrections were introduced for the effect of the angle of the incoming flow, or for the Re and M numbers, since in most cases these corrections are not significant. The mean discharge angle for the flow,  $\alpha$ , was taken as arcsine  $a/t$ , where  $a$  is the size of the throat, and  $t$  is the spacing of the grid. Based on experimental results, a figure shows the dependence of the profile losses of energy on the relative spacing for three types of profiles. A second figure illustrates the dependence of the total energy losses in the grid on

Card 1/2

UDC: 62-226.001.5

E 04062-57

ACC NR: AP6027316

the discharge angle of the flow,  $\alpha$ . Orig. art. has: 4 figures and 1 table. 0

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

Card 2/2

I. 38783-66 EWT(1' WW

ACC NR: AP6024819

SOURCE CODE: UR/0096/66/000/008/0050/0052

AUTHOR: Arkad'yev, B. A. (Engineer); Shatrovskaya, G. N. (Engineer)

54  
B

ORG: Kharkov turbine plant (Khar'kovskiy turbinnyy zavod)

TITLE: Calculation of natural convective heat transfer in turbine cavities using a digital computer

SOURCE: Teploenergetika, no. 8, 1966, 50-52

TOPIC TAGS: convective heat transfer, turbine, turbine rotor, turbine design, convection

ABSTRACT: A computer program based on finite difference equations was developed for calculating natural convection in turbine rotor cavities in which the convection is caused by centrifugal force and depends on the distance from the axis. As an example, convection was calculated of a cavity 1.23 m diameter with temperatures of 300 and 350C at the ends. The limitations of the method are discussed. Orig. art. has: 3 formulas. [PV]

SUB CODE: 1320/ SUBM DATE: none/ ORIG REF: 006

Card 1/1

RUGA, A.; ARKAD'YEV, D.

Hidden reserves discovered by the collective. Stroi.mat., izdel.  
i konstr. 1 no.6:25-27 Je '55. (MIRA 9:1)

1. Glavnyy inzhener Konstantinovskogo stekol'nogo zavoda imeni  
Okt'yabr'skoy revolyutsii (for Ruga).  
(Konstantinovo--Glass manufacture)

ARKAD'YEV, D.

Attention to customers' needs is the main thing. Sov. torg. 34  
no.9:7-9 S '61. (MIRA 14:9)

(Moscow--Department stores)



ARKAD'YEV, D., inzh.

Mysteries of blue streams. Znan.sila 37 no.3:12-15 Mr '62.

(MIRA 15:4)

(Aerodynamics, Supersonic) (Airplanes--Design and construction)

ARKAD'YEV, D.

The success of stock fattening depends on food wastes. Obshchestv.  
pit. no.10:46 0 '62. (MIRA 15:11)  
(Zaporozh'ye Province--Swine--Feeding and feeding stuffs)

ARKAD'YEV, D. (Krasnoyarskiy kray)

From the upper reaches to the mouth of the Yenisey River.  
Obschestv. pit. no.7:15-18 J1 '61\* (MIRA 14:8)  
(Krasnoyarsk Territory—Restaurants, lunchrooms, etc.)

ARKAD'YEV, D. (Khanty-Mansiysk)

On the shores of the Irtysh River. Obshchest.pit. no.3:55-56  
Mr '62. (MIRA 15:4)

1. Korrespondent zhurnala "Obshchestvennoye pitaniye".  
(Khanty-Mansiysk--Restaurants, lunchrooms, etc.)

ARKAD'YEV, D.

The first in a city which is not shown on the map. Obshchestv.  
pit. no.11:16-17 N '62. (MIRA 16:1)  
(Moscow Province—Restaurants, lunchrooms, etc.)

ARKAD'YEV, D. (Dnepropetrovsk)

Public university. Sov. torg. 35 no.9:50 S '62.  
(Dnepropetrovsk-- Distributive education)

(MIRA 16:2)

MOLOD, A. (Alma-Ata); ZHANTYAN, A. (Kishinev); GROMOV, S.; SELIFANOV, P.,  
inzh.-tekhnolog; LYAPINA, A., inzh.-tekhnolog; ZAKOVRYASHIN, G.;  
ARKAD'YEV, D.

From the editor's mail. Obshchestv. pit. no.8:42 Ag '63.

(MIRA 16:12)

1. Direktor Belgorodskogo zheleznodorozhnogo restorana (for Gromov). 2. Otdel rabocheho snabzheniya kombinata "Sverdles" Sverdlovsk (for Selifanov). 3. Direktor Minskoy kulinarnoy shkoly (for Zakovryashin).

YAMPOL'SKAYA, R.G., inzh.; ARKAD'YEV, D.A., inzh.

Determination of vibrational characteristics of bladings  
with damper couplings. Energomashinostroenie 11 no.11:5-7  
N '65. (MIRA 18:11)



YAMPOL'SKAYA, R.G., Inzh.; ARKAD'YEV, D.A., Inzh.

Some characteristics of tensiometry of the operating blades of  
steam turbines of a ship at sea. Sidostroenie 31 no.4:23-24 Ap  
'65. (MIRA 18:8)

L 29546-66

EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k) IJP(c) WW/EM

ACC NR: AP6012265 (N)

SOURCE CODE: UR/0114/65/000/011/0005/0007

AUTHOR: Yampol'skaya, R. G. (Engineer); Arkad'yev, D. A. (Engineer)

56  
B

ORG: none

TITLE: Determining the vibration characteristics of blading with damper connections

SOURCE: Energomashinostroyeniye, no. 11, 1965, 5-7

TOPIC TAGS: turbine blade, vibration damping, torsional vibration, flexural vibration, vibration stress

ABSTRACT: The authors give the results of experimental tests conducted at the Kaluga Turbine Plant in 1963-1964 to study the vibration strength of blading with various types of free connections made in the form of damper wires. Several modifications of the damper connections were tested by a single method in conditions completely analogous to those in an operating turbine under a load. The blading in the final stage of an experimental stream turbine with a diameter of 787 mm was tested at a maximum speed of 9000 rpm. The unit was loaded by a multidisc hydraulic brake. Frequencies and stresses in the blades were measured by strain gages protected from mechanical damage by steel foil. Particular attention was given to exact duplication of experimental conditions since the final goal of the tests was a comparative analysis of all blading modifications. The damper connections were made in the form of sections of 6 mm wire

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UDC: 62-752:62-135.001.5

L 29740-00

ACC NR: AP6012265

cut along the diameter in the plane of the disc. All blades in the stage were assembled into a single unit closed into a circle by shifting the wire sections with respect to each other around the circumference. The following three blading versions were tested in the given order: 1. with two rows of damper wires placed at distances of  $0.5l$  and  $0.8l$  from the butt end of the blade (where  $l$  is the working height of the blade; 2. with a single outer row of damper wires; 3. without wires. It was found that the use of damper wires closed into a circle sharply reduces the amplitude of vibrational stresses in the blades for the case of tangential bending oscillations on the fundamental frequency. These stresses were reduced by a factor of approximately 10 when a single row of damper wire was used. There is an additional reduction in vibration stresses when a second wire is added. Stress measurements should not be restricted to no-load conditions when determining vibrational stresses in turbine blades since there may be a considerable difference between these stresses and those measured under a load. It is suggested that additional research should be done on the possibility of reducing vibrational stresses in the blade during torsional vibrations by moving the wire with respect to the nodal line. Orig. art. has: 1 figure, 1 table.

SUB CODE: 10,13/

ORIG REF: 003

Card 2/2 *W*

KLOBOUCHNIK, Yan [Kloboučnik, Jan]; ARKAD'YEV, F. [translator]

Granite and Striped Cardinals. IUn.nat. no.5:31-32  
My '59. (MIRA 12:6)

(Kadov, Czechoslovakia--Fruit trees)

ARKAD'YEV, G.

We await help. Sov. foto 17 no.4:36 Ap '57.  
(Photography)

(MIRA 10:6)

ARKAD'YEV, G.; VLADICH, Ye.

If there is no harmony among comrades... Za rul. 21 no.4:20-21  
Ap '63. (MIRA 16:5)

(Traffic signs and signals)

ARKAD'YEV, G. (Nurek, Tadzhikskoy SSR)

At the front boundary of the seven-year plan. Za rul. 21  
no.7:3 J1 '63. (MIRA 16:8)

1. Spetsial'nyy korrespondent zhurnala "Za rulem."  
(Nurek--Hydroelectric power stations)

*ARKAD'YEV, G.V.*

IVANINA, L.I.; GRUSHVITSKIY, I.V.; ARKAD'YEV, G.V.; BUDKOVICH, Ye.V.;  
POLYANSKIY, V.I.

Setting up the museum exhibit "World vegetation according to the  
geobotanical regions." Bot.zhur. 41 no.5:667-680 My '56. (MLRA 10:7)  
(Phytogeography--Exhibitions)



ARKAD'YEV, G. V.

SEMIKHATOVA, O.A.; ARKAD'YEV, G.V.

New design of a manometric apparatus. Bot.zhur. 42 no.4:625-627  
Ap '57. (MLRA 10:5)

1. Botanicheskiy institut im. V.L. Komarova Akademii nauk SSSR,  
Leningrad.

(Botanical apparatus)  
(Plants--Respiration)

ALEKSANDROVA, V.D. (Leningrad); ARKAD'YEV, G.V. (Leningrad)

Large center of botanical research; the 250th anniversary of the  
Botanical Institute of the Academy of Sciences of the U.S.S.R.  
Priroda 54 no.11:121-123 '65. (MIRA 18:11)

ARKAD'YEV, K.

The discussion in the International Labor Office on the reduction  
of the hours of labor. Okhr. truda i sots. strakh. 3 no.5:76-79  
My '60. (MIRA 13:12)

(International Labor Office)  
(Hours of labor)

ARKAD'EV, M.

House building in the USSR. Moskva, Gos. izd-vo polit. lit-ry, 1949, 69p.  
(50-18910)

HD9715. \$92A82

ARKAD'YEV, N.A.

Geological prerequisites of prospecting for the deposits of industrial agate as revealed by the study in the regions of Transcaucasia. Izv. vys. ucheb. zav.; geol. i razv. 6 no.9: 98-103 S '63. (MIRA 17:10)

1. Leningradskiy gornyy institut im. G.V. Plekhanova.

ARKAD'YEV, N. S.

Organizing the work at a medical and obstetrical station on  
medical attendance in seasonal children's institutions. Fel'd.  
i akush. 27 no.5:44-45 My '62. (MIRA 15:7)

(ROSTOV DISTRICT(YAROSLAVL PROVINCE)--CHILDREN--CARE  
AND HYGIENE)

ARKDA'YEV, R.

"Transition to a new irrigation system and the organization of the water regime on collective farms." Reviewed by R. Arkad'yev Khlopkovodstvo no. 12, 1951.

SO: MLRA, August 1952.

ARKAD'YEV, R.

The first large block apartment houses in Rostov-on-Don. Stroitel'  
2 no.1 Ja '56.

(Rostov-on-Don--Apartment houses) (Concrete blocks) (MIRA 10:1)



POLEY, S.; IVANOV, P.; AREAD'YEV, R.

Apartment houses built of coarse cellular concrete blocks.  
Stroitel' 2 no.2:5-7 F '56. (MLRA 9:12)  
(Concrete blocks) (Apartment houses)  
(Lightweight concrete)

ARKAD'YEV, S.

What is cybernetics? ("Signals; some cybernetic concepts" by  
I.A.Poletaev. Reviewed by S.Arkad'ev). Znan.sila 34 no.3:25  
Mr '59. (MIRA 12:4)

(Cybernetics)

(Poletaev, I.A.)

DAVIDSON, A.G.; DATLIN, S.V.; KIRICHENKO, G.A.; KOROTKOVA, Ye.N.;  
KRAVCHENKO, D.V.; ORLOVA, A.S.; ADADUROVA, A.A.; ARKAD'YEV,  
V.G.; BARDINA, Yu.Ya.; BODYANSKIY, V.L.; BONDAREV, S.N.;  
GLAZACHEV, M.V.; DAVYDOVA, E.A.; IVANOV, V.N.; KARPUSHINA,  
V.Ya.; KREKOTEN', L.P.; LANDA, R.G.; LEVITSKAYA, G.O.; LIPETS,  
Yu.G.; LOGINOVA, V.P.; ONAN, E.S.; PEGUSHEV, A.M.; PYKHTUNOV,  
N.V.; TOKAREVA, Z.I.; KHUDOLEY, V.F.; MILOVANOV, I.V., red.;  
MIKAELYAN, E., red.; NUKHIN, R., red.; SVANIDZE, K., red.;  
KLIMOVA, T., tekhn. red.

[Africa today; concise reference book on politics and economic  
conditions] Afrika segodnia; kratkii politiko-ekonomicheskii  
spravochnik. Moskva, Gos. izd-vo polit. lit-ry, 1962. 326 p.  
(Africa--Politics)  
(Africa--Economic conditions)

ACC NR: AP6033448

SOURCE CODE: UR/0413/66/000/018/0028/0029

INVENTOR: Arkad'yev, V. I. ; Shayderov, V. A.

ORG: none

TITLE: Device for introducing solid inhibitors into oil. " Class 12, No. 185849

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 18, 1966, 28-29

TOPIC TAGS: lubricating oil, propellant inhibitor, oil inhibitor

ABSTRACT: An Author Certificate has been issued describing a device for introducing solid inhibitors into oil. It has a body with intake and outlet connecting pipes and a net. To increase the inhibitor interaction with the oil, to improve the fine dispersion of the inhibitor in the oil, and to prevent the deposition of resin on the inhibitor surface, the connecting pipe for lead in oil is fastened to the body tangentially and is provided with a nozzle, while the connecting outlet pipe is protected by a beaker and net (see Fig. 1). Orig. art. has: 1 figure. [Translation]

Card 1/2

UDC: 678.053.3:66.097.7

ACC NR: AP6033448

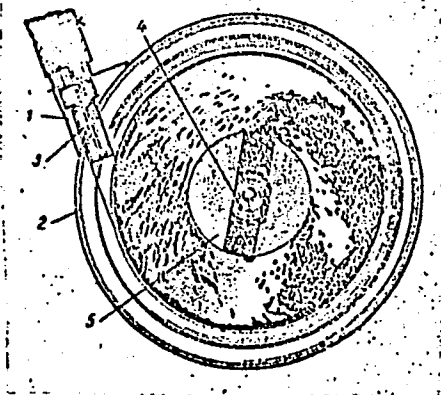


Fig. 1. Device for introducing solid inhibitors into oil  
1—Connecting pipe for oil inlet; 2—body; 3—nozzle;  
4—connecting pipe for oil outlet; 5—beaker with net.

SUB CODE: 13/ SUBM DATE: 13Mar64/

Card 2/2

*Deceased \**  
ARKAD'YEV, Vladimir Konstantinovich; VONSOVSKIY, S.V., otv. red.; NIKO-  
LAYEVA, L.K., red. izd-va; POLENOVA, T.P., tekhn. red.; GUS'KOVA,  
O.M., tekhn. red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad. nauk SSSR,  
1961. 330 p. (MIRA 14:11)

1. Chlen-korrespondent AN SSSR (for Vonsovskiy).  
(Arkad'ev, Vladimir Konstantinovich, 1884-) (Electrodynamics)

*\* prior to 1961 - no cards available*

ARKAD'YEV, Ye., inzh.-mayor

Guided missile "Sidewinder". Voen. znan. 35 no.10:39 0 '59.  
(MIRA 12:12)

(Guided missiles)

ARKAD'YEV, Ye.; kand.med.nauk; VLADIMIROV, S.

Steps into outer space. IUn.tekh. 4 no.1:37-40 Ja '60.

(MIRA 13:5)

(SPACE FLIGHT—PHYSIOLOGICAL EFFECT)



ARKAD'YEV, Ye.. inzh.

Armor and projectile. Voen.znan. 36 no.4:21-22 Ap '60.

(Arms and armor) (Projectiles)

(MIRA 13:4)

ARKAD'YEV, Ye.

The tank is fifty years old.... Voen. Znan. 41 no.5:38-39 My '65.  
(MIRA 18:5)

ARKAD'YEV, Ye., inzh.

Biological currents control. Starsh.-serezh. no.12:28-29 D '61.

(Electrophysiology)

(MIRA 15:3)

ARKAD'YEV, Ye., inzhener-podpolkovnik

Inertial system of control. Tekh. i voenn. no. 6021-77 2a/1  
(MIRA 1987)

KAMILOV, K.; ARKAD'YEVA, A., red.; ABBASOV, T., tekhn. red.

[Manual for a volunteer activist; a collection of statutes and regulations on public self-governing workers' organizations] Spravochnik aktivista-obshchestvennika; sbornik ustavov i polozhenii ob obshchestvenno-samodeiatel'nykh organizatsiakh trudiashchikhsia. Tashkent, Gosizdat UzSSR, 1963. 295 p.

(MIRA 17:1)

LAPKIN, Kuz'ma Ivanovich; KAYUMOV, Favaris Kadyrovich; ARKAD'YEVA, A.,  
red.; SALAKHUTDINOVA, A., tekhn. red.

[Possibilities for increasing the production of cotton and  
meat and decreasing their cost] *Rezervy uvelichenia proizvodstva*  
*khlopka i miasa i snizhenia ikh sebestoimosti.* Tashkent,  
Gosizdat UzSSR, 1962. 111 p. (MIRA 16:6)  
(Ukraine--Cotton) (Ukraine--Stock and stockbreeding)

KALANDAROV, N.; ABDURAKHIMOV, M.; SAMANDAROV, S.; SEREDA, T.; GULYAMOV, Ya.G., doktor ist. nauk, prof., spets. red.; NOTKIN, I.I., spets. red.; KOCHEROV, V., red.; ARKAD'YEVA, A., red.; BAKHTIYAROV, A., tekhn. red.

[Khorezm; brief manual and guidebook] Khorezm; kratkii spravochnik-putevoditel'. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1962. 113 p. (MIRA 16:3)

(Khorezm Province—Guidebooks)

PODLIPSKIY, M.D., red.; ARKAD'YEVA, A.N., red.; SALANHUTDINOVA, A.,  
tekh. red.

[The Third Congress of the Intelligentsia of Uzbekistan, January  
25-26, 1926; verbatim report] Stenograficheskiy otchet III  
s"ezda intelligentsii Uzbekistana 25-26 ianvaria 1962 goda.  
Tashkent, Gosizdat UzSSR, 1962. 218 p. (MIRA 16:6)

1. S"yezd intelligentsii Uzbekistana, 3d, Tashkent, 1962.  
(Uzbekistan--Economic conditions) (Uzbekistan--Culture)



KORZHENEVSKIY, N.L.; DONTSOVA, Z.N.; KHASANOV, Kh.Kh., dots.;  
VASIL'KOVSKIY, N.P.; SKVORTSOV, Yu.A.; POSLAVSKAYA, O.Yu.;  
KOGAY, N.A., dots.; MAMEDOV, E.D.; AKULOV, V.V.; BABUSHKIN,  
L.N., prof.; SHUL'TS, V.L., prof.; GORBUNOV, B.V.; GRANITOV,  
I.I.; KOSTIN, V.P.; SMIRNOV, N.V., dots.; TSAPENKO, N.G.,  
dots.; DEGTYAR', V.I.; CHERNOV, P.N.; MUKMINOV, F.G.;  
SELIYEVSKAYA, A.A.; RYABCHIKOV, A.M.; DALIMOV, N.D.; dots.;  
LOBACH, Kh.S.; TADZHIMOV, T.; ~~ARKAD'YEVA, A.N.~~; GAL'KOV,  
Ch.V.; SHTARKLOVA, S.I.; BESSONOV, M., red.; BAKHTIYAROV, A.,  
tekhn. red.

[The Uzbek S.S.R.] Uzbekskaya SSR. Tashkent, Gos.izd-vo  
UzSSR, 1963. 483 p. (MIRA 16:8)  
(Uzbekistan)

ARKAD'YEVA, B.I.

Happy birthday! Zdorov'e 4 no.11:24 N '58.

(MIRA 11:11)

1. Glavnyy vrach detskoy polikliniki No.30, Moskva.  
(PEDIATRICS)

ARKADYEVA, G. YE.

USSR/Microbiology - General Microbiology.

F-1

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26261

Author : Kashkin, P.N., Arkadyeva, G.Ye.

Inst :

Title : The Effect of Certain Chemical Preparations on Yeast-Like Fungi of the Genus Candida.

Orig Pub : V sb.: Eksperim. i klinich. issledovaniya. II, L., Medgiz, 1956, 139-142

Abst : Tests were made of the bactericidal effect of 32 chemical preparations on *C. albicans*, *S. pseudotropicalis*, *Blastodendron*, *Cryptococcus* and *Debariomyces*. Found to be most active were iodine- containing preparations, carbonic acid, potassium permanganate, formalin, chloramine, resorcin and formic acid at a concentration of 2.5 - 5%. Further studies are recommended of these substances with a view toward their possible use as antiseptics in candidamycosis.

Card 1/1

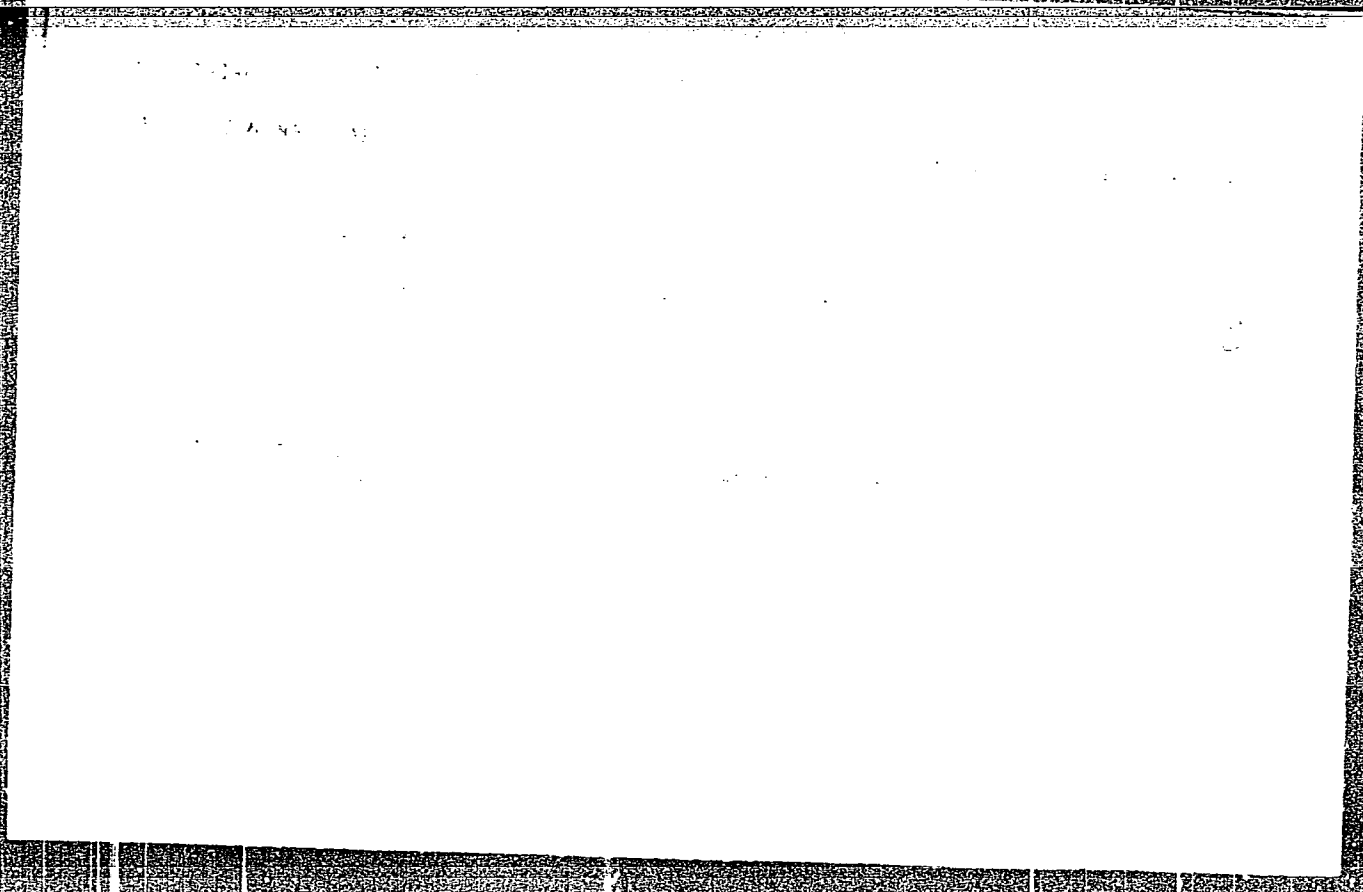
ARKAD'YEVA, G.Ye.; DUGANOVA, N.V.

Search for substances possessing antitumor properties. Trudy  
Len.khim.-farm.inst. no.13:150-155 '62. (MIRA 15:10)

1. Kafedra mikrobiologii (zav. prof. P.N.Kiselev) Leningradskogo  
khimiko-farmatsevticheskogo instituta.  
(CYTOTOXIC DRUGS) (FUNGI)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00010202

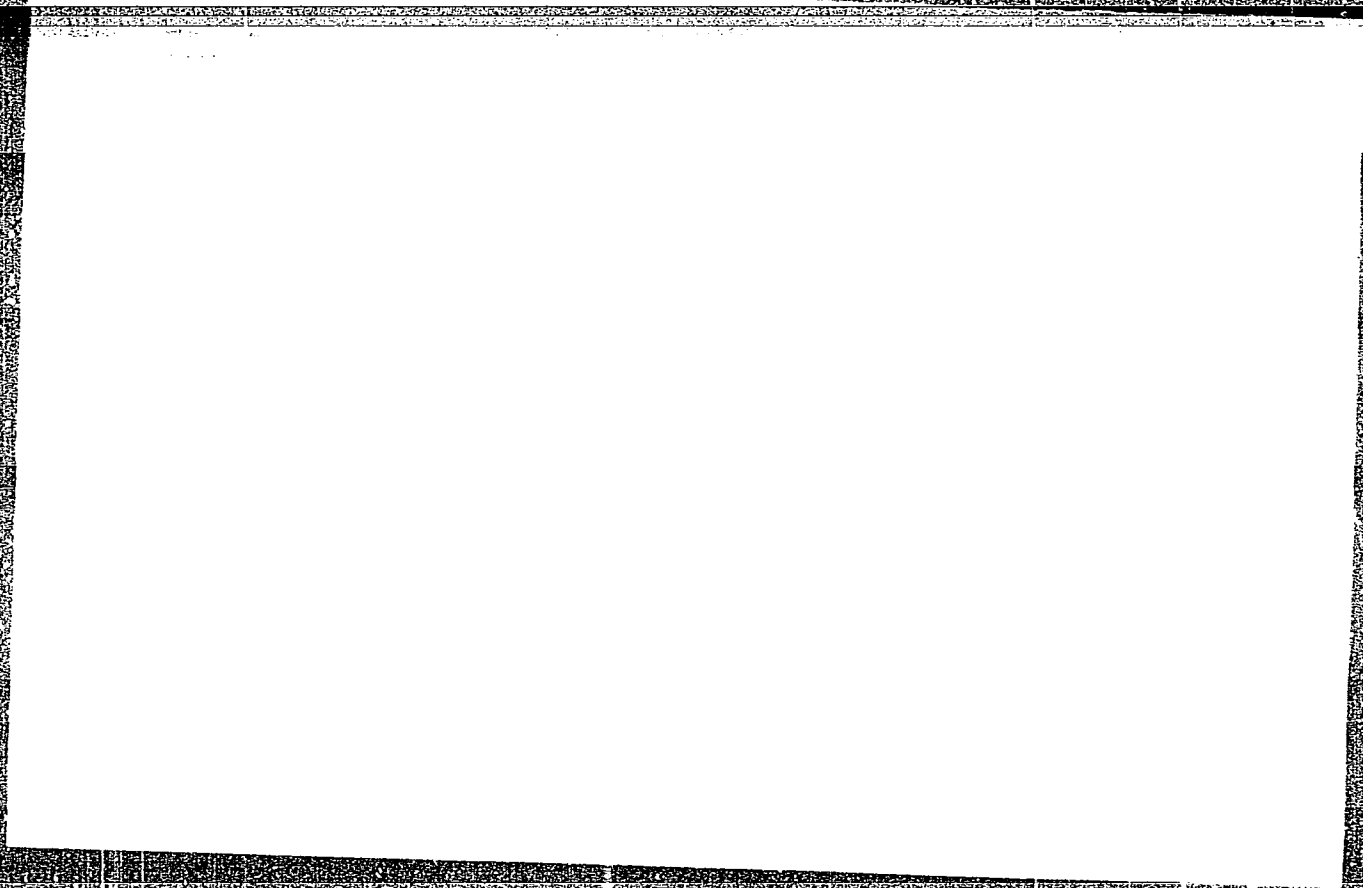


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**"APPROVED FOR RELEASE: Thursday, July 27, 2000**

**CIA-RDP86-00513R00010202**



**APPROVED FOR RELEASE: Thursday, July 27, 2000**

**CIA-RDP86-00513R00010202**

ACC NR: AR6022387 (N) SOURCE CODE: UR/0397/65/000/024/0065/0065 3

AUTHOR: Fel'dman, I. Kh.; Frankovskiy, Ch. S.; Yamshchikov, V. P.; <sup>39</sup>  
Mordvinova, Ye. T.; Maryukhta, Yu. B.; Zaikina, N. A.; Vitovskaya, G. A.;  
Arkad'yeva, G. Ye.

TITLE: Azo-derivatives of benzene as potential antibacterial compounds. <sup>6</sup>  
I.

SOURCE: Ref. zh. Farmakologiya. Toksikologiya, Abs. 24.54.512

REF SOURCE: Tr. Leningr. khim.-farmatsevt. in-ta, vyp. 18, 1965, 171-172

TOPIC TAGS: benzene, chemical compound, microorganism contamination, bacteria, plant parasite

ABSTRACT: An in vitro method of serial dilutions was used to test the activity of several synthetic azo-compounds in relation to dermatophytes, some gram positive and gram negative bacteria and two species of yeastlike molds. All the tested azo-compounds containing a carboxylic group proved inactive. The exception was 2,4-dichlor-3-carboxy-4'-oxyazobenzol. The azo-compounds displayed highest activity in relation to Cr. neoformans, weaker activity in relation to dermatophytes, and the weakest in relation to Candida albicans. Only

Card 1/2 UDC: 615.7

ACC NR: AR6022387

2  
certain azo-compounds displayed antibacterial and antiviral action. The highest in vitro activity was displayed by 2,4-dichlor-4'-methyl-4-oxyazobenzol and 2,4-dichlor-4'-oxyazobenzol which proved most effective in relation to yeastlike molds and dermatophytes and weakest in relation to bacteria. M. Zabolotskaya. [Translation of abstract].

SUB CODE: 06, 07

Card 2/2 MT.



ARKAD'YEVA, O.M.; KOCHERGIN, N.L., matematik, red.; MOTINA, Ye.I., lingvist, red.; GUS'KOV, G.G., red.; MASLENNIKOVA, T.A., tekhn. red.

[Reading-book on mathematics, mechanics, and astronomy; textbook for foreign students studying the Russian language] Kniga dlia chtenia po matematike, mekhanike i astronomii; dlia studentov-inostrantsev, izuchaiushchikh russkii iazyk. Uchebnoe posobie. Moskva, Izd-vo Mosk. univ., 1961. 172 p.

(Mathematics)

(Physics)

(MIRA 14:11)

ARKAD'YEVA, R.I., vrach

Sleep hygiene for children. Zdorov'e 5 no.3:30 Mr '59.

(MIRA 12:3)

(CHILDREN--SLEEP)

AREAD'YEVA, R.I., vrach

Bitter medicines. Zdorov'e 5 no.6:31 Je '59. (MIRA 12:11)  
(CHILDREN--PREPARATION FOR MEDICAL CARE)

ARKAD'YEVA, R.I., vrach

Concerning a prejudice. Zdorov'e 5 no.8:30 Ag '59. (MIRA 13:8)  
(MILK, HUMAN)

ARKAD'YEVA, R.I., vrach

In bad weather. Zdorov'e 5 no.10:28 0 '59.  
(CHILDREN--CARE AND HYGIENE)

(MIRA 13:2)

ARKAD'YEVA, R.I., glavnyy vrach detskoy polikliniki.

After the doctor leaves. Zdorov'e 5 no.12:12-13 D '59.

(INFANTS--CARE AND HYGIENE)

(MIRA 13:4)

ARKAD'YEVA, R.I. (Moskva)

Organization and calculation of preventive inoculations for children.  
Feld'. i akush. 24 no.9:31-36 S '59. (MIRA 12:12)  
(VACCINATION)

ARKAD'YEVA, R.I., vrach

Are dry mixtures and children's canned foods useful? Zdorov's 6  
no.3:30 Nr '60. (MIRA 13:5)

(INFANTS--NUTRITION)



ARKAD'YEVA, R.I., vrach

Visiting the children. Zdorov'e 6 no.7:28 Je '60.

(DAY NURSERY)

(MIRA 13:7)

ARKAD'YEVA, R.I., vrach

How can summer recreation for a child be organized? Zdorov'ie 7  
no. 5:30 My '61.

(MIRA 14:4)

(CHILDREN--RECREATION)

NEVSKAYA, T.S., kand.med.nauk; RUTENBERG, L.A., kand.med.nauk; SAMSONOV, A.V.,  
vrach (Stalino, USSR); KUBYSHKIN, Yu.P., vrach (Tashkent); KRISTMAN,  
V.I., kand.med.nauk; ARKAD'YEVA, R.I., vrach

Health hints. Zdorov'ye 7 no.9:30-31 S '61.  
(HYGIENE)

(MIRA 14:9)

ARKAD'YEVA, R.I. (Moskva)

Work of the visiting district nurse in caring for children  
during the first year of life. Fel'd. i akush. 26 no.6:41-47 Je  
'61. (MIRA 14:7)

(NURSES AND NURSING)

(INFANTS—CARE AND HYGIENE)

ARKAD'YEVA, R.I., vrach

When winter ends. Zdorov'ie 8 no.2:30 F '62.  
(VITAMINS)

(MIRA 15:4)

ZHDANOV, V.M., prof.; ALEKSANDROV, B.; VARIN, I.Ye., vrach; SHCHERBATYUK,  
S.N., vrach (Kiyev); ARKAD'YEVA, R.I., vrach; KOL'GUNENKO, I.I.,  
vrach-kosmetolog

Health hints. Zdorov'e 8 no.10:30-31 0 '62.  
(HYGIENE)

(MIRA 15:10)

~~ARKAD'YEVA, R. I., vrach~~

When the alarm clock rings... Zdorov'e 8 no.12:24 D '62.

(MIRA 16:1)

(CHILDREN--SLEEP)

ARKAD'YEVA, R. I., vrach

Is chocolate good for children? Zdorov'e 8 no.7:30 J1 '62.  
(MIRA 15:7)

(CHOCOLATE) (CHILDREN--NUTRITION)



ARKAD'YEVA, R.I.

Is chocolate beneficial to children? Azerb. med. zhur. no.9:  
85 S '62 (MIRA 18:1)

24.7700  
~~24(3), 24(6)~~

67392

SOV/181-1-9-10/31

AUTHORS: Arkad'yeva, Ye. N., Ryvkin, S. M.

TITLE: Investigation of the Adhesion Levels in Polycrystalline  $Sb_2S_3$  and in Single  $Se$  Crystals by the Method of the Thermo-stimulated Current

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 9, pp 1379 - 1380 (USSR)

ABSTRACT: In continuation of a previous paper (Ref 1) the present article offers some experimental results. Figure 1 shows the temperature dependence of the thermostimulated current in  $Sb_2S_3$ , figure 2 shows the same in selenium. Both samples have p-type conductivity. The heating rate was 0.5 deg/sec for the former and 0.2 deg/sec for the latter. The thermostimulated current in the former exhibits two maxima at  $T_1 = 150^{\circ}K$  and  $T_2 = 180^{\circ}K$ , and three in selenium ( $115^{\circ}K$ ,  $165^{\circ}K$ , and  $180^{\circ}K$ ). An evaluation of the adhesion level position yields for  $Sb_2S_3$ :  $\Delta E_1 = 0.33$ , and  $\Delta E_2 = 0.39$  ev, when assuming the effective mass of the holes to be equal to the mass of free

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67392

Investigation of the Adhesion Levels in Polycrystalline SOV/181-1-9-10/31  
 $Sb_2S_3$  and in Single Se Crystals by the Method of the Thermostimulated Current.

electrons and the mobility to be  $u = 20 \text{ cm}^2/\text{v}\cdot\text{sec}$ . If temperature is decreased from  $+20$  to  $-150^\circ\text{C}$ , the photoelectric sensibility drops to about one hundredth. In this case, the lifetime changes only slightly and amounts to  $\sim 40 \mu\text{sec}$ . With  $u$  independent of temperature and equal to  $1 \text{ cm}^2/\text{v}\cdot\text{sec}$ , one obtains for selenium, according to the three maxima:  $\Delta E_1 \approx 0.10 \text{ ev}$ ,  $\Delta E_2 \approx 0.14 \text{ ev}$ , and  $\Delta E_3 \approx 0.17 \text{ ev}$ . An evaluation of the carrier concentration yields for  $Sb_2S_3 \approx 10^{16} \text{ cm}^{-3}$  and for Se  $\approx 10^{20} \text{ cm}^{-3}$ . The authors thank B. T. Kolomiyets for supplying  $Sb_2S_3$  and P. T. Kozyrev for selenium crystals samples. There are 2 figures and 2 Soviet references.

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

SUBMITTED: April 24, 1959

Card 2/2

24.7700

~~24(6)~~

AUTHORS:

Arkad'yeva, Ye. N., Ryvkin, S. M.

67399

SOV/181-1-9-23/31

TITLE:

Investigation of Adhesion Levels in  $Sb_2Se_3$  by the Method of the Thermostimulated Current

PERIODICAL:

Fizika tverdogo tela, 1959, Vol 1, Nr 9, pp 1460 - 1463 (USSR)

ABSTRACT:

If adhesion levels are occupied by carriers at low temperatures, this condition is conserved for a long time. With slow heating the carrier concentration rises in the allowed zone, in the same way as the current (if a field is applied). This boost current which is higher than dark current is defined as thermostimulated. An investigation of thermostimulated currents allows the estimation of position and concentration of the adhesion levels. This method is specially applicable to poorly conductive and photosensitive semiconductors. It had already been utilized for the investigation of CdS, CdSe, HgJ<sub>2</sub>, and ZnS (Refs 1-11). The present paper offers the results obtained for the single  $Sb_2Se_3$  crystals. Investigations were conducted in the temperature range of from -180 to

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Investigation of Adhesion Levels in  $Sb_2Se_3$  by the Method SOV/181-1-9-23/31  
of the Thermostimulated Current

+20°C. Figures 1 and 2 show samples 1 and 2 as to the temperature dependence of the thermostimulated current (solid curve) and the dark current (dashed curve). The curves were recorded by means of a recording device of the type EPPV-51, which exhibits a sensitivity varied within wide limits ( $\sim 10^{-12}$  -  $\sim 10^{-7}$  a/mm). The thermostimulated current shows characteristic fluctuations with maximum at 115, 150, and 190°K. An estimation of the energetic position ( $\Delta E_M$ ) and the concentration ( $M$ ) of the adhesion levels is made on the assumption of the very slow heating having a quasiequilibrium character, so that the Fermi quasilevels for adhesion levels and zone are the same. It can be assumed furthermore that this quasilevel coincides with the adhesion level in the case of temperature  $T_M$  corresponding to the thermostimulated current maximum.  $\Delta E_M = kT_M \ln \frac{P_v}{P} =$   
 $= kT_M \ln \frac{P_v \sigma}{\sigma}$  holds, where  $P_v$  is the effective level density in the valence band,  $P$  is the hole concentration in the valence

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Investigation of Adhesion Levels in  $Sb_2Se_3$  by the Method SOV/181-1-9-23/31  
of the Thermostimulated Current

band at  $T_M$ ,  $\mu$  the hole mobility at  $T_M$ ,  $\sigma$  the conductivity at  $T_M$ . Thus one obtains for the 3 maxima of crystal Nr 2:0.28, 0.32, and 0.36 eV. For M one obtains according to Khartsiyev (Ref 13)

$$M = \frac{P \Delta E_M \left( \frac{kT_M}{\Delta E_M} \right)^2 e^{-\Delta E_M/kT_M}}{kS\tau \left( 1 + \frac{3}{2} \frac{kT_M}{\Delta E_M} \right)}, \text{ where } S \text{ is the heating rate and } \tau$$

is the carrier lifetime. For  $T = 155^\circ K$   $\tau \approx 10^{-8}$  sec holds, for  $150^\circ K \approx 10^{-7}$  sec, and for  $180^\circ K \approx 10^{-6}$  sec. M is then found to be  $10^{16}$ ,  $3 \cdot 10^{16}$ , and  $5 \cdot 10^{16} \text{ cm}^{-3}$ . A few more details are finally discussed. The names of A. Kh. Zeynally, B. T. Kolomiyets, and M. V. Kot (who supplied the single crystals) and N. B. Strokan (who made a calculation) are mentioned in footnotes. There are 2 figures and 13 references, 1 of which is Soviet.

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Investigation of Adhesion Levels in  $Sb_2Se_3$  by the Method SOV/181-1-9-23/31  
of the Thermostimulated Current

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

SUBMITTED: March 26, 1959

4

Card 4/4

81634

S/181/60/002/06/22/050  
B006/B056

24.7700

AUTHORS:

Arkad'yeva, Ye. N., Paritskiy, L. G., Ryvkin, S. M.

TITLE:

Investigation of the Kinetics of Infrared Impurity Photo-  
conduction in CdS Induced by Previous Illumination

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1160-1168

TEXT: The fact is already known that photoconductivity may be produced in CdS single crystals at low temperatures (77°K) by infrared light of wavelengths up to 6  $\mu$ . The authors investigated the kinetics of this conduction in crystals into which impurities were not purposely introduced. In this connection it is assumed that the photoconductivity of CdS is caused by the fact that the light transfers electrons from  $\alpha$ -type adhesion levels into the conduction band; the adhesion levels are assumed to be filled up with electrons, which is a consequence of previous illumination. Investigations of kinetics make it possible to acquire knowledge of the interaction between light and adhesion levels and to estimate the main parameters of the adhesion levels. The results obtained by experimental investigation of the induced impurity

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Investigation of the Kinetics of Infrared  
Impurity Photoconduction in CdS Induced by  
Previous Illumination

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S/181/60/002/06/22/050  
B006/B056

photoconduction in CdS are discussed in part 1. All investigations were carried out at 77°K on CdS single crystals onto which indium contacts were sputtered in vacuo. Above all, the spectral distribution of photoconductivity and the time-dependence of the photocurrent were investigated. Fig. 1 shows the spectral photocurrent distribution, recorded under various conditions; without previous illumination (Curve 1) with previous irradiation by green light, by leaving the sample in the dark for a longer period of time (Curve 2 - photoconductivity is found beginning at 3.5  $\mu$ ), and under simultaneous constant irradiation with white light (Curve 3 - which produces exactly the same effect). In the latter case, distinct photocurrent extinction with a maximum at 0.9  $\mu$  could be observed. Further, the time dependence of infrared photoconductivity after previous illumination with green light of various intensities was investigated. Between the previous illumination and the beginning of infrared irradiation the sample was left in the dark for 40-60 minutes. The results are shown in Fig. 2. The photocurrent relaxation at the beginning of infrared irradiation was found to depend upon previous illumination (Curve a - high intensity, curve b - low

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Investigation of the Kinetics of Infrared Impu-  
rity Photoconduction in CdS Induced by  
Previous Illumination

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B006/B056

intensity). In part 2 of this paper, these experimental results are analyzed on the basis of a model with one adhesion level, and the infrared photoconductivity kinetics is calculated for the case of a so-called "quasi-steady" excited state of the crystal. Fig. 3 shows the scheme of electronic transitions upon which the analysis is based. In part 3, the results obtained by experimental investigation of the kinetics of infrared photoconductivity in a quasi-steady excited state are given and the parameters of the adhesion level are determined. The dependence of the growth and drop times as well as of the steady photocurrent are shown in Figs. 4 and 5. Several particular features of infrared photocurrent relaxation in the unsteady state are discussed in part 5. Further investigations in this field are to follow. The crystals investigated were produced by O. A. Matveyev and L. V. Maslova. There are 6 figures and 11 references: 4 Soviet, 4 American, and 3 German.

ASSOCIATION: Fiziko-tekhnicheskii institut AN SSSR, Leningrad (Physico-technical Institute of the AS USSR, Leningrad)

SUBMITTED: October 26, 1959

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83010

S/181/60/002/008/029/045  
B006/B063

24,2600

AUTHORS: Arkad'yeva, Ye. N., Ryvkin, S. M.

TITLE: Induced Infrared Photosensitivity of Some Semiconductors

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 8, pp. 1889 - 1890

TEXT: In CdS single crystals activated with silver, Lambe and Klick (Ref. 1) observed infrared photosensitivity induced at 77°K in the range 2 - 6 μ. This phenomenon was studied by the authors of the present paper in Ref. 2. This kind of infrared photosensitivity also occurs in other semiconductors such as CdSe, CdTe, Sb<sub>2</sub>Se<sub>3</sub>. Fig. 1 shows the typical spectral distribution curves obtained for these substances at 85°K. These substances show no infrared photosensitivity without previous illumination with visible light. All three substances are photosensitive in the range 2 - 4 μ after preceding illumination with light whose frequency is in the range of natural absorption. Fig. 2 illustrates the time dependence of induced photoconduction. As in the case of CdS, the infrared photoconduction rises steeply when light is switched on, and then drops

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Induced Infrared Photosensitivity of Some  
Semiconductors

S/181/60/002/008/029/045  
B006/B063

exponentially. CdTe crystals show a "quasi-steady" state of excitation in which photoconduction is almost time-independent. CdSe and  $Sb_2Se_3$  exhibit no such states. In conclusion, the authors thank B. T. Kolomiyets, N. K. Kiseleva, and A. Kh. Zeynally for supplying the test material. There are 2 figures and 2 references: 1 Soviet and 1 US.

ASSOCIATION: Fiziko-tehnicheskii institut AN SSSR Leningrad (Institute  
of Physics and Technology of the AS USSR, Leningrad)

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SUBMITTED: January 18, 1960

X

Card 2/2

27295

9.4177  
26.2420

S/181/61/003/008/025/034  
B109/B202

AUTHORS: Arkad'yeva, Ye. N., Kasymova, R. S., Ryvkin, S. M.

TITLE: Kinetics of the induced defect photoconductivity in telluric cadmium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 8, 1961, 2417-2426

TEXT: The authors describe the energy band schemes and the determination of its various energy levels for monocrystalline CdTe. The effect of induced defect photoconductivity occurs according to the energy band scheme shown in Fig. 7. Upon illumination by infrared light the electrons on M are promoted to the conduction band c from which they either 1) return to M or 2) go to S (n-type). Case 2) plays an important part when the infrared light is switched on. In the course of time its effect is, however, weakened (the photocurrent decreases). If the hole concentration in M increases and in S decreases to such a degree that case 1) becomes more probable than case 2), then the photocurrent does no longer decrease and the quasisteady state is attained. The exact positions of the individual levels of the energy band schemes are determined by measuring the properties of the  
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S/181/61/003/008/025/034  
B109/B202

Kinetics of the induced defect ...

conductivity of n- and p-type CdTe in this special state. The measurements are made according to Ye. N. Arkad'yeva, L. G. Paritskiy, S. M. Ryvkin (Ref. 1: FTT, II, 6, 1161, 1960) and S. M. Ryvkin, L. G. Paritskiy, R. Yu. Khansevarov, I. D. Yaroshetskiy (Ref. 3: FTT, III, 252, 1961) via the photon capture cross section  $q$  of the level M. The Fermi level is measured by determining the temperature dependence of the logarithm of the specimen conductivity which is practically a straight line. It follows from the slope of this straight line that the p-type has approximately 0.33 ev from below, and the n-type approximately 0.38 ev from above. To determine the energy level which is the principal cause of induced photoconductivity, the authors measure the spectral behavior of induced defect photoconductivity (maxima for p- and n-type approximately 1.8  $\mu$  red boundary for p-type approximately 4.3  $\mu$ , for n-type approximately 3.5  $\mu$ ) as well as the dependence of the increase- and decrease-time constants on induced defect photoconductivity. From these values the quantity  $q$  is determined according to Ref. 3. Thus, the values 0.30 ev are obtained for the p-type from below, and 0.33 ev for the n-type from above. The complete energy band scheme is shown in Fig. 7 (a S,s donor level, n-type; 6 S,s acceptor level, p-type). There are 8 figures, 1 table, and 5 references: 3 Soviet

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S/181/61/003/008/025/034  
B109/B202

Kinetics of the induced defect ...

and 2 non-Soviet.

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

SUBMITTED: February 11, 1961 (initially), March 24, 1961 (after revision)

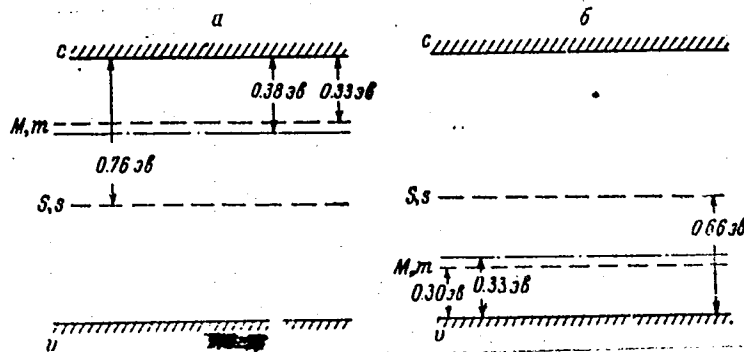


Fig. 7

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38919

S/181/62/004/006/030/051  
B104/B112

9,4177

AUTHORS: Arkad'yeva, Ye. N., Paritskiy, L. G., and Ryvkin, S. M.

TITLE: A method of long-wave photoelectric probing of local levels  
in semiconductors

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1578 - 1588

TEXT: In the new method described here for the investigation of relaxation processes in semiconductors, the sample is irradiated with a probing pulse of long-wave light (Fig. 16) along with a sufficiently long square light pulse (Fig. 1a) that excites the relaxation process under investigation. The wavelength of the probing pulse is so chosen that the levels under consideration are ionized. In this case, the signal on the oscilloscope screen has a definite form (Fig. 18). The concentrations of free and bound carriers can be determined from the slope of the curve on the screen and from its peak produced by the probing pulse. The sample can be irradiated with a series of probing pulses during the interval of a single square pulse (Fig. 2), and this enables the relaxation of the concentrations to be determined. The light from the

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A method of long-wave photoelectric...

S/181/62/004/006/030/051  
B104/B112

source S (Fig. 3) and the probing infrared light of the monochromator M are regularly interrupted by the disks  $\Omega_1$  (square pulse) and  $\Omega_2$ . The signals of photoconductivity are recorded by a double-beam oscilloscope and photographed. The probing pulse is automatically shifted along the square one. Examples of a qualitative analysis of the behavior of non-equilibrium carriers in CdS, CdTe, Ge, and Si during photoconduction at  $\sim 100^\circ\text{K}$  are given, and a probing method for several types of local levels in semiconductors is described. There are 15 figures.

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

SUBMITTED: February 5, 1962

Card 2/2

44177  
04.2600

43111  
S/181/62/004/011/006/049  
B102/B104

AUTHOR: Arkad'yeva, Ye. N.

TITLE: The effect of adhesion levels on the kinetics of the impurity photoconductivity of semiconductors

PERIODICAL: Fizika tverdogo tela, v. 4, no. 11, 1962, 3048 -3053

TEXT: The effect of  $\alpha$ -type (multiple) adhesion levels on photoconductivity kinetics is investigated in continuation of earlier studies made jointly with other scientists (FTT, 2, 1161, 1960; FTT, 3, 2417, 1961; FTT, 4, 6, 1578, 1962). First its effect on the relaxation of impurity photoconductivity is examined for a model consisting of valence (V) and conduction (C) band and for two levels: respectively, M which is involved in the photoconductivity only indirectly and K which is an "absolute" level of multiple adhesion (Fig. 1). The expressions

$$\left. \begin{aligned} n &= n_0 + \Delta n, \\ k &= k_0 + \Delta k, \\ m &= m_0 - \Delta n - \Delta k. \end{aligned} \right\} \quad (2)$$

Card 1/4  $N_{0M} = N e^{-\frac{\Delta E_M}{kT}}; N_{0K} = N e^{-\frac{\Delta E_K}{kT}}. \alpha = \frac{K - k_0}{N_{CK} + n_0 + \Delta n}; x = \frac{(K - k_0)(N_{CK} + n_0)}{(N_{CK} + n_0 + \Delta n)^2}.$

S/181/62/004/011/006/049  
B102/B104

The effect of adhesion ...  
are used to arrive at

$$\tau_n = \frac{1}{\frac{\alpha-1}{\alpha+1} \frac{qI}{n} + \gamma_M \left[ \frac{M-m_0}{\alpha+1} + \frac{\alpha+1}{\alpha+1} (n_0 + N_{CM} + \Delta n) \right]} \quad (5)$$

$$\tau_p = \frac{1}{\gamma_M \left[ \frac{M-m_0}{\alpha+1} + \frac{\alpha+1}{\alpha+1} (n_0 + N_{CM} + \Delta n) \right]} \quad (6)$$

from the kinetic equation of the transitions in a system of that type.  $\tau_n$  and  $\tau_p$  are the characteristic times of increase and decrease of the photocurrent. The initial slope of the curve representing the increase is given by  $g = qIm_0 / (1 + \kappa)$ .  $n$  is the electron concentration in C,  $\Delta n$  is the electron concentration caused by light of the intensity  $I$ ,  $k$  and  $m$  are the occupation numbers of K and M, the quantities marked with the subscript zero are the corresponding values of darkness.  $q$  is the photon capture cross section for the M-center and  $\gamma_M$  is the conduction electron capture cross section for the M-level. Similar relations are obtained for the limiting case  $\Delta n \ll n_0 + N_{CK} < K - k_0$ . Experimental studies were made with p-type Ge irradiated by 2-MeV electrons, and n and p-type CdTe. In the p-type Ge the K and M-levels were positioned at 0.11 eV and 0.25 eV,

ARKAD'YEVA, Ye.N.

Relation between the optical and thermal activation energies  
of impurities in CdS, CdSe, and CdTe. Fiz. tver. tela 6  
no. 4:1034-1038 Ap '64. (MIRA 17:6)

1. Fiziko-tehnicheskii institut imeni A.F.Ioffe AN SSSR,  
Leningrad.

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

ACC NR: AP6018748

SOURCE CODE: UR/0057/66/036/006/1146/1148

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

40  
B

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

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

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

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

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

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UDC: 539.107.45

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ACC NR: AP6018748

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

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

Card 2/2 CC

24.4200

S/021/62/000/003/002/010  
D251/D302

AUTHOR: Arkad'yeva, Yu. D. A.  
 TITLE: The problem of the annular die  
 PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 3,  
 1962, 333 - 337

TEXT: The author considers the problem of finding stress and displacement in the half-space  $z > 0$ , when the plane  $z = 0$  is deformed under the action of an annular die  $\alpha < r < \beta$ . The singular integral equation of the first order

$$\frac{1}{\pi} \int_{\alpha}^{\beta} \frac{2\sqrt{rt}}{r+t} K\left[\frac{4rt}{(r+t)^2}\right] H(t) dt = Q(r) \dots, \quad (2)$$

is derived from the boundary conditions [Abstractor's note: Some symbols not defined]. Hence, using a Hankel transformation and considering the nucleus of Eq. (2) a method is given for evaluating  $H(t)$  and hence the problem may be solved with any desired degree of

Card 1/2

The problem of the annular die

S/021/62/000/003/002/010  
D251/D302

accuracy. Some results of a worked example are given.

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Card 2/2



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