"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ALIYEV, V.S.; AZIZOV, A.F.

Developing the technology of catalytic dehydrogenation of isobutane into isobutylene in the fluidized bed of a pulverized catalyst. Azerb.khim.zhur. no.3:77-87 '60. (MIRA 14:8)
(Propane) (Propene)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ALIYEV, V.S.; AZIZOV, A.F.; KASIMOVA, A.P.; KYAZIMOV, Sh.K.

Contact catalytic conversion of ethyl alcohol into bivinyl in a fluidized bed of powdered catalysts. Azerb.khim.zhur. no.3:15-27 '59. (MIRA 14:9)

(Ethyl alcohol) (Butadiene) (Catalysis)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ALIYEV, V.S.; AZIZOV, A.F.; KASIMOVA, A.P.; KYAZIMOV, Sh.K.

Contact catalytic conversion of ethyl alcohol into bivinyl in a fluidized bed of powdered catalyst in a continuous plant. Azerb. khim.zhur. no.4:33-44 '59. (MIRA 14:9)
(Ethyl alcohol) (Butadiene) (Catalysis)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ACCESSION NR: AR4034721 S/0124/64/000/003/A010/A010

SOURCE: Ref. sh. Mekhan., Abs. 3A71

AUTHOR: Azizov, A. G.

TITLE: Relative motion of a system of changing mass

CITED SOURCE: Nauchn. tr. Tashkentsk. un-t, vy*p. 222, 1963, 3-12

TOPIC TAGS: relative motion, changing mass

TRANSLATION: For the relative movement of a system of points, the mass of which depends only on time, theorems on change in the quantity of motion, the moment of quantity of motion, and kinetic energy have been cited, and also equations of the relative motion in generalized coordinates have been written up.

DATE ACQ: 02Apr64 SUB CODE: AI, PH ENCL: 00

Card 1/1

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 47158-66 EWT(1) IJP(c)

ACC NR: AR6000624 SOURCE CODE: UR/0124/65/000/009/A009/A009

35
B

AUTHOR: Azizov, A. G.

TITLE: The dynamics of the relative motion of a variable mass system

SOURCE: Ref. zh. Mekhanika, Abs. 9A77

REF SOURCE: Nauchn. tr. Tashkentsk. un-t, vyp. 242, 1964, 73-82

TOPIC TAGS: ~~dynamics~~, differential equation, DYNAMIC SYSTEM, VARIABLE MASS SYSTEM, MOTION MECHANICS

ABSTRACT: The motion of a variable mass system is considered. To this end, K points appear as carrying media (carrier body) and N points (transferred bodies) take part in translation and relative motions. The masses of the points depend on time, coordinates, and velocities. Differential equations of motion are introduced for the carrier body and the relative motion of the transferred bodies. It is shown that the equations thus obtained generalize some previously published results. An example is given. O. F. Makarov [Translation of abstract]

SUB CODE: 20

Card 1/1 esb

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 62559-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AT5012419 UR/3021/64/000/265/0039/0048

15
14
B+1

AUTHOR: Azizov, A. G.

TITLE: On the general case of relative motion of systems of variable masses

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 265. Matematicheskiye nauki, no. 29, 1964. Trudy Vychislitel'nogo tsentra, no. 1, 39-48

TOPIC TAGS: relative motion, differential equation, variable mass system

16

ABSTRACT: The author derives the differential equations for the relative motion of systems of variable masses, whose masses depend on the time, the coordinates, and the velocities. It is assumed that the over-all system includes a certain number of masses (transported bodies) and also moves relative to other systems (the transporting bodies), and the general differential equations for the relative motions of the systems as a whole are first derived. The relative motion of two solid bodies with variable mass is then considered. By way of examples, two types of relative motions of two material points that attract each other in direct proportion to the product of the masses and the mutual distance are considered. Orig. art. has: 56 formulas.

Card 1/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 62559-65

ACCESSION NR: AT5012419

ASSOCIATION: Vychislitel'nyy tsentr Tashkentskogo gosudarstvennogo universiteta (Computation Center of the Tashkent State University)

SUBMITTED: 00 ENCL: 00 SUB CODE: ME

NR REF SOV: 002 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 29533-66 EWP(m)/EWT(1) IJP(c) GW

ACC NR: AR6004022 SOURCE CODE: UR/0044/65/000/009/B035/B036

18
B

AUTHOR: Azizov, A. G.

TITLE: Dynamics of the relative motion of a variable mass system

12

SOURCE: Ref. zh. Matematika, Abs. 9B164

REF SOURCE: Nauchn. tr. Tashkentsk. un-t, vyp. 242, 1964, 73-82

TOPIC TAGS: ~~mathematics, operational calculus, mathematic measurement~~, VARIABLE MASS SYSTEM, MOTION EQUATION

ABSTRACT: The motion of a variable mass is studied. The K's of the points are the carriers, and the N's of the points (the carrier) participate in the transfer and relative motions. The masses of the points are functions of time and velocity. The low of the transfer system is not known. The differential equations of the carrier motion and the relative motion of the carried body are derived. It is shown that the equations obtained generalize some of the previously published results. An illustrated example is given. O. F. Makerov

SUB CODE: 12, 20 SUBM DATE: none

Card 1/1 LS UDC: 517.933

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 6318-66 EWT(d)/EWT(1)/EWP(m)/ES(w)-2/EWA(d) IJP(c) GW

ACC NR: AT5027505 SOURCE CODE: UR/3021/64/000/242/0073/0082

AUTHOR: Azizov, A. G. 44 55

ORG: Tashkent State University im. V. I. Lenin (Tashkentskiy gosudarstvennyy universitet) 44 55

49
B+1

TITLE: Dynamics of relative motion of a variable mass system 12, 44

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 242, 1964. Voprosy analiticheskoy mekhaniki i podzemnoy gidravliki (Problems in analytical mechanics and underground hydraulics), 73-82

TOPIC TAGS: flight mechanics, rocket trajectory, Hamilton equation, differential equation, variational method 16, 44, 55

ABSTRACT: An analytic study was made of the relative motion between variable mass systems. The masses are assumed to vary with time where the motion of the carrying system is not known a priori but must be determined through the calculations of the "carried" body. In Part One the differential equations of motion for the carrier system are derived along with the relative motion equations of the "carried" system with variable mass. The analysis is done in both inertial and moving coordinate systems and is based on the Ostrogradsk-Hamilton energy equation written in the form

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L 6318-66

ACC NR: AT5027505

$$\int_{t_1}^{t_2}\left(\delta' T + \sum_{\nu} \bar{F}_{\nu}\cdot\delta\bar{\rho}_{\nu} + \sum_{\nu} \frac{dm_{\nu}}{dt}\bar{u}_{\nu}\cdot\delta\bar{\rho}_{\nu}\right) dt = 0.$$

The equation of motion of each point in the system is given by

$$\frac{d}{dt}(m_{\nu}\bar{V}_{\nu}) = \bar{F}_{\nu} + \bar{R}_{\nu} + \frac{dm_{\nu}}{dt}\bar{u}_{\nu}.$$

The resulting equations are discussed as they apply to a rocket carrier with the combustion products in the flow system as the "carried" system. When the motion of the carrier vehicle is known, the results simplify to

$$\frac{d}{dt}\frac{\partial' T_{\tau}}{\partial \dot{q}_{l}} - \frac{\partial' T_{\tau}}{\partial q_{l}} = Q_{l} + \sum_{\nu=K+1}^{K+N} \frac{dm_{\nu}}{dt}(\bar{u}_{\nu} - \bar{V}_{\nu})\frac{\partial \bar{r}_{\nu}}{\partial q_{l}} +$$

$$+ \sum_{\nu=K+1}^{K+N}(-m_{\nu}\dot{W}_{\nu})\frac{\partial \bar{r}_{\nu}}{\partial q_{l}} + \sum_{\nu=K+1}^{K+N}(-m_{\nu}\ddot{W}_{\kappa\nu})\frac{\partial \bar{r}_{\nu}}{\partial q_{l}}.$$

To illustrate the point, in Part Two, the example of a small wheel, consisting of a coiled elastic band rolling down an inclined plane, is considered. Orig. art. has: 47 equations and 1 figure.

SUB CODE: ME/ SUBM DATE: none/ ORIG REF: 004

BVK

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, A.G.

The Hamilton - Ostrogradskii principle in variable mass mechanics. Izv. AN Uz. SSR. Ser.fiz.-mat. nauk 9 no.6:5-10 '65. (MIRA 19:1)

1. Institut mekhaniki i Vychislitel'nyy tsentr AN UzSSR. Submitted January 26, 1964.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 00780-67 EWT(d)/EWT(1)/EWP(m) IJP(c) GW

ACC NR: AR6000697 SOURCE CODE: UR/0124/65/000/009/A009/A009

AUTHOR: Azizov, A. G.

TITLE: Relative motion of a system of variable masses on the earth's surface

SOURCE: Ref. zh. Mekhanika, Abs. 9A75

REF SOURCE: Nauchn. tr. Tashkentsk. un-t, vyp. 242, 1964, 83-93

TOPIC TAGS: mechanics, solid dynamics, celestial mechanics, Euler equation

ABSTRACT: Connected to some body (supporting body) moving relative to the earth, there are movable axes Oxyz and, relative to these axes, moves a set of variable mass particles (supported body), determined by n independent generalized coordinates. On the assumption of smooth contact, equations of motion are introduced for both the supporting and supported bodies. Equations of motion are introduced for a solid body with variable mass around fixed points, including the earth's rotation and the internal motion of the particles (Euler equations). An example is considered, applying these equations to the motion of rockets on the surface of a rotating earth, on the assumption that the axes of symmetry of the rockets remain in horizontal planes. M. I. Yefimov [Translation of abstract]

SUB CODE: 20 03

Card 1/1 mjs

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 6314-66 EWT(d)/EWT(1)/EWP(m)/ES(v)-3/EWA(d) IJP(c) GW
ACC NR: AT5027506 SOURCE CODE: UR/3021/64/000/242/0083/0093

49
B+1

AUTHOR: Azizov, A. G.

ORG: Tashkent State University im. V. I. Lenin (Tashkentskiy gosudarstvennyy universitet)

TITLE: Relative motion of variable mass systems along the earth's surface

SOURCE: Tashkent. Universitet. Nauchnyy trudy, no. 242, 1965. Voprosy analiticheskoy mekhaniki i podzemnoy gidravliki (Problems in analytical mechanics and underground hydraulics), 83-93

TOPIC TAGS: flight mechanics, rocket trajectory, Hamilton equation, differential equation, variational method

ABSTRACT: An analytic solution is given for the relative motion of a mechanical system with variable mass when the motion of the carrier vehicle must be determined relative to axes connected in an unknown manner with a rotating earth. In Part One, the general equations of motion are derived for a carrier as well as a "carried" system, starting from the basic expression

$$m_v \bar{W}_v = \bar{F}_v + \bar{R}_v + \frac{dm_v}{dt}(\bar{u}_v - \bar{v}_v).$$

For a known carrier vehicle (rocket system) motion, the governing equation is given

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L 6314-66

ACC NR: AT5027506

by

$$-\frac{\partial' T_r}{\partial q_l} = \sum_{\nu=\kappa+1}^{\kappa+N} \left[F_\nu + \frac{dm_\nu}{dt}(\bar{u}_\nu - \bar{V}_{(\nu)}) + (-m_\nu \bar{W}_{(\nu)}) + (-m_\nu \bar{W}_{(\kappa\nu)})\right] \frac{\partial \bar{r}_\nu}{\partial q_l} \quad (1.13)$$

In Part Two, the motion of a variable mass solid body is considered around a fixed point, including a rotating earth and internal particle motions. The problem is specialized to the case of a rocket flying over the earth's surface. The final equation of motion is reduced to that of a pendulum in a linearly resistive system or

$$\ddot{\Phi} + 2\alpha\omega_e \frac{M_0}{A_0}\dot{\Phi} + \frac{C_0}{A_0} C_1 \omega_e^2 \cos\lambda \sin\Phi = 0 .$$

Orig. art. has: 48 equations and 1 figure.

SUB CODE: ME/ SUBM DATE: none/ ORIG REF: 003

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ACC NR: AP6012451 UR/0166/65/000/0[illegible]/0005/0010

AUTHOR: Azizov, A.G.

ORG: Institute of Mechanics and Computation Center (Institut mekhaniki i vychislitel'nyy tsentr AN UzSSR)

TITLE: The Hamilton-Ostrogradsky principle in the mechanics of variable mass

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1965, 5-10

TOPIC TAGS: variable mass dynamics, variable mass system, Hamilton Ostrogradsky principle, Lagrange equation

ABSTRACT: The Hamilton-Ostrogradsky principle and certain types of the dynamics equations of motion are derived for a variable mass system. Expressions for holonomic systems with variable mass are given. The particular case where mass depends upon time only is noted. Some specific non-holonomic constraints are discussed. It is shown how certain Lagrange, Voronets and Chaplygin equations can be derived from the Hamilton-Ostrogradsky principle in a staightforward manner. A variable mass problem in dynamics is discussed, with an example of the motion of a bent filament. Orig. art. has: 1 figure, 17 formulas.

SUB CODE: 20,12/ SUBM DATE: 26Jan64/ ORIG REF: 005

Card 1/1

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

K-A

AZIZOV, A.; CHUGAY, A.M.

[redacted]

Some problems in the development of industry of western Kazakhstan. Vest.AN Kazakh.SSR 11 no.9:35-44 S '54.
(Kazakhstan--Industries) (MLRA 8:2)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, A.-K.A.

Location of the textile industry in Kazakhstan. Izv.AN Kazakh.SSR.Ser.ekon., filos.i prava no.2:52-63 '59. (MIRA 13:4)

(Kazakhstan--Textile industry)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, Abdul-Kerim Abdulovich; ABROSIMOV, Vasiliy Il'ich; KUDRYAVTSEVA, Anna Fedorovna; KOROTOVSKIY, M.P., red.; OSADCHIY, F.Ya., red.; PROKHOROV, V.P., tekhn.red.

[Light industry of Kazakhstan and prospects for its development] Legkaia promyshlennost' Kazakhstana i perspektivy ee razvitiia. Alma-Ata, Izd-vo Akad.nauk Kazakhskoi SSR, 1960. 245 p. (MIRA 13:7)

(Kazakhstan--Manufactures)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, A.-K.A., kandidat ekonomicheskikh nauk

Development and technical progress of the textile industry of Kazakhstan during the seven-year plan. Vest.AN Kazakh. SSR 16 no.2:11-18 F '60. (MIRA 13:6)
(Kazakhstan—Textile industry)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 4137-66 EWT(1)/EWT(m)/EWP(i)/ETC/EWG(m)/EWP(t)/EWP(b)/ETC(m) JD/JW

ACC NR: AP5025996 UR/0294/65/003/005/0809/0812
536.12

AUTHOR: Azizov, A. M. 44,55

TITLE: Theoretical bases of a method for determination of the thermo-physical properties of film type thermoreceivers 21,44,55 4455

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 5, 1965, 809-812

TOPIC TAGS: thermodynamic property, temperature measurement, thermal effect

ABSTRACT: A mathematical statement of the problem follows:

$$\frac{\partial t_1(x,\tau)}{\partial \tau} = a_1 \frac{\partial^2 t_1(x,\tau)}{\partial x^2}, \quad \tau > 0, \quad -R < x < 0, \tag{1}$$

$$\frac{\partial t_2(x,\tau)}{\partial \tau} = a_2 \frac{\partial^2 t_2(x,\tau)}{\partial x^2}, \quad \tau > 0, \quad 0 < x < \infty, \tag{2}$$

$$t_1(0,\tau) = t_2(0,\tau), \quad t_1(x,0) = t_2(x,0) = t_0, \tag{3}$$

$$\frac{\lambda_1}{\lambda_2} \frac{\partial t_1(0,\tau)}{\partial x} = \frac{\partial t_2(0,\tau)}{\partial x}, \tag{4}$$

$$\lambda_1 \frac{\partial t_1(-R,\tau)}{\partial x} + q(\tau) = 0, \tag{5}$$

$$t_2(\infty,\tau) = t_0, \quad \frac{\partial t_2(\infty,\tau)}{\partial x} = 0. \tag{6}$$

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L 4137-66

ACC NR: AP5025996

where t_o is the temperature of the system up to the point of the thermal effect; R is the thickness of the film; and, the subscript 1 refers to the film and the subscript 2 to the support. Another possible variant for the determination of thermophysical properties is by setting only the temperature of the thermoreceiver and the use of the simple equation $Q_{tot} = Q_{film} + Q_{supp}$, where Q_{tot} is the quantity of heat entering the system in a given interval of time; Q_{film} and Q_{supp} are the quantities of heat accumulated during this time by the film per unit of the surface and the support, respectively. Orig. art. has: 13 formulas.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva (All Union Scientific Research Institute for Metrology) 44,55

SUBMITTED: 07Jan65 ENCL: 00 SUB CODE: TD

NR REF SOV: 001 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 2440-66 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(1)/EPF(n)-2/EPA(w)-2/EWP(t)/ EWP(b)/EWA(h)/EWA(1) IJP(c) JD/GG/GS/WH

ACCESSION NR: AT5023817 UR/0000/62/000/000/0347/0354

AUTHOR: Starodubtsev, S. V.; Azizov, S. A.; Domoryad, I. A.; Peshikov, Ye. V.; Khiznichenko, L. P.

TITLE: Change in the mechanical characteristics of certain solids exposed to gamma radiation

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheniy na materialy. Moscow, 1960, Deystviye yadernykh izlucheniy na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 347-354

TOPIC TAGS: gamma irradiation, quartz, shear modulus, irradiation effect, dielectric property, solid mechanical property

ABSTRACT: The effect of γ radiation on certain mechanical and dielectric properties of fused quartz fibers, Rochelle salt crystals, and ceramic barium titanate is studied. A 1.25 MEV Co^{60} γ source was employed at a dose rate of 10^6 r/hr. The shear modulus of fused quartz increases with the dose, and at 1.5×10^9 r, the change $\Delta G/G$ is 0.22% (± 0.02%). Gamma irradiation also changes the linear dimensions of fused quartz. These changes in elasticity

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L 2440-66

ACCESSION NR: AT5023817

and size may be satisfactorily explained by assuming a partial ordering (crystallization) of the lattice under the influence of γ rays. The observed effects of intense γ irradiation on the linear dimensions and "melting" point of Rochelle salt appear to be due to the destruction of the sample. The considerable effect of γ irradiation on the dielectric and elastic properties of $BaTiO_3$ ceramics are qualitatively similar to the aging process. The presence of healing at room temperature indicates that at least some of the defect centers (or new states of the domain walls) are unstable. Orig. art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 18Aug62 ENCL: 00 SUB CODE: NP, SS

NO REF SOV: 004 OTHER: 008

Silicon 27

Card 2/2 bnd

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

SHAKHTAKHTINSKIY, G.B.; AZIZOV, E.T.

Reduction of pyrite by Karadag natural gas. Azerb.khim.zhur. no.4:87-91 '65. (MIRA 18:12)

1. Institut khimii AN AzSSR. Submitted September 10, 1964.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, F., inzh.

Electronic calculating machines "plan" the shipment of goods.
Sov. torg. 34 no.6:34-36 Je '61. (MIRA 14:7)
(Electronic calculating machines)
(Shipment of goods)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

SYTNIK, G.; ROMANENKOV, P.; AZIZOV, F.; SABININ, A.

Information. Avt. transp. 41 no.8:55-58 Ag '63. (MIRA 16:11)

1. Nachal'nik Vychislitel'nogo tsentra Nauchno-issledovatel'skogo instituta avtomobil'nogo transporta (for Romanenkov). 2. Nachal'nik otdela Vychislitel'nogo tsentra Nauchno-issledovatel'skogo instituta avtomobil'nogo transporta (for Azizov). 3. Chlen prezidiuma Federatsii avtomobil'nogo sporta SSSR (for Sabinin).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, G.R., Cand Med Sci --(diss) " Survivability of typhoid fever bacillus on vegetables and fruits under experimental conditions." Mos, 1958. 16 pp (First Mos Order of Lenin Med Inst im I.M.Sechenov), 200 copies (KL,46-58, 142)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, G.R.

Membrane filter method for the determination of bacteriological contamination of fruits and vegetables. Dokl. AN Uzb. SSR no.3: 71-73 '58. (MIRA 11:6)

1. Tashkentskiy gosudarstvennyy institut usovershenstvovaniya vrachey. Predstavleno akademikom AN UzSSR A. Yu. Yunusovym.
(Food--Bacteriology)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, G.R., assistent

Survival of typhoid fever bacilli in vegetables, berries, and fruits under experimental conditions. Med.zhur.Uzb. no.6:65-67 Je '58. (MIRA 13:6)

1. Iz kafedry mikrobiologii (zav. - dotsent I.I. Ashmarin) Tashkentskogo gosudarstvennogo instituta usovershenstvovaniya vrachey.

(TYPHOID FEVER) (FOOD--BACTERIOLOGY)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, G.R.

Importance of vegetables and fruits in the epidemiology of abdominal typhus. Zhur.mikrobiol., epid.i immun. 32 no.12:118-119 D '61. (MIRA 15:11)

1. Iz Tashkentskogo instituta usovershenstvovaniya vrachey.
(TYPHOID FEVER) (PLANTS AS CARRIERS OF DISEASE)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

SUDAREVA, Ye.A., inzh.; AZIZOV, I.A., inzh.

Dependence of short-term mechanical and heat resistance characteristics of 12KhMF steel on thermal treatment and microstructure. Elek. sta 36 no.6:32-33 Je '65. (MIRA 18:7)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

L 53733-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/JW
ACCESSION NR: AP5011756 UR/0126/65/019/004/0629/0631

AUTHOR: Azizov, I. A.; Nosyreva, Ye. S.; Popov, K. V.

TITLE: Properties of the low temperature internal friction peak in steels containing Mn

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 4, 1965, 629-631

TOPIC TAGS: manganese steel, internal friction, metallography, carbon steel, normalization

ABSTRACT: In studies of carbon steels with Mn additions, a single internal friction peak is generally observed in the region of 40°C and at a frequency of about 1 cycle/sec. In the present article this peak is studied in Fe-C-Mn alloys containing 0.05-0.26% C and 0.1-2.4% Mn. It was found that the normal carbon peak was split into two peaks in alloys with 1.2% Mn. The alloys were prepared in an induction furnace and poured into ingots weighing 20 kg. These were worked into rods of 14 × 14 mm cross section. The samples were then annealed at temperatures 50°C above the upper transformation temperature and furnace cooled at 100°C/hr. Internal friction was measured by the free torsional vibration method at frequencies of 3.13

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ACCESSION NR: AP5011750

and 1.355 cycles/sec on 5 mm samples in the -196-450°C temperature range. The curves (see fig. 1 of the Enclosure) show an asymmetric peak which can be resolved into two symmetric peaks *A* and *B*, corresponding to simple relaxation processes. By changing the frequency, shifts in peaks *A* and *B* could be related to activation energies (17.1 kcal/mol for peak *A*, and 17.7 kcal/mol for peak *B*). Besides these two peaks, a third peak (*C*) was found. The calculated activation energy was 2.0 kcal/mol. Special experiments showed that the rate of cooling from the annealing temperature influenced only the height of peak *B*. It was found that peak *B* is also affected by the normalizing temperature. Its height for samples normalized at about 50°C above the upper transformation temperature was higher than for normalization below Ac_3. The size of the peaks was not changed by natural aging of the annealed samples for 10,000 hrs. Peak *C* is apparently unaffected by the presence of Mn. This peak may be connected with the presence of oxygen (which cannot be determined by chemical analysis in the given alloys). Metallographic analysis shows an increased amount of oxide. The splitting of peaks *A* and *B* is explained by new atomic positions in the lattice resulting from addition of the alloying element. Orig. art. has: 1 figure, 1 table.

ASSOCIATION: Institut nefte- i uglekhimicheskogo sinteza pri Irkutskom

Card 2/4

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L 53733-65

ACCESSION NR: AP5011756

gosuniversitete im. A. A. Zhdanova (Institute of Coal Chemistry and Petrochemical Synthesis at the Irkutsk State University)

SUBMITTED: 09Jun64 ENCL: 01 SUB CODE: MI

NO REF SOV: 005 OTHER: 001

Card 3/4

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ACCESSION NR: AR4036265 S/0137/64/000/003/I090/I090

SOURCE: Referativnyy zhurnal. Metallurgiya, Abs. 3I546

AUTHOR: Azizov, I. A.; Popov, K. V.

TITLE: Some aspects of the technique of determining the durability of pearlitic steels

CITED SOURCE: Sb. Polzuchest' i dlitel'n. prochnost'. Novosibirsk, Sib. otd. AN SSSR, 1963, 152-154

TOPIC TAGS: Pearlitic steel durability, steel durability determination

TRANSLATION: Results are given of tests of EI579 steel at 510°, carried out on three different melts in the usual manner with DF-4 machines (maximum duration of tests, 5000 hr), and curves of the durability at 580° of 12KhMF steel used in boiler construction are presented (the metals were from the same melt, but had different hardnesses). It is concluded that the durability of pearlitic steel may be related to the hardness of the metal, so that it is necessary to test metals with

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ACCESSION NR: AR4036265

three different hardnesses: minimum, moderate, and maximum hardness according to the Technical Specifications; the maximum allowed hardness limit must be clearly defined because of the danger of embrittlement and of the high instability of the structure of a very hard metal. V. Ferenets.

DATE ACQ: 17Apr64 SUB CODE: ML ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ACCESSION NR: AR4039335 S/0277/64/000/003/0030/0030

SOURCE: Ref. zh. Mashinostr. mat. konstr. i raschet detal. mash. Otd. vy*p., Abs. 3.48.233

AUTHOR: Azizov, I. A.; Popov, V. V.

TITLE: Some problems in the methodology of determining long-duration strength of pearlite steels

CITED SOURCE: Sb. Polzuchest' i dlitel'n. prochnost. Novosibirsk, Sib. otd. AN SSSR, 1963, 152-154

TOPIC TAGS: pearlite steel, metal hardness, steel hardness, strength, steel strength, pearlite steel strength, steel brittleness, steel strength test

TRANSLATION: To determine the calculated characteristics of long-duration strength of pearlite steels, it is recommended that the metal be tested with at least three different hardnesses: minimum, average, and maximum. As a result of the danger of brittleness and instability of the metal structure, it is recommended that the upper range of hardness of the steel be limited in the metal of maximum hardness.

Card 1/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, I.M.

Oxidation of phenols by apple polyphenoloxidases. Izv.vys.ucheb. zav.; pishch.tekh. no.1:66-68 '64. (MIRA 17:4)

1. Dagestanskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, I.M.; AMATEVA, S.D.

Role of phenol compounds in the ontogeny of apple. Fiziol. rast. 12 no.2:342-343 Mr-Ap '65. (MIRA 18:6)

1. Dagestanskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti, Makhachkala.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, I. O.

Dissertation: "The Dynamics of the Acidifying Processes in the Ontogenesis of the Fruit of Different Varieties of Apple." Cand Biol Sci, Inst of Biochemistry imeni A. N. Bakh, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, K.

Viticulture

In the struggle for a high yield. Vin. SSSR 13 no. 3, 1953.

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

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, Kh.F.

Study of ion exchange process between H-, Na- , Mg^{2}- cations on the KU-1 cation exchanger. Uzb.khim.zhur. 6 no.1:11-20 '62. (MIRA 15:3)

1. Institut khimii AN UzSSR.
(Ion exchange)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, Kh.F.; NABIYEV, M.N., akademik

Study of the ion exchange process between KU-2 K-cation exchanger and MgSO solution. Dokl. AN Uz. SSR 20 no.1:15-17 '63. (MIRA 16:6)

1. Institut khimii AN Uzbekskoy SSR. 2. AN Uzbekskoy SSR (for Nabiyev).

(Ion exchange)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, Kh.F.; NABIYEV, M.N.

Relation between the exchange coefficient and certain factors in the ion-exchange process. Uzb. khim. zhur. 7 no.5:5-10 '63. (MIRA 17:2)

1. Institut khimii AN UzSSR.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

PODOPLELOV, V.P.; AZIZOV, K.I.; MOROZOVA, A., red.; OPLESNIN, I., tekhn.red.

[Ways to work profitably; practice of the Ukhta lumber combine "Pechorles."] Puti rentabel'noi raboty; iz opyta Ukhtinskogo LPKh kombinata "Pechorles." Syktyvkar, Komi knizhnoe izd-vo, 1959. 45 p. (MIRA 13:10)

1. Komi filial AN SSSR (for Podoplelov, Azizov).
(Ukhta--Lumbering)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, K.I.

[Economic basis for the selection of types of log transportation in the Komi A.S.S.R.] Ekonomicheskoe obosnovanie vybora tipa lesovoznogo tranporta v usliviiakh Komi ASSR. Syktyvkar, Komi knizhnoe izd-vo, 1957. 95 p. (MIRA 15:2)
(Komi A.S.S.R.--Lumber--Transportation)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, K.I.; PODOPLELOV, V.P.; SHAKHRAY, F.V.

Forty years of the lumbering industry of the Komi A.S.S.R. and problems of its further development. Izv.Komi fil.Geog.ov-va SSSR no.7:15-24 '62. (MIRA 15:12)

(Komi A.S.S.R.—Lumbering)
(Komi A.S.S.R.—Woodworking industries)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, Kh.F.; NABIYEV, M.N.

Study of ion exchange processes between the KU-2 cation exchanger in H^+-, K^+-, Mg^{2+} ions and solutions of certain electrolytes. Uzb.khim. zhur. 7 no.3:5-12 '63. (MIRA 16:9)

1. Institut khimii AN UzSSR.
(Ion exchange) (Electrolytes)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

SOKOLOV, L., mladshiy nauchnyy sotrudnik; AZIZOV, M.; ZHURAVLEVA, A., mladshiy nauchnyy sotrudnik; DMITRIYEV, A., mladshiy nauchnyy sotrudnik

Justification of the architectural and structural type of a universal dry-cargo ship with 3,000-4,000-ton deadweight. Mor. flot 23 no.8:29-32 Ag '63. (MIRA 16:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota. 2. Starshiy inzh. TSentral'nogo nauchno-issledovatel'skogo instituta morskogo flota (for Azizov).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.; AVAK'YANTS, G.M.

Theory of photoelectric cells. Izv. AN Uz. SSR. Ser.fiz.-mat.nauk no.6:5-12 '58. (MIRA 12:2)

1. Fiziko-tekhnicheskiy institut AN UzSSR.
(Photoelectric cells)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

24(3)

AUTHORS: Azizov, M., and Avak'yants, G.M. SOV/166-59-1-2/11

TITLE: Volt-Ampere Characteristic of a Photoelement With Consideration of the Anti-Blocking Layer on the Contacts (Vol't-ampernaya kharakteristika fotoelementa s uchetom antizapornogo sloya na kontaktakh)

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Nr 1, pp 17-24 (USSR)

ABSTRACT: The calculations of the authors show that the nature of the contact between metal and semiconductor influences essentially the efficiency of the photoelement. If on the contact surface there appears a blocking layer, then the efficiency decreases with the increase of the potential difference; but if there appears an anti-blocking layer, then the efficiency increases. The authors give an inequation describing the limit of the influence of the potential difference. Beyond of this limit the efficiency depends neither on the potential difference nor on the velocity of the surface recombination. If there exists an anti-blocking layer, then the maximal efficiency (15% for a

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

Volt-Ampere Characteristic of a Photoelement With Consideration of the Anti-Blocking Layer on the Contacts SOV/166-59-1-2/11

germanium-photoelement) can be reached.
There is 1 figure and 2 Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Uz SSR (Physico-Technical Institute AS Uz SSR)

SUBMITTED: October 2, 1958

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M., Cand Phys-Math Sci -- (diss) "Several problems on the theory of semiconducting photoelectric cells." Tashkent, 1960. 15 pp; price not given; bibliography at end of text; 150 copies; (KL, 30-60, 135)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

24.7700

68582

24(3)

S/166/60/000/01/002/011

AUTHORS: Azizov, M., and Avak'yants, G.M.

TITLE: On the Theory of Origination of the Photo-E.M.F. During the p-n Transition in Semiconductors

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, Nr 1, pp 15-22 (USSR)

ABSTRACT: The authors calculate the photo-e.m.f. of a photocell with p-n transition. At the point of contact of the n-semiconductor or the p-semiconductor with the metallic electrodes the existence of a barrier or an anti-barrier is considered. No simplifying assumptions are made about the dependence of the electrical field strength on the local coordinate, in opposition to the preceding papers of the authors [Ref 1,2]. The dependence of the number of the electron-hole pairs which arise under influence of light etc., on the local coordinate is considered in full. At the other hand it is stated that the generation of the current carriers can

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68582

On the Theory of Origination of the Photo-E.M.F. During the p-n Transition in Semiconductors S/166/60/000/01/002/011

be neglected in the region of the barrier. From the obtained general expressions there follow for special cases the well-known formulas of [Ref 1,2] and [Ref 3].
There are 4 references, 3 of which are Soviet, and 1 American.

ASSOCIATION: Fiziko-Tekhnicheskiy institut ANUz SSR (Physical Technical Institute AS Uz SSR)

SUBMITTED: June 12, 1959

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.; AVAK'YANTS, G.M.

Theory of silicon photocells. Izv.AN UzSSR. Ser.fiz.-mat.nauk no.2:78-83 '60. (MIRA 13:10)

1. Fiziko-tekhnicheskiy institut AN UzSSR i Sredneaziatskiy gosudarstvennyy universitet imeni V.I. Lenina.
(Photoelectric cells) (Silicon)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

9,4160 (3201,1003,1137)
24.2600 (1043,1160,1395)

S/166/60/000/005/008/008
C111/C222

AUTHORS: Azizov, M., and Avak'yants, G.M.

TITLE: On the Theory of Photoelectric Cells With a Great Radius

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, No.5, pp.83-85

TEXT: Let the photoelectric cell be a disk of radius r (let the slip ring have the radius r_0). Then, in the distance r from the center of the disk, the electrical field E drawing to the contact is

$$E = \frac{I_n(r)}{2\pi r w} \rho , \quad (1)$$

where $I_n(r)$ is the current through the cross section of the surface layer of the photoelectric cell, w is the thickness of the surface layer, ρ is its specific resistance. Thus it is

$$I_n(r) = 2\pi \int_0^r I(r) \cdot r dr, \quad (2)$$

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C111/C222

On the Theory of Photoelectric Cells With a Great Radius

where

(3) $$I(r) = I_s\left(1-e^{\frac{eV(r)}{kT}}\right).$$

Here $V(r)$ is the potential in the point r, I_s is the saturation current. From (1) and (2), for E one obtains the differential equation

(4) $$E+rE' = \frac{\varrho}{w}\, r\cdot I(r).$$

Under the assumption

(5) $$E \ll rE'$$

from (4) the authors obtain

(7) $$\frac{1}{2}E^2 = \frac{I_s\varrho}{w}\left[\frac{kT}{e}\left(e^{\frac{eV}{kT}}-1\right)-V\right].$$

For determining V as a function of r it is assumed $\frac{eV}{kT} \gg 1$. Then one obtains

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86.17

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C111/C222

On the Theory of Photoelectric Cells With a Great Radius

$$(9) \qquad e^{\frac{eV}{kT}} = \frac{e^{\frac{eV_o}{kT}}}{\left[1+\sqrt{\frac{I_s e\varrho}{2wkT}}\left(r_o-r\right)e^{\frac{eV_o}{2kT}}\right]^2},$$

where V_o is the photo-electromotive force in the point r_o (i.e. on the slip ring).
(9) shows that the assumption $\frac{eV}{kT} \gg 1$ is satisfied for values r being little different from r_o; then (5) is valid too.
Now it is assumed that $\frac{eV}{kT} \ll 1$. Then it holds

$$(11) \qquad V = V_1 e^{\sqrt{\frac{I_s e\varrho}{wkT}}(r-r_1)},$$

where V_1 is the potential in the point r_1 (here the point is determined by

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C111/C222

On the Theory of Photoelectric Cells With a Great Radius

the condition $\frac{eV}{kT} \sim 1$). If furthermore it is assumed that it holds

(16) $$\sqrt{\frac{I_s e \xi}{2wkT}}\,(r_o - r_1)\, e^{\frac{eV_o}{2kT}} \gg 1$$

then one obtains for this case

(18) $$I_n \simeq -2\pi r_o \sqrt{\frac{2I_s wkT}{e\xi}}\, e^{\frac{eV_o}{2kT}}.$$

For an open circuit this current equals the full light flux

(19) $$-\pi r_o^2 I_L.$$

Herefrom it follows

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

S/194/62/000/001/031/066
D201/D305

26.1512

AUTHOR: Azizov, M.

TITLE: Spectral characteristics of silicon photo-elements and the temperature dependence of the p-n junction photo - e.m.f.

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-3-61 g (V sb. Nekotoryye vopr. prikl. fiz. Tashkent, AN UzSSR, 1961, 64-71)

TEXT: The spectral response of a photo-element is determined by the ratio of the s.c. photo-current I_{sc} to the stream Φ_λ of monochromatic radiation. I_{sc} and consequently the spectral response of the element is determined by the dependence of quantum yield β of the p-n junction partition coefficient γ and of the reflection coefficient τ on wavelength. The theoretical expression for I_{sc} in the case of barrier and anti-barrier layer formation is given. In

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the region of long wavelengths (α - large) the partition coefficients γ are determined for both barrier and anti-barrier layers. The formula for determining the length of the carrier diffusion path α_p is given. The temperature dependence of the photo-element e.m.f. is analyzed. The results obtained are compared with experimental data. The spectral response obtained from theoretical data is in good agreement with experimental curves. The calculated temperature coefficients: -2.24×10^{-3} V/deg for monochromatic light and -2.5×10^{-3} V/deg for sunlight are also in good agreement with experimental figures. 9 references. [Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

35155
S/058/62/000/002/050/053
A001/A101

9.4177 (1051, 1114)
26.1512

AUTHOR: Azizov, M.

TITLE: On the theory of photocells of cadmium telluride with p-n junction

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 38, abstract 2-3-76ye (V sb. "Nekotoryye vopr. prikl. fiz.", Tashkent, AN UzSSR, 1961, 72 - 78)

TEXT: Photocells and other semiconductor devices with p-n junction, made on single crystal base, are more efficient than devices based on metal-semiconductor contact. An investigation of properties of Si, gallium arsenide and cadmium telluride shows that experimental characteristics, relation between saturation current I_0 and voltage V, deviate from theoretical ones: the measured V-dependence of I_0 is considerably greater than calculated one with allowance for generation and recombination of carriers in the junction region. It can be supposed that this deviation is due to non-uniform concentration of impurities at various points of the p-n junction. In areas where impurity concentration attains 10^{20} per 1 cm^3, tunnel escape of electrons through the forbidden band is possible.

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A001/A101

On the theory of photocells of...

The proposed mechanism is theoretically analyzed. There are 10 references.

I. B.

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

25104
S/166/61/000/003/003/004
B112/B202

26.2620

AUTHOR: Azizov, M.

TITLE: Thermal processes in semiconductor photoelectric cells transforming solar energy

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1961, 68 - 75

TEXT: The author analyzes the heat losses and studies the temperature dependence of the back current in p-n junctions in photoelectric cells exposed to solar radiation. The coefficient of heat loss η is separated into three portions $\eta = \eta_{h\nu} + \eta_P + \eta_R$. The subscript $h\nu$ denotes heat losses caused by photoinactive absorption and band-to-band transitions, P the Peltier heat and R the series resistance of the photoelectric cell. The following formulas are obtained for these three portions:

$$\eta_{h\nu} = \frac{1}{W} \int_0^{\infty} \left\{ h\nu - \left[E_g + 2(r+2)kT \right] \beta \right\} N_\nu d\nu, \qquad (15)$$

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Thermal processes....

$$\eta_P = \frac{1}{W}\left[E_g + 2(r+2)kT - qV_{ext}\right]\frac{I_{ext}}{q}, \quad (16)$$

$$\eta_R = \frac{I_{ext}^2 l^2}{4dW}, \quad (17)$$

W is the energy of solar radiation absorbed by the photoelectric cell, E_g is the width of the forbidden band, r the exponent in the energy dependence of the mean free path of the carrier current, k the Boltzmann constant, T absolute temperature, β the quantum efficiency, $N_\nu d\nu$ the number of photons whose energies range between $h\nu$ and $h(\nu + d\nu)$, that are absorbed by the photoelectric cell per unit time, V_{ext} the voltage drop in the outer circuit, I_{ext} amperage of the outer circuit, q the electron charge, l the thickness of the photoelectric cell, d the band width of the p-n junction, ρ resistivity of the surface layer. The author gives numerical values of $\eta_{h\nu}$, η_P and η_R for Si-, GaAs-, and CdTe semiconductors. Finally, the theoretically and experimentally determines

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Thermal processes...

the temperature dependence of the back current on a p-n-junction in an Si-semiconductor. This dependence is approximately exponential The author mentions Loferskiy.
There are 1 figure, 3 tables, and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UzSSR (Institute of Physics and Technology AS Uzbekskaya SSR)

SUBMITTED: February 13, 1961

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.

Determining the effective rate of surface recombination, the diffusion length, and the depth of p-n junctions from the spectral characteristics of photocells. Izv. AN Uz.SSR. Ser. fiz.-mat. nauk 3:88-90 '61. (MIRA 14:8)

1. Fiziko-tekhnicheskiy institut AN UzSSR.
(Semiconductors) (Photoelectric cells)

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B125/B102

AUTHORS: Iminov, I., Azizov, M.

TITLE: Theory of the photoeffect and the photomagnetic effect in thin semiconductor layers

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1962, 87 - 91

TEXT: A phenomenological attempt is made to determine the change in sign of the current produced by the photomagnetic effect, and hence the photomagnetic short-circuit current ($E_x = 0$),

$$I_{sh.c.} = \int_0^d (I_{nx} + I_{px})dy \quad (1).$$

When the luminous intensity is low, when the magnetic field strengths are low, and when the lifetimes of the holes and the electrons are equal, integrating (1) and taking the appropriate boundary conditions eventually yields

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$$I_{к.з} = -uB\left(1+\frac{1}{b}\right)\left[\frac{A_1}{k}(e^{kd}-1)+\frac{A_2}{k}(1-e^{-kd})-\right.$$
$$\left.-\frac{qg_0}{k^2-a^2}(1-e^{-ad})\right]. \qquad (13).$$

The integration constants A_1 and A_2 are expressed in terms of very complicated expressions. If the surface recombination rate of the illuminated surface is negligeably small, $s_1 \to 0$, and that of the unilluminated surface very large, $s_2 \to 0$, then

$$I_{к.з} = uB\left(1+\frac{1}{b}\right)\frac{qg_0}{ak}\left(\mathrm{th}\,(kd) - \frac{k}{a} + \frac{k}{a}e^{-ad}\right). \qquad (16).$$

Reversing the conditions,

$$I_{к.з} = -uB\left(1+\frac{1}{b}\right)\frac{qg_0}{ak}\left(\frac{k}{a} - \frac{k}{a}e^{-ad} - e^{-ad}\,\mathrm{th}\,(kd)\right) \qquad (17).$$

These results coincide with the experiments of Brand et al. (Phys. Rev., 3, 119, 1960). The photo e.m.f. of a semiconductor of nearly intrinsic conductivity is $V_\Phi = -\frac{kT}{q}\frac{b-1}{b+1}\ln\frac{n(d)}{n(0)}$, if $p-N_a = n \gg N_A$. N_A is the acceptor

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concentration. If the illumination is weak and $N_A \gg n$, then $V_\Phi = -\frac{kT}{q}\frac{b-1}{b+1}\left[n(d) - n(0)\right]$. The fact that the change in sign of the photo e.m.f. depends on surface recombination rate is explained as follows: the recombination rates of photocarriers produced near the surfaces differ. The photo-carriers diffuse towards the side with the greater recombination rate, thus bringing about a change in the sign of the photo e.m.f.

ASSOCIATION: Andizhanskiy gospedinstitut (Andizhan State Pedagogical Institute)

SUBMITTED: May 21, 1962

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.

Theory of the photomagnetic effect in thin semiconducting layers. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 6 no.4:62-66 '62. (MIRA 15:9)

1. Andizhanskiy gosudarstvennyy institut.
(Photomagnetic effect) (Semiconductors)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.

Effect of the intensity of light on the velocity of surface recombination. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 6 no.4: 67-71 '62. (MIRA 15:9)

1. Andizhanskiy gosudarstvennyy institut.
(Semiconductors) (Photoelectricity)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.

Theory of tunnel diodes. Izv. AN Uz. SSR. Ser.fiz.-mat.nauk 7 no. 6:75-79 '63. (MIRA 17:6)

1. Andizhanskiy gosudarstvennyy pedagogicheskiy institut.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

KHODZHAYEV, A.R.; AZIMOV, P.K.

New developments in the geology of the Namangan group of structures. Uzb. geol. zhur. 8 no.5:72-74 '64. (MIRA 18:5)

1. Sredneaziatskiy sovet narodnogo khozyaystva.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.A.

USSR

Interaction of anabasine with mercuric and mercurous chlorides. V. V. Copyenko, M. A. Azizov, and K. Aizikov. *Doklady Akad. Nauk Uzbekistan.* 1953, No. 8, 38-41; *Referat. Zhur., Khim.* 1954, No. 27097.—$HgCl_2$ reacted with anabasine (I) in aq. soln. to form a white amorphous compd. $HgCl_2.C_{10}H_{14}N_2$ (II), m. 211° (decompn.). The reaction proceeds with appreciable evolution of heat and unless cooled a colored compd. is obtained. II was obtained by adding dropwise an aq. soln. of I to an aq. soln. $HgCl_2$ cooled in ice water. Upon heating to 110° II turned yellow. It is nonhygroscopic, dissolves poorly in water (slightly better in hot water), acetone, and EtOH, insol. in benzene and toluene. After boiling, aq. solns. of II have an alk. reaction. II dissolves in I, liberating metallic Hg; addn. of Me_2CO hastens this reaction. In water acidified with AcOH or strong mineral acids II dissolved forming a compd. of different compn. Specifically aq. HCl formed $HgCl_2.C_{10}H_{14}N_2.2HCl$, acicular crystals. Hg_2Cl_2 (III) reacted with I according to: $Hg_2Cl_2 + C_{10}H_{14}N_2Hg + HgCl_2.C_{10}H_{14}N_2$. A comparative study was made of the reaction of I, pyridine (IV), and piperidine (V) with III. These reactions were carried out with an excess of base in the absence of moisture. Immediately following the mixing, after 10 min., and after 7 days, the extent of interaction of I with III was 7, 9, and 48.9%, resp. For IV and III it was 36, 75.65, and 81.27%, and for V and III it was 13.1 and 18.93%, resp. In the last case, no detn. was made after 7 days. Thus, in its action on dry III, I is closer to V than to IV. In the presence of water, the interaction of I or IV with III does not exceed 1%.

M. E.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M. A.

Compounds of mercuric bromide with anabasine. M. A. Azizov and Kh. Kh. Khakimov. *Doklady Akad. Nauk Uzbek.S.S.R.* 1955, No. 7, 23-5; *Referat. Zhur., Khim.* 1955, No. 9370.—The reaction between equimolar quantities of anabasine and $HgBr_2$ in the presence of a slight excess of HBr under conditions previously described for $HgCl_2$ (cf. Udovenko, *et al.*, *Doklady Akad. Nauk Uzbek.S.S.R.* 1950, No. 2) yielded the compd. $HgBr_2 \cdot C_{10}H_{14}N_2 \cdot 2HBr$ (I), m. approx. 275° (decomp.), monhygroscopic, soly. in water at 25° 0.4 g./100 g. H_2O, increasing appreciably with temp., slightly sol. in org. solvents. Electrocond. measurements of aq. solns. of I showed that it dissoc. into 4 ions.

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USSR

Interaction of nicotinic acid amide with iron chloride. M. A. Azizov and K. S. Martynova. *Doklady Akad. Nauk Tadzh. S.S.R.* 1953, No. 10, 31-3; *Referat. Zhur., Khim.* 1954, No. 39372.—Addn. of aq. $FeCl_3$ soln. to a [illegible] soln. of nicotinic acid amide gave $FeCl_3.2C_6H_6ON_2$, a pseud. fairly yellow substance, darkens upon heating to 220°, m. 240° (decompn.), nonhygroscopic, and insol. in C_6H_6, C_7H_8, Me_2CO, $CHCl_3$, abs. alc., Et_2O, and CCl_4. The cond. of aq. soln. indicate approx. 3 ions. M. [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

Azizov, M.A.

CH

Compounds of nicotinic acid amide with cobalt and nickel chlorides. M. A. Azizov and K. M. Gershman. *Doklady Akad. Nauk Uzbek. S.S.R.* 1954, No. 1, 38-9 (in Russian); *Referat. Zhur., Khim.* 1955, No. 345.—Upon the addn. of a satd. alc. soln. of $CoCl_2$ to a satd. alc. soln. of nicotinamide a powdered lilac-colored ppt., $CoCl_2.2C_6H_6ON_2$ (I), formed. With $NiCl_2$ the reaction proceeds slowly, forming a light-green ppt. $NiCl_2.2C_6H_6ON_2$ (II). I and II are not hygroscopic, are stable in air, sol. in H_2O, and insol. in org. solvents. The mol. cond. of 1 mole in 1000 l. H_2O at 25° is 251.3 for I and 246.3 for II; thus I and II dissociate into 3 ions. At temps. above 200° I darkens and melts at 280° with decompn. Starting at 300° II darkens and chars at 400°.

M. Hosch

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M. A.

USSR/Inorganic Chemistry. Complex Compounds. C

Abs Jour : Referat. Zhurnal Khimkya, No 6, 1957, 18836

Author : M.K. Alyavi, M.A. Azizov.
Inst : Academy of Sciences of Uzbek SSR
Title : Concerning Interaction of Anabasine and Halides of Cadmium.

Orig Pub : UzSSR Fanlar Akad. Dokladlari Dokl. AN UzSSR, 1956 No 5, 19-22.

Abstract : The complexes $CdBr_2An$ HBr (An means anabasine), melting point 210° (dissociates), $CdBr_2An.2HBr$ melting point 292° (dissociates), $CdI_2An.HI$, melting point 251° (dissociates), $CdI_2An.2HI$, melting point 262° (dissociates) were prepared The complexes of the type $CdX_2An.HX$, where X is Br or I, are formed, when an equimolar amount of HX is added; and the complexes of the type $CdX_2An.2HX$ are formed, when excessive HX is added. The solubility of the complexes in water decreases in the series Br → I. The values of the molecular electrical conductivity show that the complexes of the type $CdX_2An.HX$ dissociate into 3 ions, and the complexes of the type $CdX_2An.2HX$ dissociate into 5 ions

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AZIZOV, M.A.; AKSEL'ROD, M.B., red.; SUKHANOV, P.P., tekhn.red.

[Some complex compounds of biologically active substances with trace elements; on the 20th anniversary of the [Tashkent Pharmaceutical] Institute] O nekotorykh kompleksnykh soedineniiakh biologicheski aktivnykh veshchestv s mikroelementami; k 20-letiiu Instituta. Tashkent, Med.gos.izd-vo M-va zdravookhraneniia UzSSR, 1958. 69 p. (MIRA 13:2)
(Complex compounds)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ALYAVI, M.K.; AZIZOV, M.A.

Reactions between α,β'-bipyridine and cadmium halides. Dokl. AN Uz. SSR no.4:37-41 '58. (MIRA 11:6)

1.Tashkentskiy gosudarstvennyy meditsinskiy institut i Tashkentskiy farmatsevticheskiy institut. Predstavlenc akademikom AN UzSSR A.S. Sadykovym.

(Bipyridine) (Cadmium halides)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.A.; KHAKIMOV, Kh.Kh.

Complex compounds of zinc halides and anabasine. Dokl. AN Uz. SSR no.6:37-42 '58. (MIRA 11:9)

1.Tashkentskiy farmatsevticheskiy institut. Predstavleno akademikom AN UzSSR A.S. Sadykovym.
(Zinc halides) (Anabasine) (Complex compounds)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.A.; KHAKIMOV, Kh.Kh.

Reaction of cobalt chloride with vitamins B_6 and B_c. Dokl.AN Uz.SSR no.9:31-33 '58. (MIRA 11:12)

1. Tashkentskiy farmatsevticheskiy institut. Predstavleno akademikom AN UzSSR A.S.Sadykovym.
(Folic acid) (Pyridoxine) (Cobalt chloride)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

KHAKIMOV, Kh.Kh.; AZIZOV, M.A.

Reaction of novocaine with cobalt halides. Dok. AN UzSSR no.10:31-34 '58. (MIRA 11:12)

1. Tashkentskiy farmatsevticheskiy institut. Predstavleno akademikom AN UzSSR A.S.Sadykovym.
(Cobalt halides) (Novocaine)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, N.A.; LANTSEPOL'SKAYA, E.M.

Compounds of amides of nicotinic acid with cobalt halides. Dokl.AN Uz.SSR no.12:39-42 '58. (MIRA 12:1)

1. Tashkentskiy farmatsevticheskiy institut. Predstavleno akademikom AN UzSSR A.S.Sadykovym.
(Nicotinic acid) (Cobalt halides)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, N.A.; KANTSEPOL'SKAYA, K.M.

Reaction of nicotinic acid with cobalt halides. Dokl.AN Uz.SSR no.1:33-35 '59. (MIRA 12:4)

1. Tashkentskiy farmatsevticheskiy institut. Predstavleno akademikom AN UzSSR A.S.Sadykovym.
(Nicotinic acid) (Cobalt halides)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.A.; KHAMRAYEV, A.D.; KHAKIMOV, Kh.Kh.

Complex compounds of nocotinic acid and its amide with manganese halides. Uzb. khim. zhur. 7 no.4:32-34 '63. (MIRA 16:10)

1. Tashkentskiy farmatsevticheskiy institut.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, M.A.; KATS, A.L.; LARIN, F.P.; TASHPULATOV, Yu.T.; USMANOV, Kh.U.

Infrared absorption spectra of the complex compounds of copper of monopyridinecarboxylic acids and their derivatives. Uzb.khim. zhur. 8 no.5:47-53 '64. (MIRA 18:5)

1. Tashkentskiy farmatsevticheskiy institut i Nauchno-issledovatel'skiy institut khimii i tekhnologii khlopkovoy tsellyulozy Gosudarstvennogo komiteta khimicheskoy promyshlennosti pri Gosplane SSSR.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

SOKOLOV, L.G.; AZIZOV, M.M.; ZHURAVLEVA, L.S.; DMITRIYEV, A.A.

Investigating the architectural design type of a general purpose dry-cargo ship of 3000-4000-ton deadweight capacity. Trudy TSNIIMF no.45:3-26 '63. (MIRA 16:9)

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D201/D301

AUTHOR: Azizov, M. V.

TITLE: Theory of p-n junction cadmium telluride photo-elements

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 2, 1962, abstract 2-3-7bye (V sb. Nekotoryye vopr. prikl. fiz., Tashkent, AN UzSSR, 1961, 72-78)

TEXT: The photo-elements and other semiconductor devices with a p-n junction made of monocrystals have a higher efficiency than those based on the effect of the metal semi-conductor contact. The investigation of properties of Si, gallium arsenide and cadmium telluride shows that the experimentally obtained characteristics of the saturation current I_0 against voltage differs from those determined theoretically: The measured dependence of I_0 against V is much stronger than that determined theoretically with regeneration

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and recombination of carriers at the junction. It may be assumed that this difference is related to a non-uniform concentration of impurities at various points of the p-n junction. In regions where the impurity concentration reaches 10^{20} per 1 cm^3, the tunnel effect drift of electrons through the forbidden zone is possible. A theoretical analysis of the suggested mechanism is given. 10 references. [Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

VAKHIDOV, V.V., dotsent; AZIZOV, N.A.; IMAMOV, I.Kh.

Late results of lung resection in tuberculosis. Probl. tub. 42 no.8:28-32 '64. (MIRA 18:12)

1. Kafedra obshchey khirurgii (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent V.V.Vakhidov) lechebnogo fakul'teta Tashkentskogo meditsinskogo instituta i khirurgicheskoye otdeleniye protivotuberkuleznogo dispansera No.2 (glavnyy vrach N.A.Azizov), Tashkent.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

AZIZOV, N.G.

Case of tetanus in a 5-year-old child. Azerbaidzh. med. zh. 6: 80-82 Je'63 (MIRA 17;1)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

ADIZOV, N.A.

Rural hospital in the control of communicable diseases in a unified hygiene and hospital organization. Azerb. med. zh., 40 no.8:62-67 Ag '63. (MIRA 17:12)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720020-7

S/058/61/000/012/041/083
A058/A101

AUTHORS: Starodubtsev, S. V., Azizov, S.

TITLE: Change in the linear dimensions of molten quartz incident to gamma-irradiation

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1961, 332, abstract 12E250 ("Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii", 1959, v. 1, Tashkent, AN UzSSR, 1961, 283)

TEXT: On studying the effects of gamma-irradiation on the linear dimensions of molten quartz, it was found that with increasing irradiation dose its linear dimensions at first increase, attaining a maximum, and then decrease, passing through the initial values, after which the dimensions increase a little.

[Abstracter's note: Complete translation]

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B102/B202

9.2180

AUTHORS: Azizov, S., Starodubtsev, S. V., Academician of the AS Uzbekskaya SSR

TITLE: Effect of gamma radiation on the linear dimensions of specimens of molten quartz and seignette salt

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1961, 83 - 85

TEXT: Molten quartz and seignette salt are widely used in scientific studies; their radiation stability is still insufficiently investigated. In this connection the authors present data on the change of the linear dimensions of specimens of these substances caused by gamma irradiation. The samples were irradiated from a water-shielded Co^{60} source (2000-curies activity) with a dose rate of 10^6 r/hr. The linear dimensions of the molten quartz specimen were determined by means of a microscope of the type УИМ-21 (UIM-21) warranting an accuracy of 10^{-3}%; First, an expansion of the specimen is observed. The maximum of relative elongation is

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attained at $90 \cdot 10^6$r ($\Delta l/l = 6 \cdot 10^{-3}$). With a further increase of the dose, contraction occurs, the initial size being attained at $180 \cdot 10^6$r; $\Delta l/l$, however, decreases further and, only in the range of $(260 - 360) \cdot 10^6$r, size remains almost constant. The change of the linear dimensions of seignette salt were studied by a device of the type ИЗВ-1 (IZV-1) (accuracy 0.001 mm). Plates cut in two different directions straight and oblique were studied; in both cases, a linear increase of $\Delta l/l$ was observed beginning at doses of about $50 \cdot 10^6$r. The two kinds of plates differed in the following: In the oblique ones, $\Delta l/l$ increased in the same way in direction a and in direction b at increasing dose; in the straight-cut ones, the relative extension in direction a was considerably less than in direction b. The inclination of the straight line in the latter case almost agree with that obtained for oblique cut. The anisotropy entails a decrease in mechanical strength leading to the decay of the specimen at $(150 - 160) \cdot 10^6$r. The authors further studied the dependence of the melting point on gamma irradiation. The following was observed for seignette salt: from 0 to $40 \cdot 10^6$r the melting point dropped from

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74 to 65°C, from $(40 - 185)\cdot 10^6$r it dropped from 65 to 53°C. The two sections of the curve run linearly. In seignette salt a seperation of gas can be observed already at relatively low doses. The corresponding studies were made in a vacuum chamber (10^{-3} mm Hg), the separation of gas was determined manometrically (error 0.05 mm Hg); recording was made by a device of the type ЭПВИ-14 (EPVI-14) and was checked by a device of the type ВТ-2 (VT-2). Irradiation was made with a dose rate of 10^3r/hr. In the range $0.6 - 6.6\cdot 10^5$r, gas separation increased linearly with the dose. At $(40 - 50)\cdot 10^6$r, the curves showed a break. V. A. Yurin is mentioned. There are 4 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: Primak W. Phys. Rev., 1958, 110, 6, 1240 - 1254.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UzSSR (Institute of Physics and Technology of the AS Uzbekskaya SSR)

SUBMITTED: March 6, 1961

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AUTHORS: Starodubtsev, S. V., Member of the AS Uzbekskaya SSR, Azizov, S

TITLE: Change of microhardness and melting temperature of Rochelle salt due to gamma irradiation

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1961, 67 - 69

TEXT: Experiments showed that, upon gamma irradiation, the microhardness H of Rochelle salt changes considerably. A radiation dose of $4 \cdot 10^7$ - $5 \cdot 10^7$ r, causes a relative change $\Delta H/H$ in microhardness of -35%, a dose of $5 \cdot 10^7$ - $12 \cdot 10^7$ r of -60%. The authors also studied the change of the melting temperature of Rochelle salt in air under the action of a gamma irradiation. Figs. 2a and 2b show the temperature change as a function of the heating time, at a heating rate of 2°C/min. The three sections of the melting curves (steep - flat - steep) correspond to the phases of the salt (solid - melting - liquid). Fig. 3 shows the change of the temperature

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