BALAYEVA, I.A. (Moskva); CHEPRASOV, V.A. (Moskva)

Method for determining initial deviations of a gyrocompass.
Izv. AN SSSR Otd. tekh. nauk. Mekh. i mashinostr. no.2:136-
137 Mr-Ap '63.   (MIRA 16:6)

(Gyrocompass)

CHEPRASOV, V.P.

[Calculation of potential flow around isolated profiles and
hydrodynamic cascades] Raschet potentsial'nogo obtekaniia izo-
lirovannykh profilei i gidrodinamicheskikh reshetok; avtorefe-
rat dissertatsii, predstavlennoi na soiskanie uchenoi stepeni
kandidata tekhnicheskikh nauk. Nauchnyi rukovoditel' G.G.Tuma-
shev. Kazan', Kazanskii aviatsionnyi institut, 1955. 9 p.
(Aerodynamics)   (MIRA 9:3)

CHEPRASOV, V.P.

Plotting flow off profiles and cascades of arbitrary shape. Izv.
vys. ucheb. sav.; av. tekh. no.2:121-127 '58.   (MIRA 11:6)

1. Kazanskiy aviatsionnyy institut, Kafedra aerodinamiki.
                    (Fluid dynamics)

82797

AUTHOR: Cheprasov, V.P.

TITLE: Calculation of the Potential Flow Around Isolated Profiles and
            Hydrodynamical Cascades

TEXT: A calculation procedure is expounded, dealing with the potential
flow around a single wing profile and similar to the known Theodorsen-Serebriyskiy
method. Mapping the exterior of the prescribed profile onto the contour exterior,
approximating the circle, is performed by a mapping function determining the con-
formal map of the theoretical profile exterior, similar to the described, onto
the circle exterior. Mapping this contour onto the unit circle exterior with an
accuracy up to minute quantities of second order is performed by the M.A. Lavrent'
yev function or its certain generalization. The author recommends to use, for
plotting the theoretical profile, the S.A. Chaplygin mapping function. An analogous
solution is obtained for the cascade of arbitrary profiles. Assuming that the
function is known, which states the conformal correspondence between the points

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S/124/60/000/004/007/027
A005/A001

Calculation of the Potential Flow Around Isolated Profiles and Hydrodynamical
Cascades

of regions outside the cascade of the unit radius circles and outside the cascade
of the theoretical profiles, whereat the latter cascade is similar to the prescribed
cascade, the author used this function to mapping the exterior of the prescribed
cascade onto the cascade exterior of the contours similar to the circles. In
this way, the problem is reduced to determining an analytic function, which maps
the cascade exterior of the contours similar to the circles onto the circle cas-
cade exterior. The latter function is found in the form:

$$\zeta_1 = \zeta + \sum_{n=0}^{\infty} c_n \left[F_1(\zeta) \right]^n$$

where $\zeta_1 = r_1 e^{i\theta_1}$ is the circle cascade plane, $\zeta = r e^{i\theta}$ is the cascade plane
of the contours similar to the circles,

$$F_1(\zeta) = R(r,\theta) e^{i\vartheta(r,\theta)}$$

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Calculation of the Potential Flow Around Isolated Profiles and Hydrodynamical
Cascades

is a function introduced by E.L. Blokh as the periodical part of the complex
potential of the circulationless flow around the circle cascade. The coefficients
$C_n = A_n + iB_n$ can be found by solving the algebraic equation system obtained from
the relation

$$\zeta_1(\zeta)\overline{\zeta_1(\zeta)} = r_1^2,$$

when the contour equations are presented in the ζ plane in the form:

$$\zeta = [1 + \Delta r(\vartheta)] e^{i\vartheta} + ikt \quad (k = 0, \pm 1, \pm 2, \ldots, \infty),$$

and the $\Delta r(\vartheta)$ function as a Fourier series. Then, the coefficients A_n, B_n
can be expressed by the Fourier series coefficients. The method of successive
approximations for determining the coefficients A_n, B_n is expounded, whereat the
convergence rate of the successive approximation procedure depends on the degree
of similarity of the theoretical profile cascade to the prescribed profile cas-
cade. The plotting of theoretical profile cascades is carried out using a mapping
function representing a generalization of the Chaplygin function for the case of

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S/124/60/000/004/007/027
A005/A001

Calculation of the Potential Flow Around Isolated Profiles and Hydrodynamical
Cascades

a profile cascade by means of the E.L. Blokh function F_1 (ζ), so that the function obtained yields a conformal mapping of the circle cascade exterior onto the exterior of the theoretical profile cascade of the same step. The formulae for calculating the velocities along the profile cascade contour are given and the comparison of the computational and experimental velocity distribution along the profile contour of a dense cascade is carried out, which consists of thick strongly buckled profiles.

A.S. Ginevskiy

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

Card 4/4

SOV/124-59-10-11561

Translation from: Referativnyy zhurnal, Mekhanika, 1959, No. 10, p. 74 (USSR)

AUTHOR: Cheprasov, V. P.

TITLE: Equations of Curvilinear Motion of an Elastic Blade^{26}

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol. 43, pp. 87-102

TEXT: The system of five differential equations is established for
calculating the rotor blade motion, when a stroke governor, horizontal and
vertical hinges, and a skew-control automat exist. It is assumed that the
angular velocity of the propeller blade turn amounts to less than 0.1 of the
angular velocity of revolution; the calculation of the aerodynamic loads is
based on the hypothesis of steadiness; the induced velocity is given as a
trigonometric series.

G. I. Maykapar

Card 1/1

88859
S/044/60/000/007/013/058
C111/C222

/6.7600
/6.3000
AUTHOR: Cheprasov, V.P.

TITLE: Calculation of the potential flow around of isolated
            profiles and hydrodynamic grids

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 79-80.
            Abstract no.7546. Tr.Kazansk.aviats.in-ta, 1958, 38, 43-56

TEXT: The author considers the calculation of the potential flow
around of isolated profiles and of grid profiles of an arbitrary form by
an incomp-ressible fluid. The author's method for the calculation of the
potential flow around of an isolated profile is a certain modification
of the well-known method of Theodorsen-Serebriyskiy. The nature of the
author's method consists in the following:
We assume that it is possible with the aid of the known function to
construct a theoretical profile c which is little different - according
to the position and the curvature - from the given profile $\tilde{c}$ so that

$$|\delta(s)| < \varepsilon \ , \ |\delta'(s)| < \varepsilon \ , \ |\delta''(s)| < \varepsilon \qquad (1)$$

is satisfied with a possible exception of a finite number of points.
Here $\delta(s)$ is the length of the piece of the normal of the profile c

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Calculation of the potential flow...

between c and $\tilde{c}$. Let $D(\tilde{c})$ be the external region with respect to the given profile, while $D(c)$ is the external region with respect to the theoretical profile c; let $\omega = f(z,c)$ be the function which maps conformally the region $D(c)$ onto the exterior of the unit circle $c: |\omega| \geqslant 1$. For this mapping, to the profile $\tilde{c}$ in the ω-plane there corresponds the curve $\tilde{c}^*$ which is little different from the circle $c: |\omega| = 1$. The author uses the approximation formulas for conformal mappings of little different regions, namely the approximation formulas of M.A.Lavrent'yev, for the conformal mapping of the exterior of regions being little different from the circle onto the exterior of the unit circle. He gives an approximate construction of a function $\zeta = f(z,\tilde{c})$, $f(\infty,\tilde{c}) = \infty$, $f'(\infty,\tilde{c}) > 0$ which maps conformally the exterior of the given profile $\tilde{c}$, i.e. of the region $D(\tilde{c})$ being little different from the region $D(c)$, onto the exterior of the unit circle $c: |\zeta| = 1$ of the plane $\zeta = \xi + i\eta$. Using the equation of the curve $\tilde{c}^*$ in the form

$$\tilde{\omega}_{\tilde{c}^*} = \left[1 + \delta^*( )\right] e^{i\theta_1}$$

then for the mentioned mapping
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C111/C222

Calculation of the potential flow...

$$\zeta = f(z,\tilde{c}) = f(z,c)\left[1 - \frac{1}{2\pi}\int_0^{2\pi} \delta^*(t)\, \frac{1+f(z,c)\overline{e}^{-it}}{1-f(z,c)\overline{e}^{-it}}\, dt\right],$$

$$f(\infty,\tilde{c}) = \infty\ ,\quad f'(\infty,\tilde{c}) > 0.$$

The correspondence of the points of the regions $D(\tilde{c})$ and $D(\tilde{c}^*)$ is fixed by the inversion of S.A.Chaplygin's function

$$z = \frac{(\omega-1)^2}{\omega+\varepsilon_0}\ ,\qquad\qquad (2)$$

where $\varepsilon_0 = \zeta_0 + i\eta_0$ — the parameters of the calculation are chosen so that the theoretical profile constructed with the aid of (2) is little different from c in the sense of (1). Here the Fourier series of the function $\delta^*(\theta_1)$

$$\delta^*(\theta_1) = \sum_{n=0}^{\infty}(a_n\cos n\theta_1 + b_n\sin n\theta_1),\qquad\qquad (3)$$

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Calculation of the potential flow...   C111/C222

$a_n = b_n = o(\frac{1}{n^2})$ will be absolutely and uniformly convergent. The author uses the development (3) and finds the approximation expression of the sought mapping function in the form

$$\zeta = (1-c_0)\omega - \sum_{n=1}^{\infty} \frac{c_{-n}}{\omega^{n-1}}, \tag{4}$$

where $c_n = a_n + ib_n$, and the series (4) is absolutely convergent in the region $|\omega| \geq 1$.

Furthermore the author uses the well-known method of the expansion in terms of powers of the small parameter (L.V.Kantorovich and V.I.Krylov, Approximation Methods of Higher Analysis, M., 1952) and seeks a more general function which maps the region $D(\tilde{c})$ onto $D(c^*)$ in the following form

$$\zeta = \omega + \sum_{k=1}^{\infty} \varepsilon^k P_k(\omega), \tag{5}$$

$$\zeta(\infty) = \infty, \quad \left|\frac{d\zeta}{d\omega}\right|_{\infty} > 0,$$

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Calculation of the potential flow...

where ξ is a fixed positive magnitude, $P_k(a)$ at first are unknown functions being holomorphic outside the curve $\tilde{c}$ and having a single pole $\omega = \infty$ in the neighborhood of which they are representable in the form

$$P_k(\omega) = \sum_{\nu=-1}^{\infty} \frac{\alpha_{-\nu,k}}{\omega^k}.$$

A method for the successive determination of the necessary number of functions $P(\omega)$ of the sequence $\{P_k(\omega)\}$ is given. After the determination of the mapping function $\zeta = f(z,\tilde{c})$ the velocity field in the flow plane is calculated with usual methods. Examples are given. The problem of the flow around of an arbitrary profile grid is solved with an analogous method; here the author uses the functions introduced by E.L. Blokh and Ye.I.Umnov.

Abstracter's note: The above text is a full translation of the original Soviet abstract.

Card 5/5

ACCESSION NR: AR4014683   S/0271/64/000/001/A031/A031

SOURCE: RZh. Avtomatika, telemekhanika i vy*chislitel'naya tekhnika, 1964, no. 1,
Abs. 1A205

AUTHOR: Cheprasov, V. P.

TITLE: One problem in the synthesis of optimal control with restrictions on the
phase coordinates and on the rate of change in the controlling action

CITED SOURCE: Tr. Kazansk. aviats. in-ta, vy*p. 75, 1963, 91-101

TOPIC TAGS: transient process, control system, exponential stability, control
trajectory, restricted control, optimal control, dynamic programming, control
system synthesis

TRANSLATION: The analytical structure is examined of regulators for systems whose
transient processes have a prescribed exponential stability. The control law is
sought which provides the exponential stability, smoothness of trajectories, and
yields the minimum value of the functional

$$I(\xi_0) = \int_{t_0}^{\infty} \omega^2(x, \xi, \dot{\xi})\,dt,$$

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ACCESSION NR: AR4014683

where x is the n-dimensional vector of the phase state of the system, and ξ is
the r-dimensional vector of the control force. It is proved that control ξ(s,t)
can be constructed by using the two Lyapunov functions V^0 (s, t) and g(s,t).
Here s is a positive-definite quadratic form of x and ξ. The Lyapunov functions
must satisfy certain conditions which are necesary and sufficient for optimal
control in the sense that functional I(ξ) is minimum, and sufficient for
exponential stability and smoothness of trajectory. Proof is given for the
sufficiency and necessity of these conditions. Necessity is proved by the method
of dynamic programming. An example is given of determining control in a second
order system having a restricted rate of change in the controlling action. Orig.
art. has 12 refs.   A. K.

SUB CODE: GE   ENCL: 00   DATE ACQ: 19Feb64

Card 2/2

USSR/Human and Animal Morphology (Normal and   S-2
        Pathological). Nervous System. Periphe-
        ral Nervous System.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 74308

Author : Cheprasova, L. F.
Inst   : Stalinabad Medical Institute.
Title   : On the Question of Duodenal Innervation
          in a Dog (Experimental-Morphologic Study).

Orig Pub: Tr. Stalinabadsk. med. in-ta, 1957, 25,
          191-197

Abstract: Four series of experiments were conducted
          on dogs; in the 1st, resection of the sto-
          mach according to Billroth I was performed;
          in the 2nd, the right, and in the 3rd, the
          left semilunar ganglion of the solar plexus

Card   : 1/2

USSR/Human and Animal Morphology (Normal and   S-2
       Pathological). Nervous System. Periphe-
       ral Nervous System.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 74308

       was removed, and in the 4th, subdiaphrag-
       mal vagatomy was performed. It was determined
       that the source of duodenal innervation is
       the left and right semilunar ganglia of the
       solar plexus, and that in the composition
       of the fibers which innervate the duodenum
       there are medullated and nonmedullated nerve
       fibers. The participation of fibers of the
       vagal nerve in the innervation of the duode-
       num was confirmed. -- D. D. Ivanov

Card   : 2/2

CONSTANTINESCU, N.,; DUCA, M.,; DUCA, E.,; CHEPTEA, A.

Experimental paralytic rabies cured or autosterilized in
partially immunized animals. Stud. cercet. inframicrobiol., Bucur.
6 no.1-2:9-16 Jan-June 55.

1. Institut de Inframicrobiologie al Academiei R.P.R. si Institutul
de medicina din Iasi.
        (RABIES, experimental
            in rats partially immunized with Fermi vacc., recovery
            & autosterilization)
        (VACCINES AND VACCINATION
            rabies vacc., Fermi vaccine in exper. rabies)

CONSTANTINESCU, N.; STIRBU, A.; CHIPTEA, A.; TAINDEL, C.

Effect of the schedule of therapy in anti-rabies vaccination
before and after infection. Stud. cercet. inframicrobiol.,
Bucur. 6 no.3-4:375-387 July-Dec 1955.
    (RABIES, prevention & control
        vacc. with Fermi vaccine, prev. & ther. results in
        exper. animals, eff. of timing & dos. of vaccine
        before & after infect. with street virus)
    (VACCINES AND VACCINATION
        rabies, Fermi vaccine, prev. & ther. results in exper.
        animals, eff. of timing & dos. of vaccine before &
        after infect. with street virus)

CONSTANTINESCU, N.; STIRBU, A.; CHEPTEA, A.; TAINDEL, C.

Study of the comparative protective action of rabies antiserum
and phenolated vaccines in experimental rabies. Stud. cercet.
inframicrobiol., Bucur. 7 no.3-4:423-470 July-Dec 56.

1. Comunicare presentata in sedinta Institutului de
inframicrobiologie al Academiei R.P.R.
        (RABIES, experimental
            comparative eff. of rabies antiserum & phenolated
            vaccines)
        (IMMUNE SERUMS
            rabies antiserum, protective eff. in exper. rabies,
            comparison with phenolated vaccines)
        (VACCINES AND VACCINATION
            rabies phenolated vaccine, protective eff. in exper.
            rabies, comparison with antiserum)

Cheptea, A.

RUMANIA / Microbiology. Microbes.Pathogenic to Man and F-8
Animals. Bacteria. Bacteria of the Intestinal
Group.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72123.

Author : Nestorescu, N.; Popovici, M.; Novac, S.; Librescu,
S.; Cheptea, A. Nestorescu, N.; Popovici, M.;
Librescu, S.; Novak, S.; Cheptea, A. Gorun, V.

Inst : Not given.

Title : Investigation of Spread in Rumania of Serological
Types of Intestinal Bacillus Causing Entertitis
in Children.

Orig Pub: Rev. microbiol. parazitol. si epedemiol., 1956,
1, No 2, 44-49; 49-53, 1, 4, 7, 10.

Abstract: The feces of 225 healthy children from 5 collect-
ives and of 300 children with enteritis were
studied. 13 strains of pathogenic serotypes of

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Abstract: intestinal bacillus (5.7%) were isolated and iden-
tified from the healthy children. Of them, 3.1%
of the strains belonged to type 0111:B4, 7.2% -
to the type of 025:B6 and 0.4% - to the type 055:B5.
Of 300 cases of enteritis, 200 were sporadic ill-
nesses; 100 of these children were hospitalized.
Among the latter, in 84% of the cases a pathogenic
serotype of intestinal bacillus 0111:B4 was found.
This type was also isolated from flies caught in
barns. Of the remaining 200 ill children, type
0111:B4 was isolated in 5 cases, 055:B5 in one
case, 086:B7 in another case and 026:B6 in 13 cases.
— From the authors' summary.

Card 2/2

Cheptea, A.

RUMANIA / Microbiology. Microbes Pathogenic to Man and 7-6
Animals. Bacteria. Bacteria of the Intestinal
Group.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72134.

Author : Nestoreseu, N.; Popovici, M.; Novac, S.; Libreseu,
S.; Cheptea, A.

Inst   : Not given.
Title : Study of the Spread In Rumania of Serological
Types of Intestinal Bacillus Causing Enteritis
in Children.

Orig Pub: Rev. microbiol., parazitol. si epidemicl., 1958,
1, No 3, 53-57.

Abstract: In Rumania, serological types of intestinal
bacillus which play an important role in the
etiology of enteritis in children, especially in
the appearance of a toxic-septic epidemic syndrome,

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Abstract: are encountered among 5.7% of healthy children.
To determine the degree of spread of the given
types of B. coli, investigations were conducted
of feces in healthy animals (pigs, cattle, sheep,
cats, rabbits, guinea pigs, monkeys, chickens) and
flies. Type O₂₆B₆ is most encountered in almost
all the above-mentioned animals. It is not found
in guinea pigs. -- S. N. Fayn.

CHEPTSOV, V.V.

VOYK, A.A., inzh.; SEREBRYAKOV, A.M., inzh.; CHEPTSOV, V.V., inzh. (Irkutsk).

Mechanized slag removal. Put' i put. khoz. no.1:29-30 Ja '58.
          (Slag)   (Conveying machinery)   (MIRA 11:1)

SHPUNTOVA, M.Ye.; SHNAYDER, Ye.Ye.; CHEPUGO, S.V.; LAZAREVA, L.V.;
    MASLOVA, L.G.; ROSHCHINA, V.I.; Prinimali uchastiye: PAVLENKO, V.M.,
    starshiy laborant; GERASIMOVA, L.I., starshiy laborant

Pentose hydrolysis of cottonseed hulls and corncobs with hexose
hydrolyzates. Sbor.trud. NIIGS 11:7-15 '63.   (MIRA 16:12)

CHEPUKHALIN, I., inzh.

Ways of eliminating nonproductive idle time of ships in ports. Mor. flot 19 no.7:6-9 Jl '59.

(MIRA 12:10)

1.Sluzhba portov i morskikh putey Kaspiyskogo parokhodstva.
(Harbors)   (Loading and unloading)

CHEPUKHALIN, I.,inzh.

Practical problems in standardizing the loading and unloading
of ships in sea harbors. Mor.flot 20 no.10:7-9 0'60. (MIRA 13:10)

1. Sluzhba portov i morskikh putey Kaspiyskogo parokhodstva.
        (Cargo handling—Standards)

CHEPUKHALIN, I., inzh.

Increase the responsibility for freight carried in mixed
communications. Mor. flot 20 no. 12:4-5 D '60.   (MIRA 13:12)

1. Sluzhba portov i morskikh putey Kaspiyskogo parokhodstva.
        (Freight and freightage)

CHEPUKHALIN, I., aspirant

Ways to improve the methods of calculating labor productivity
indices for loading and unloading operations in sea harbors.
Mor.flot 22 no.1:6-9 Ja '62.   (MIRA 15:1)

1. Institut kompleksnykh transportnykh problem.
                (Cargo handling.-Labor productivity)
                        (Longshoremen)

ZININ, V.; PAPER, A.; CHEPUKHALIN, I., aspirant

The planning of sea harbor operations should meet modern
objectives. Mor. flot 23 no.9:14-16 S '63.   (MIRA 16:11)

1. Nachal'nik otdela truda i zarabotnoy platy Kaspiyskogo
parokhodstva (for Zinin). 2. Nachal'nik planovogo otdela
Bakinskogo porta (for Paper). 3. Institut kompleksnykh
transportnykh problem (for Chepukhalin).

CHEPUKHALIN, I., aspirant

Regulate volume measurements in the loading and unloading of cargo in harbors. Mor. flot 23 no. 12:12-14 D '63.   (MIRA 17:5)

1. Institut kompleksnykh transportnykh problem.

CHEPULIS, I.I.

"Reserve Alkalinity, Carbon Anhydrase, and Blood Gases During Experimental
Pneumonia." Cand Vet Sci, Leningrad Veterinary Inst, Leningrad, 1954.
(RZhBiolKhim, No 7, Apr 55)

SO: Sum.No. 704, 2 Nov 55 – Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (16).

CHEPULIS, I.P., Cand Agr Sci—(diss) " Growth, development, productivity, and certain biological characteristics of crossbred and purebred hens under conditions of Lithuanian SSR." Len, 1958. 22 pp (Min of Agr USSR. Len Vet Inst. Chair of Animal Husbandry), 100 copies (KL,26-58,114)

—117—

GABRIOLAVICHUS, V.I. [Gabriolavicius, V.]; CHEPULIS, I.I. [Cepulis, F.]

Percussion of the ventral part of the abdominal wall in traumatic
reticuloperitonitis. Veterinariia 39 no.1:49-51 Ja '63.
(MIRA 16:6)
(Peritonitis) (Percussion) (Lithuania--Cattle--Diseases and pests)

YANONIS, B.P. [Janonis, B.], dotsent; CHEPULIS, I.I. [Cepulis, I.], dotsent;
BAKUNAS, I.I., ordinator

Rumenography in traumatic reticulitis of cattle. Veterinariia 40 no.9:
53-55 S '63.   (MIRA 17:1)

1. Litovskaya veterinarnaya akademiya.

Name: CHEPULIS, Stanislav Pavlovich

Dissertation: Dynamics of dental carries

Degree: Doc Med Sci

Affiliation: Kaunas State Med Inst

Defense Date, Place: 13 Jan 54, Council of Inst of Experimental Medicine, Acad Sci Lithuanian SSR

Certification Date: 16 Mar 57

Source: BMVO 13/57

CEPULYTE, V.

Stratigraphy of the Pleistocene deposits in Lithuanian SSR.

p. 53 (Moksliniai Pranesimai) Vol. 4, 1957, Vilnius, Lithuania

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

CEPULYTE, VALERIJA.

Lietuvos zemes pavirsius. Vilnius, Valistybine politines ir mokslines literaturos leidykla, 1957. 99. (4) p. (Pazinkime Lietuva) (The relief of Lithuania.)

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. VOL. 7, NO. 1, JAN. 1958

CEPULYTE V.

CEPULYTE, V.

The geomorphological map of Lithuanian SSR.

p. 265 (Moksliniai Pranesimai) Vol. 4, 1957, Vilnius, Lithuania

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

CEPULYTE, V.

GEOGRAPHY & GEOLOGY

MOKSLINIAI PRANESIMAI.

CEPULYTE, V. Geomorphological districts of Lithuania and their geologic
            development. p. 23.

Vol. 6, 1958.

Monthly List of East European Accession (EEAI) LC Vol. 8, No. 3
                                          March 1959, Unclass.

CHEPULITE, V. A.[Cepulyte, V.]

Various conceptions of the term end moraine. Liet ak darbai B
no.1:195-206 '61.   (KEAI 10:9)

1. Institut geologii i geografii Akademii nauk Litovskoy SSR.

(Moraines)

GRIGYALIS, A.A.[Grigelis, A.], kand. geol.-min. nauk, otv. red.;
    VONSAVICHYUS, V.P. [Vonsavicius, V.], red., GUDYALIS,
    V.K. [Gudelis, V.], red.; DALINKEVICHYUS, I.A.
    [Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;
    KISNERYUS, Yu.L. [Kisnerius, J.], red.; CHEPULITE, V.A.
    [Cepulyte, V.], red.; ASSOVSKIY, A.N., glav. red.

[Study of the geology of the U.S.S.R.] Geologicheskaia
izuchennost' SSSR. Glav. red. A.N.Assovskii i dr. Vil'nius,
AN Litovskoi SSR. Vol.43.[Lithuanian S.S.R.; the period of
1800-1955] Litovskaia SSR; period 1800-1955. No.1. [Published
works] Pechatnye raboty. 1962. 257 p.   (MIRA 17:8)

1. Institut geologii i geografii AN Litovskoy SSR (for
Grigyalis).

CHEPULITE, V.A. [Cepulyte,V]

Basic bands of marginal formations in Lithuania and adjacent areas. Trudy AN Lit. SSR. Ser. B no.1:189-197 '62

(MIRA 17:8)

1. Institut geologii i geografii AN Litovskoy SSR.

CHEPULITE, V.A. [Cepulyte, V.]

Stratigraphic division of Quaternary sediments in the vicinity
of Vilnius. Trudy AN Lit. SSR Ser. B no.3:53-86 '63.

(MIRA 18:3)

1. Institut geologii i geografii AN Litovskoy SSR.

CHEPULITE, V.A. [Cepulyte, V.A.]

Phase bands of the relief of the Recent Quaternary glaciation in the southeastern part of the Baltic Sea region. Trudy Kom. chetv. per. 21:92-98 '63. (MIRA 16:10)

1. Institut geologii i geografii AN Litovskoy SSR.

CHEPULITE, V.A. [Cepulyte, V.]

Stratigraphic division of Quaternary sediments in the surroundings of Kaunas. Trudy AN Lit. SSR. Ser.B no.1:77-103 '65.   (MIRA 18:7)

1. Institut geologii i geografii AN Litovskoy SSR.

GARUNKSHTENE, S.S.[Garunkstiene, S.]; GRIGYALIS, A.A.[Grigelis, A.],
kand. geo.-miner. nauk; VONSAVICHYUS, V.P.[Vonsavicius, V.],
red.; GAYGALAS, A.I.[Gaigalas, A.], red.; DALINKEVICHYUS,
I.A.[Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;
KISNERYUS, Yu.L.[Kisnerius, J.], red.; CHEPULITE, V.A.
[Cepulyte, V.]., red.

[Study of the geology of the U.S.S.R.] Geologicheskaia izu-
chennost' SSSR. Vil'nius, Mintis. Vol.43. No.1. 1964. 244 P.
                                              (MIRA 18:10)

CHEPUL'SKIY, V.G.

  Device for fitting pump rotor wheels. Mashinostroenie no.4:33 Jl-
  Ag '63.   (MIRA 17:2)

OKARA, V.G.; CHEPUR, A.Ye.

Continuous line for the production of wide-flange I-beams.
Biul.tekh.-ekon.inform. no.12:3-5 '61.   (MIRA 14:12)
                      (Rolling mills)

AKOP'YAN, A.S., red.; CHEPUR, B.D., red.

[Index of technical specifications for the Ukrainian S.S.R.
as of January 1, 1961]Ukazatel' respublikanskikh tekhniche-
skikh uslovii USSR; po sostoianiiu na 1 ianvaria 1961 goda.
Izd. ofitsial'noe. Kiev, Otdel novoi tekhniki nauchno-issl.
i proektnykh organizatsii. Podotdel standartov, 1961. 73 p.
(MIRA 15:12)

1. Ukraine. Gosudarstvennaya planovaya komissiya.
    (Ukraine--Standards, Engineering)

DANILEYKO, Vladimir Ivanovich[Danyleiko, V.I.]; CHEPUR, B.D.,
red.; LIBERMAN, T.R., tekhn. red.

[Life under space-flight conditions] Zhyttia v umovakh kos-
michnoho pol'otu. Kyiv, Vyd-vo Akad. nauk URSR, 1961. 79 p.
(MIRA 15:4)

(SPACE BIOLOGY)   (SPACE MEDICINE)

U. S. S. R.

This is an impr...
...for deter...
interferometrically...
...for certain...
...containing spaces...

...
M. MURRAY

Chepur, D.V.
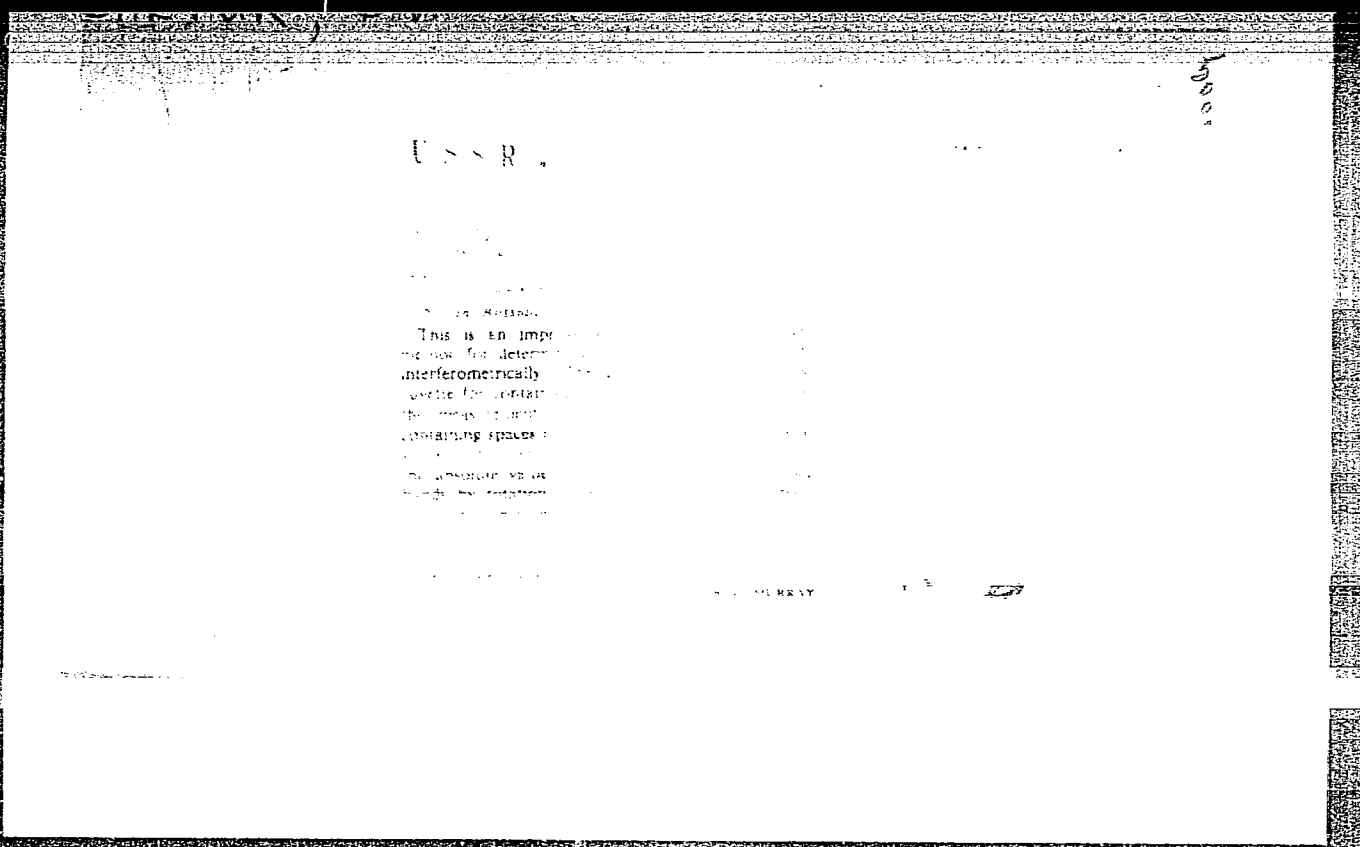
Polarization properties of spectral apparatus. D. V. Chepur and N. G. Tsvetykh. Zhur. Tekh. Fiz. 25, 410-20 (1955).—Some results for interference bands obtained by use of the I.S.P.-51 for various slit widths and wave lengths, and for a CdS monocrystal, are illustrated. F. H. R.

CHEPUR, D.V.

USSR/Physics - Conductivity of HgI_2 semiconductor

FD-3126

Card 1/2   Pub.   153 - 1/19

Author   : Chepur, D. V.; Petrusevich, V. A.

Title   : Additional conductivity of HgI_2 under the action of x-rays

Periodical : Zhur. tekh. fiz., 25, No 9 (September), 1955, 1523-1529

Abstract   : The authors discuss the problem of developing and studying the photo-
electric properties of effective semiconductor receivers of x-rays and
the fact that certain semiconductors when irradiated by x-rays change
their resistance by tens and hundreds of thousands of times, which
therefore can serve as indicators of x-rays of even insignificant in-
tensities. They note that S. V. Svechnikov (ibid., 22, 8, 1952) demon-
strated that high sensitivity to x-rays is observed in CdS single-crys-
tal, which is used now for certain practical purposes but is in limited
use because of its considerable lifetime of photocurrent carriers. The
authors discuss their experiments on HgI_2, which shows extreme sensi-
tivity to x-rays and considerably less inertia than CdS as indicated
by oscillograms of photocurrent pulses (photocurrent in HgI_2 falls to
zero in time equal to 0.001-0.002 second). They study the voltampere
characteristics, lux-ampere characteristics, the sign of the photocur-
rent carriers. They establish that the photo sensitivity of HgI_2 es-
sentially depends upon spectral composition of x-ray radiation and

Card 2/2   FD-3126

increases with the brightness of the x-rays. They show that the photo-
current carriers are electrons and that the photo-resistance of HgI_2 is
of small inertia (time of relaxation equals about 0.001 second). Illumi-
nation by visible light can condition the increase in photocurrent by
several times. The magnitude preparation of HgI_2 specimens. The authors
thank Professor V. Ye. Lashkarev, Active Member of Academy of Sciences
of Ukrainian SSR, for his advice and interest. Three references: e.g.
I. V. Poroykov, Rentgenometriya.

Institution :   --

Submitted   : March 28, 1955

Photoconductivity of [illegible] in visible light
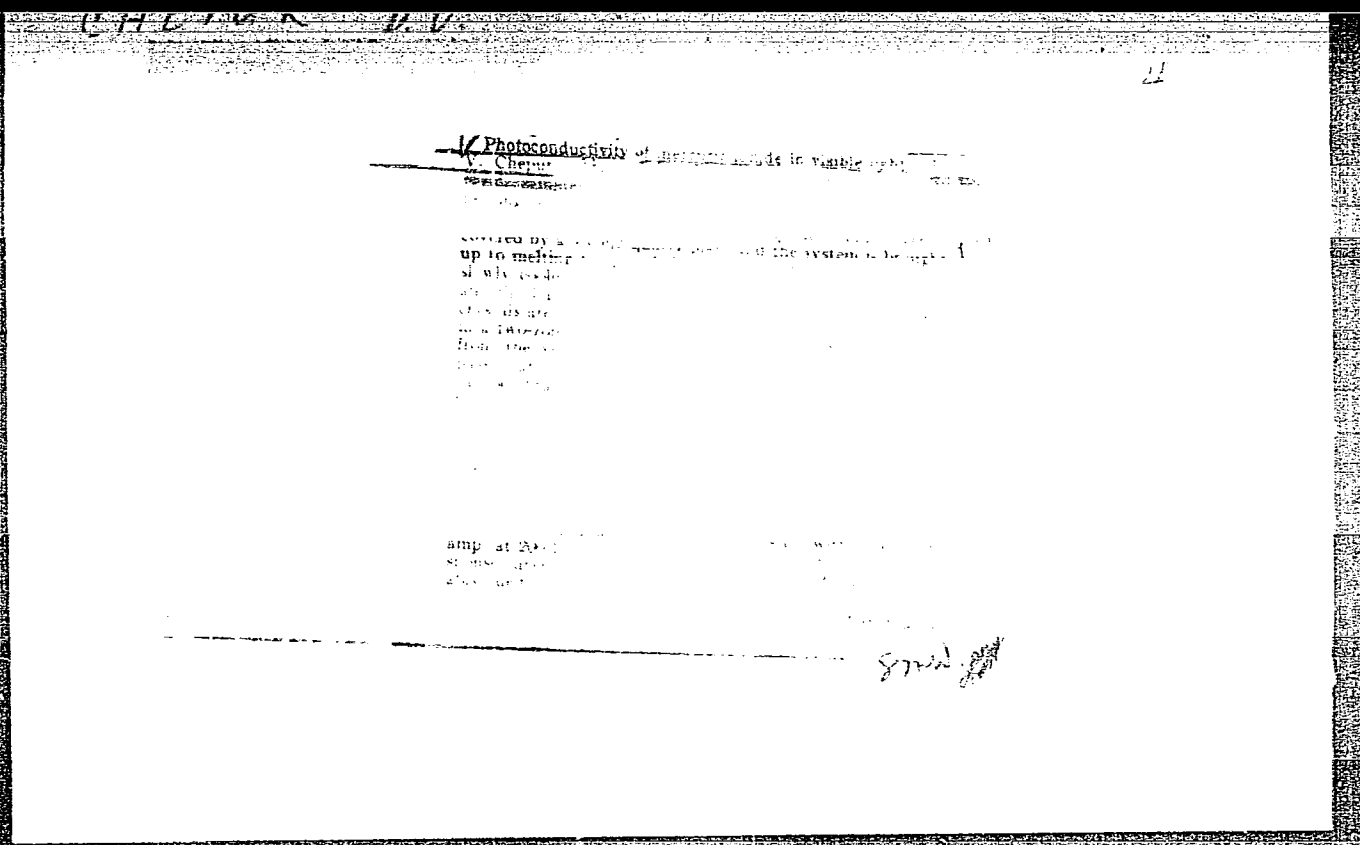
CHEPUR, D.V.

Photoresistance of polycrystaline mercury iodide plated. Nauk
povid. KDU no.1:30 '56.   (MIRA 11:4)
          (Mercury iodides--Optical properties)
               (Photoconductivity)

CHEBPOR, D.V.

A new effective detector for x-rays. D. V. Chepur, V. O. Petrusevich, and B. M. Bondarenko. *Nauk. Zapishi Nauk. Dershav. Univ. im. T.G. Shevchenko* 15, No. 9, *Zhurnik Fiz. Fak.*, No. 5, 85-92(1956).—It was discovered that HgI₂ is very sensitive to a beam of x-rays. HgI₂ should be applied for use with hard x-rays. The x-rays bring about a photo-elec. current, which can be amplified by the use of visible light. HgI₂ can be used this way for the construction of photoresistors.
                                    Werner Jacobson

Chepuk, D. V.

Category : USSR/Electricity - Semiconductors   G-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4214

Author   : Chepur, D.V., Red'ka, O.A.
Title   : Effect of Temperature on the Photoconductivity of Polycrystalline
           Plates of HgI_2.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 3, 553-559

Abstract : Polycrystalline layers of HgI_2 were prepared by evaporating the salt
           on the surface of a quartz plate and by further melting the obtained
           layer between two quartz plates. The layers were then separated and
           electrodes deposited on them. The resistivity of the layers was
           approximately 10^{13} ohm cm and dropped to 10^8 -- 10^6 ohm cm upon
           illumination. The dark current and the photocurrent increased with
           increasing temperature. The transformation of the red modification
           of HgI_2 into a yellow one at 125° is accompanied by an increase in the
           dark resistivity and photoresistivity. The spectral characteristic has
           one maximum in the ultraviolet region, and another at $\lambda_{max} = 590$
           millimicrons. Increasing the temperature increases λ_{max}. Two compon-
           ents of photoconductivity were observed with $\tau = 10^{-3}$ seconds and

Card   : 1/2

Category : USSR/Electricity - Semiconductors   G-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4214

2×10^{-3} seconds (at 20°). Illumination with white light causes t
to increase. The photosensitivity diminishes with the frequency
at 20°. It was found that the mobility and concentration of the
carriers are 10 cm^2/v. sec. and 5×10^9 cm^{-3} respectively. The
quantum yield is 5%. Treating the layer with NH_3 with subsequent
drying (50 -- 60°) and cooling to room temperature increases the pho-
to sensitivity by 5 -- 10 times. A similar result is obtained by adding
Te.

Card   : 2/2

The influence of temperature on the photoconductivity of polycrystalline plates of HgI. D. V. Chepur and O. A. Rod'ka. S (translation). — See
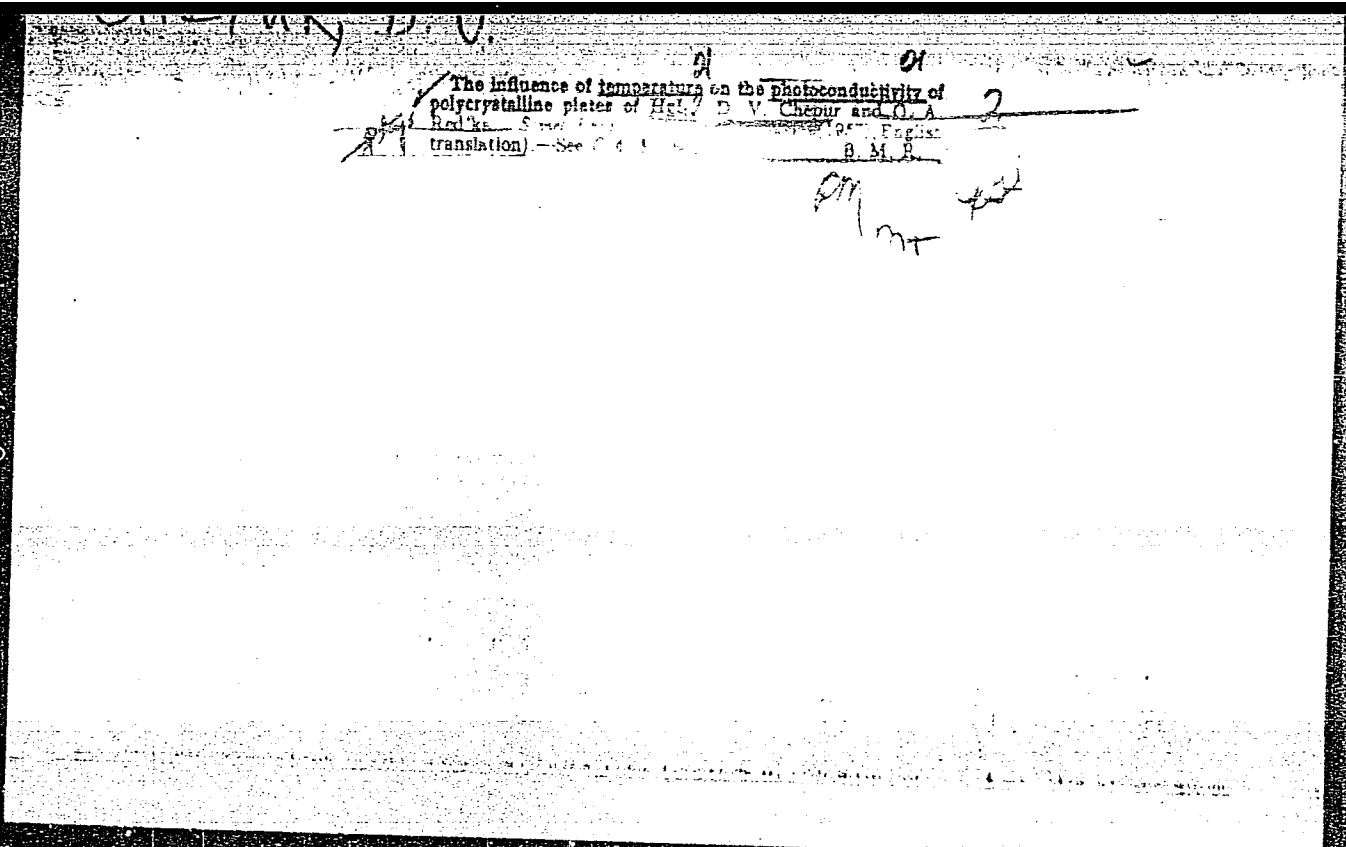
AUTHOR   CHEPUR, D.V.   PA - 2587
TITLE   Photo-electrical and Optical Properties of H_gJ_2.

              Fotoelektricheskiye i opticheskiye svoystva H_gJ_2 - Russian
PERIODICAL   Radiotekhnika i Elektronika, 1957, Vol 2, Nr 3, pp 278-286 (U.S.S.R)
              Received 5/1957   Reviewed 6/1957

ABSTRACT   Lecture delivered at the All Union Conference for Semiconductors in No-
              vember 1955 at Leningrad. This paper deals with the following 2 problems:
              1. Explanation of phenomena of electron processes due to absorbed electro-
              magnetic radiation. 2. Relation between optic and photoelectric properties
              and the reasons for the particular characteristic features of individual
              samples. A procedure was developed for purposes of breeding monocrystals
              from a solution in acetone from a melt and by the evaporation of H_gJ_2 from
              the solid phase and in order to produce polycrystalline plates and films.
              The same results were obtained by investigations carried out both with
              monocrystals and plates. Rectangular and sinusoidally modulatied light
              produced by ordinary mechanical modulators was used. The life of photocur-
              rent carriers was determined according to the descending branch of photo-
              current pulses. It depends on the wave lenght and attains its maximum at
              wavelenghts which correponds to the maximum of photosensitivity of the
              sample concerned in the visible domain of the spectrum. Additional illu-
              mination with constant intensity with white or monochromatic light at a
              wave lenghth of 550 m increases the life of the photocurrent carriers. If
Card 1/2   temperature rises to 40-50° C the time characterizing most samples rema-

Photo-electrical and Optical Properties of H_gJ_2.   PA - 2587

ins unchange. In the case of a further increase of temperature life di-
minshes noticeable until photoactivity exists (the red modification turns
yellow). Results show that H_gJ_2 may be used for the production of effi-
eacious photoresistances.
(8 ill. and 6 citations from publications in Slav languages).

ASSOCIATION   State Universities of Kiev and Uzhgorod
PRESENTED BY
SUBMITTED
AVAILABLE   Library of Congress
Card 2/2

CHEPUR, D.V., Cand Phys Math Sci -- (diss) "Photoelectrical
and optical properties of bi-iodide of mercury." Kiev,

1958, 12 pp (Min of Higher Education UkSSR. Kiev State

Univ) 150 copies (KL, 50-58, 120)

- 15 -

24.7700

67202

SOV/58-59-7-15782

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 161 (USSR)

AUTHORS: Chepur, D.V., Nasekovskiy, A.P.

TITLE: Effect of Admixtures of Tellurium and Vapors of Certain Substances on the Photoconductivity of Polycrystalline Plates of Mercurous Iodide

PERIODICAL: Dokl. i soobshch. Uzhgorodsk. un-t, 1958, Nr 2, pp 23 - 24

ABSTRACT: The authors demonstrated experimentally that even minute amounts of Te (less than 0.001%) have a substantial effect on the magnitude and character of photoconductivity in polycrystalline plates of mercurous iodide. In the presence of admixtures of Te photoconductivity increases, inertness ordinarily decreases somewhat, and spectral characteristics spread appreciably in the direction of the longer wavelengths. As the concentration of Te is gradually increased, photoelectric sensitivity rises, while specific resistivity and inertness fall off. The enhanced sensitivity and reduced inertness point to an increase in the quantum

Card 1/2

67202

SOV/58-59-7-15782

Effect of Admixtures of Tellurium and Vapors of Certain Substances on the Photoconductivity of Polycrystalline Plates of Mercurous Iodide

yield of the photocurrent. A significant enhancement of the sensitivity of the investigated samples was also observed when they were placed in an atmosphere of vapors of ammonia, acetone, and ethyl and isoamyl alcohol.

N.V. Vasil'chenko

Card 2/2

41654
S/058/62/000/010/073/093
A061/A101

AUTHORS: Dovgoshey, N. I., Chepur, D. V., Popovich, P. Yu.

TITLE: Dependence of the degree of photosensitivity of mercuric iodide
            samples on the frequency of an applied external field

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1962, 45, abstract 10E349
            ("Dokl. i soobshch. Uzhgorodsk. un-t. Ser. Fiz.-matem. n.", 1961,
            no. 4, 52 - 53)

TEXT: It is shown that the sensitivity of mercuric iodide photoresistance
cells fed by alternating voltage exceeds by several times their sensitivity in
the case of constant voltage feeding. The explanation is that an alternating
field does not permit the formation of a space charge that would lead to sample
polarization.

[Abstracter's note: Complete translation]

Card 1/1

39141
S/058/62/000/006/132/136
A062/A101

9.4160

AUTHORS: Kopinets, I. F., Chepur, D. V.

TITLE: Effect of vapor adsorption of certain substances on the static
               characteristics of photoresistors made of mercury iodide

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 29, abstract 6-3-57y
               ("Dokl. i soobshch. Uzhgorodsk. in-t. Ser. fiz.-matem. n.", 1961,
               no. 4, 54 - 55)

TEXT: The effect of vapor adsorption of certain substances on the photo-
conductivity of mono- and polycrystal specimens of mercury iodide, HgI_2, was in-
vestigated. Vapors of ether and ethyl alcohol substantially increase the photo-
sensitivity. Vapors of isoamyl alcohol have little effect. Vapors of benzol have
practically no effect on the photosensitivity of HgI_2 specimens. The influence
of the vapors is explained by the fact that adsorption considerably decreases the
surface recombination rate of the photocarriers by increasing their life duration.
This fact is confirmed by the investigations of the photoconductivity kinetics.
Vapor adsorption leads also to an increase in the dark conductivity of the speci-

Card 1/2

Effect of vapor adsorption of...

S/058/62/000/006/132/136
A062/A101

mens and a change in the shape of the spectral characteristics of the photocon-
ductivity. There are 2 references.

V. L.

[Abstracter's note: Complete translation]

Card 2/2

L 10620-65 EWT(1)/EWG(k)/EPF/EEC(b)-2   Pz-6/Ps-4   AEDC(b)/LJP(c)/ASD(a)-5/SSD/
AFWL/ESD(t)/RAEM(t)   AT

ACCESSION NR: AT4046105   S/3114/61/000/004/0058/0059

AUTHOR: Semak, D. G., Chepur, D. V.

TITLE: Some thermoelectric properties of cuprous iodide   B

SOURCE: Uzhgorod. Universitet. Doklady* i soobshcheniya. Seriya fiziko-mathemati-
cheskikh nauk, no. 4, 1961, 58-59

TOPIC TAGS: cuprous iodide, thermoelectric property, resistor, semiconductor,
conductivity, thermocouple

ABSTRACT: This note presents some data on the thermoelectric properties of pressed
semicrystalline "tablets" of cuprous iodide having a resistivity at room temperature of
2×10^3 ohm/cm. It was found that for the range 20--80C, a 1C increase in temperature
lowered the resistance by 20 ohms. The thermoelectromotive force of cuprous iodide
amounts to $3-5 \times 10^{-4}$ volts/degree. It was found that when the cool electrode is kept at
room temperature, the thermoelectromotive force depends in a linear fashion on the
temperature gradient between the electrodes, varying from 4.6 to 27.6 mv as the
temperature gradient increased from 15 to 75C. Cuprous iodide may therefore be useful
in the measurement of temperature gradients. Orig. art. has: 1 table.

Card 1/2

L 10620-65

ACCESSION NR: AT4046105

ASSOCIATION: Uzhgorodskiy gosuniversitet (Uzhgorod State University)

SUBMITTED: 00   ENCL: 00   SUB CODE: SS

NO REF SOV: 000   OTHER: 000

Card 2/2

L 6678-65   EWT(l)/EPA(s)-2/EWG(k)/EWT(s)/EPF(s)/EEC(k)-2/EEC/T/EEC(b)-2/EWP(b)/
EWA(h)/EWP(j)/   Ps-4/Ps-6/Po-4/Pr-4/Ps-4/P4-10/Feb   LJP(c)/AS(mp)-2/ATWL/SSD/
ACCESSION NR: AT4046106   ESD(t) RAEM   AWH/JD/WW   8/3114/6170000/004/0081/0062
                        JG/RM

AUTHOR: Chepur, D. V., Dovgoshey, N. I., Kopinets, I. F.

TITLE: The stability of operation and possibility of practical application of photoresistors
of mercurous iodide

SOURCE: Uzhgorod. Universitet. Doklady i soobshcheniya. Seriya fiziko-mathemati-
cheskikh nauk, no. 4, 1981, 61-62

TOPIC TAGS: photoresistor, photoconductivity, electrode, roentgenography, mercurous
iodide

ABSTRACT: The authors note briefly that photoresistors of mercurous iodide have a period
of "aging", which lasts for a few days, and during which the sensitivity usually decreases
by 30-40% (in rare cases by up to 60-70%). After this period of aging, the changes cease
and the operation of the photoresistor is quite stable. Experiments lasting 8-12 months
have shown that many of the photoconductivity characteristics do not vary with use.
However, the electrodes do seem to play an active role in guaranteeing the stability of
operation of the photoresistor; coating the electrodes with a thin film of polystyrene or

Card 1/2

L 8678-65
ACCESSION NR: AT4046106

VF-2 adhesive is recommended. The stability of the photoconductivity characteristics indicates that photoresistors of mercurous iodide may be useful in light meters, in portable dosimeters for ionizing radiation, and to replace resistors of cadmium sulfate.

ASSOCIATION: Uzhgorodskiy gosuniversitet (Uzhgorod State University)

SUBMITTED: 00

NO REF SOV: 000

S/058/62/000/006/033/136
A061/A101

AUTHORS: Turyanitsa, I. D., Chepur, D. V., Koperles, B. M.

TITLE: A photoelectric study of absorption, reflection, and dispersion of
              mercurous iodide specimens

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 33, abstract 6V220
              ("Dokl. i soobshch. Uzhgorodsk. un-t. Ser. Fiz.-matem. n.", 1961,
              no. 4, 60)

TEXT: The curves of absorption, reflection, and dispersion of mercurous
iodide single crystals and polycrystalline films were measured at room tempera-
ture. The principal absorption maximum was situated in the ultraviolet, and the
additional one (580 mμ) was due to stoichiometric iodine excess. The reflection
factor was $\approx$10% and $>$20% in the red and violet spectrum regions, respectively.

[Abstracter's note: Complete translation]

Card 1/1

L 16188-63   EWT(1)/EWT(m)/EWP(q)/BDS/EEC(b)-2   AFFTC/ASD/ESD-3/IJP(C) JD/AB

ACCESSION NR: AR3005166   S/0058/63/000/006/B081/B081

SOURCE: RZh. Fizika, Abs. 6 E545   66

AUTHORS: Kopinets, L. F.; Chepur, D. V.

TITLE: Effect of adsorption of molecules of some substances on the photo-
conductivity and dark conductivity of mercury-iodide specimens

CITED SOURCE: Dokl. i soobshch. Uzhgorodsk. un-t. Ser. Fiz.-matem. i istor. n.,
No. 5, 1962, 58-59

TOPIC TAGS: Mercury iodide, photoconductivity, dark current, adsorption of
molecules, ethyl alcohol, methyl alcohol, benzene, acetone, water, air

TRANSLATION: Results are reported of experimental investigations of the influence
of adsorption of molecules of different substances on the dark current and the
kinetics of photoconductivity of mercury iodide specimens obtained by sublimation
from the gas phase. The adsorption of molecules of ethyl and methyl alcohol and
acetone increases appreciably (by 2-3 orders of magnitude) the dark conductivity,
the lifetime of the photocurrent carriers, and its quantum yield. On the other

Card 1/2.

L 16188-63

ACCESSION NR: AR3005166   O

hand, adsorption of molecules of benzene, water, and air does not exert a notice-
able influence on the aforementioned parameters. It follows therefore that in
the case of adsorption of vapor of alcohol and acetone there occurs not only
physical adsorption, but also chemisorption, which causes the occurrence of addi-
tional energy levels, on which dissociation of excitons take place. This increases
the concentration of the free carriers, i. e., increases the conductivity.
F. Nad'.

DATE ACQ:15Jul63   SUB CODE: PH   ENCL: 00

Card 2/2

L 8380-65   EWT(1)/EWG(k)/EEC(t)   Pz-6   IJP(c)/SSD/AS(mp)-2/AFWL/ESD(gs)/ESD(t)/
RAEM(t)   AT
ACCESSION NR: AR4044021

S/0058/63/000/011/A024/A024

SOURCE: Ref. zh. Fizika, Abs. 11A244

AUTHOR: Goncharenko, Ye. T.; Dovgoshey, N. I.; Chepur, D. V.

TITLE: Certain specific properties of photoresistors during work with variable
fields of differing frequencies

CITED SOURCE: Dokl. i soobshch. Uzhgorodsk. un-t. Ser. fiz.-matem. i istor. n.,
no. 5, 1962, 59-61

TOPIC TAGS: photoresistor, photoconductivity, photosensitivity

TRANSLATION: Investigates the dependence of the value of photoconductivity of
factory photoresistors FS-K1,   FS-DO, and FS-D1 on the frequency of the ap-
plied external field. It is shown that the shape of the volt-ampere and the lux-
ampere characteristics of all types of photoresistors when working with variable
fields remains the same as in the case of an equivalent constant field. In the
investigated range of frequencies (50-20,000 cps) the magnitude of the photosensi-
tivity is not a function of the frequency of the applied external field, and is

Card 1/2

L 8380-65
ACCESSION NR: AR4044021

2-3 times greater than the value of the photosensitivity corresponding to a constant field.

SUB CODE: EC, EM   ENCL: 00

Card 2/2

L 16187-63   EWA(h)/EWT(1)/EWP(q)/EWT(m)/BDS/EEC(b)-2   AFFTC/ASD/ESD-3/IJP(C)

ACCESSION NR: AR3005167   RDW/WW/JD   8/0058/63/000/006/E095/E095

69

SOURCE: RZh. Fizika, Abs. 6 E637

AUTHORS: Dovgoshey, N. I.; Chepur, D. V.; Skunts, V. A.

TITLE: Added conductivity of polycrystalline specimens of cadmium selenide induced by x-rays

CITED SOURCE: Dokl. 1 soobshch. Uzhgorodsk. un-t. Ser. Fiz.-matem. i istor. n., no. 5, 1962, 61-64

TOPIC TAGS: Cadmium selenide, additional conductivity, photoconductivity, x-ray, dosimetry

TRANSLATION: A detailed investigation was made of the additional conductivity of polycrystalline specimens of CdSe, induced by x-rays. The volt-ampere characteristics of photoresistors FS-DO and DS-DI in darkness and under irradiation are nonlinear and are described by a power-law dependence with exponent equal to 1.2--1.5 for FS-DQ and 1.05--1.25 for FS-DI. A decrease in the hardness of the x-rays improves the linearity of the volt-ampere characteristics. The value of the additional current depends little on the hardness of the x-rays. The photo-

Card 1/2

L 16187-63

ACCESSION NR: AR3005167 O

resistors FS-DO and FS-D1 were found to be highly sensitive to x-rays and can be
used as transducers for dosimeters for soft x-rays. F. Nad'.

DATE ACQ: 15Jul63   SUB CODE: PH   ENCL: 00

Card 2/2

CHEPUR, D.V.; DOVGOSHEY, N.I.; TIMOSHIN, V.P.

New variant of an apparatus for studying the rectifying
properties of low-power semiconductor diodes. Dokl. i soob.
UzhGU. Ser. fiz.-mat. i ist. nauk no.5:64-65 '62.

(MIRA 17:9)

L 13047-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   RDW/JD
ACCESSION NR: AT3002997   S/2927/62/000/000/0141/0144

AUTHOR: Dovgoshey, N. I.; Chepur, D. V.

TITLE: Properties of film detectors based on cadmium selenide [Report of the
All-Union Conference on Semiconductor Devices held in Tashkent from 2 to 7 October
1961]

SOURCE: Elektronno-dy*rochny*ye perekhody* v poluprovodnikakh. Tashkent, Izd-vo
AN UzSSR, 1962, 141-144

TOPIC TAGS: cadmium selenide film detector

ABSTRACT: Two objects are described in the article: (1) a cadmium-selenide film
detector developed by the authors and (2) a special electronic outfit for testing
the detector. Copper, brass, aluminum, and nickel-plated iron (roved the best)
PLATES WERE VACUUM SPRAYED WITH CdSe, formed, and tested. Depending on the thick-
ness of CdSe film, the best durable-formation voltage was found to be 10 to 70 v.
Variation of characteristics with the time of continuous operation (up to 30 min)
was observed: rectification factor changed from 200 to 1,000 in some cases. A
special electronic tester was developed for measuring current-voltage and dynamic
characteristics and for forming and welding the rectifiers. The tester and its
operation procedures are described in detail. Orig. art. has: 1 figure.
Card 1/2.   AS USSR; AS UzSSR; Tashkent State Univ.

DOVGOSHEY, N.I.; CHEPUR, D.V.

Unit for investigating rectifying properties of low-power crystal
diodes. Izv.vys.ucheb.zav.; prib. 6 no.6:137-139 '63.
(MIRA 17:3)

1. Uzhgorodskiy universitet. Rekomendovana kafedroy obshchey
fiziki.

L 3446-66   EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b)   IJP(c)   RDW/JD/GS
ACCESSION NR: AT5020487
UR/0000/64/000/000/0405/0413
53
B+1

AUTHORS: Chepur, D. V.; Dovgashey, N. I.; Goncharenko, Ye. T.

TITLE: Concerning contacts and certain properties of mercuric iodide photo-resistors

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk. 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 405-413

TOPIC TAGS: mercuric iodide, photoresistor, photosensitivity / SG 2M electrometer, IZA 2 comparator, ZG 10 audio oscillator, 1321 V voltmeter

ABSTRACT: Experiments were performed with pure and impure (with selenium admixture) mono- and polycrystalline specimens of mercuric iodide to determine the effect of contacts and to study the aging of photoresistors and some of their properties in variable electric fields. The specimens were prepared and the measurements were made by the procedures and apparatus described by D. V. Chepur (ZhTF, 25, 14, 1955). The field distributions along the specimens were plotted by the movable-probe method with platinum-wire electrodes with a diameter of

Card 1/3

L 3446-66

ACCESSION NR: AT5020487

O

0.3 mm. An SG-2M electrometer was used to measure voltage, and an IZA-2 compara-
tor was used to measure the distance between the probes. A ZG-10 audio oscilla-
tor and a 1321-V vacuum-tube voltmeter were also used. Aquadag and platinum were
found to be the best contact materials for HgI_2 photoresistors; their use provided
linear volt-ampere characteristics under illumination and in the dark. A typical
aging curve for one of the specimens is shown in Fig. 1 on the Enclosure. The
use of variable instead of constant electric fields led to an increase in photo-
sensitivity by a factor of 1.5-2, and also to an improvement in stability. Orig.
art. has: 6 graphs and 1 diagram.

ASSOCIATION: none

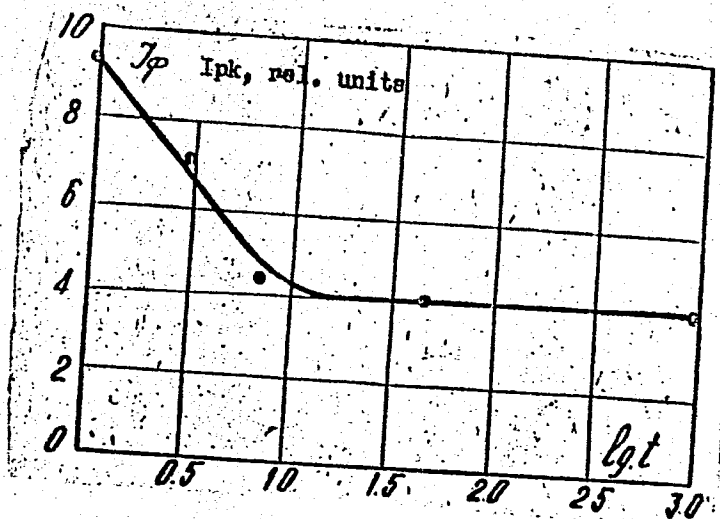SUBMITTED: 06Oct64   ENCL: 01   SUB CODE: SS

NO REF SOV: 010   OTHER: 001

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L 3446-66

ACCESSION NR: AT5020487

Fig. 1. Typical curve of aging of HgI_2 photoresistor with selenium admixture (0.1%)

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L 3447-66   EWT(m)/EPF(c)/T/EWP(t)/EWP(b)   IJP(c)   JD/GS
ACCESSION NR: AT5020488   UR/0000/64/000/000/0414/0421

_59_
_55_
_8+1_

AUTHORS: Kopinets, I. F.; Kuznetsova, S. T.; Chepur, D. V.

TITLE: The effect of adsorption of the vapors of certain substances on the photo-
electric properties of mercuric iodide

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike
poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962.
Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact
phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 414-421

TOPIC TAGS: adsorption, mercuric iodide, photoelectric property, carbon dioxide,
methane, hydrogen peroxide, ammonia, benzene, methanol, ethanol, ether, acetone,
cryostat, dark conductivity, semiconductor/ ML7/9 galvanometer

ABSTRACT: Experiments were performed on the effect of adsorption of carbon
dioxide, methane, water, hydrogen peroxide, ammonia, benzene, methanol, ethanol,
ether, and acetone on the dark conductivity, static characteristics, and kinetics
of the photoconductivity of single crystals and polycrystalline ingots of red
mercuric iodide. The work was performed to obtain information on the effect of
surface phenomena on the above characteristics of red HgI_2. Specimens with thick-

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L 3447-66
ACCESSION NR: AT5020488   4

nesses of from 1-2 to 0.01 mm--prepared by sublimation from the gaseous phase--were
studied in a cryostat, and the conductivity was measured with an M17/9 galvanometer.
It was found that adsorption of vapors of carbon dioxide, methane, water, benzene,
and ether have little effect on the dark conductivity, effective carrier lifetime,
and quantum yield of HgI_2, while vapors of methanol, ethanol, acetone, hydrogen
peroxide, and ammonia increase the photo- and dark conductivity, effective carrier
lifetime, and quantum yield. This increase was interpreted on the basis of F. F.
Vol'kenshteyn's theory of chemosorption (Elektronnaya teoriya kataliza na
poluprovodnikakh, Fizmatgiz, 1960) by free electrons and holes, as well as by
excitons, with the latter dominating. Orig. art. has: 4 graphs, 1 figure, and 3
formulas.

ASSOCIATION: Uzhgorodskiy gosuniversitet (Uzhgorod State University)

SUBMITTED: 06Oct64   ENCL: 00   SUB CODE: SS

NO REF SOV: 005   OTHER: 003

Card 2/2

ACC NR: AR6033781   SOURCE CODE: UR/0058/66/000/007/D089/D089

AUTHOR: Dovgoshey, N. I.; Chepur, D. V.; Nikolyuk, R. G.

TITLE: Some optical properties of thin CdS_x. $CdSe_{1-x}$ films

SOURCE: Ref. zh. Fizika, Abs. 7D717

REF SOURCE: Sb. tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 34-39

TOPIC TAGS: absorption spectrum, cadmium selenide film, reflection spectrum, cadmium sulfide film, metal film, reflection coefficient, mirror reflection, diffuse reflection, reflection, optics, optical property, solid solution, substitutional solid-solution

ABSTRACT: A study was made of reflection and absorption spectra in the 400—700-mμ range, of thin $CdS_{0.25}$. $CdSe_{0.75}$ films, 0.4—0.8-μ thick (the indices indicating the weights of the initial components), obtained on cold and heated (up to 300C) backings. All the films showed an inverse dependence of the effective coefficient of reflection R on the thickness of the film at all temperatures. This is explained by the fact that R is determined both by the mirror and diffuse reflection.

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AR6033781

A lower R value in films deposited on cold backings is explained by the smoothing out of the microrelief surface when a layer is deposited on a heated backing. The absorption spectrum of films deposited on hot backings is shifted toward the long-wave region, which is due to the somewhat larger amount of CdSe in the films than in those formed on cold backings. The conclusion is reached that $CdS_x. CdSe_{1-x}$ films represent a substitutional solid solution. S. Bureyko. [Translation of abstract]

SUB CODE: 20/

Card 2/2

L 00054-67   EWT(1)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/AT

ACC NR: AR6031889   SOURCE CODE: UR/0058/66/000/006/E095/E095

AUTHOR: Semak, D. G.; Chepur, D. V.; Goyer, D. B.

TITLE: Photostimulation and photoelectret state of mercury iodide single crystals

SOURCE: Ref. zh. Fizika, Abs. 6E748

REF SOURCE: Sb. Tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 47-52

TOPIC TAGS: electret, single crystal, mercury iodide, electrometer, photostimulation

ABSTRACT: It has been found that HgJ_2 single crystals possess electret properties at low temperatures. Investigation was carried out at 77K on single crystals of the red modification of HgJ_2, grown from a solution in an acetone. To detect the electret state, a standard procedure was used for measuring the polarization value according to the initial deflection of the electrometer upon depolarization by light. It is shown that the photoelectret properties of HgJ_2 are related to adhesion in this compound. F. Nad'. [Translation of abstract]
SUB CODE: 20/

Card 1/1 mc

L 00404-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD

ACC NR: AR6031894   SOURCE CODE: UR/0058/66/000/006/E100/E100

/ 5

AUTHOR: Turyanitsya, I. D.; Chepur, D. V.; Lada, A. V.

TITLE: Absorption and photoconductivity of mercury iodide

SOURCE: Ref. zh. Fizika, Abs. 6E790

REF SOURCE: Sb. tezisy dokl. k XIX Nauchn. konfernetsii. Uzhgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 65-68

TOPIC TAGS: mercury iodide, mercury iodide absorption, mercury iodide photoconductivity

ABSTRACT: Optical absorption and photoconductivity of HgJ single crystals was investigated. Prolonged exposure of HgJ crystals to light results in a chemical transformation of HgJ to HgJ_2 with the separation of Hg. Consequently, the HgJ single crystals were grown in the dark. HgJ was found to be transparent over a wide spectral region. A noticeable absorption starts with $\lambda \approx 5500$ Å, reaches its maximum at $\lambda \approx 5000$ Å and then decreases again. From one specimen to another, the absorption coefficient in the maximum fluctuates within

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L 09404-67

ACC NR: AR6031894

$700 - 1000 \cdot cm^{-1}$. Therefore, there is reason to consider that the maximum at $\lambda \approx 5000 \text{ Å}$ is not the basic maximum. It was found that HgJ also possesses considerable photoconductivity with a maximum of sensitivity (at room temperature) in the vicinity of   5500 Å   . The temperature coefficient of variation of the half-width of the absorption band of $1 \cdot 10^{-3}$ ev/degrees is determined on the basis of temperature dependences of the optical absorption curves. [Translation of abstract]

SUB CODE: 20, 09/

Card 2/2

L 03774-0.   EWT(l)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/GG

ACC NR: AR6031892   SOURCE CODE: UR/0058/66/000/006/E097/E097

AUTHOR: Magda, I. N.; Semak, D. G.; Chepur, D. V.

TITLE: The photodielectric effect of mercury iodide

SOURCE: Ref. zh. Fizika, Abs. 6E765

REF SOURCE: Sb. Tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t, 1965, Ser. fiz. Uzhgorod, 1965, 72

TOPIC TAGS: photodielectric effect, dielectric constant, space charge, grain boundary; mercury iodide

ABSTRACT: The photodielectric effect has been detected in HgJ_2.   When HgJ_2 placed as a dielectric between capacitor plates was illuminated, an increase in dielectric constant ε was observed. At low temperature this change is maintained with time, and with decrease in temperature value ε itself decreases only slightly. It is supposed that in HgJ_2 the photodielectric conductivity is linked to the formation of the space charge on the grain boundaries owing to the electron localization in the traps.
SUB CODE: 20, 09/

Card   1/1

L 08334-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD/JG

ACC NR: AR6017156   SOURCE CODE: UR/0275/66/000/001/B032/B032

AUTHOR: Chepur, D. V.; Dovgashey, N. I.; Goncharenko, Ye. T.

TITLE: Concerning contacts and certain photoresistive properties of mercury biiodide

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 1B251

REF SOURCE: Sb. Poverkhnostn. i kontaktn. yavleniya v poluprovodnikakh. Tomsk. Tomskiy un-t, 1964, 405-413

TOPIC TAGS: photoresistance, photoresistor, photoconductance, photoconductor, mercury compound

TRANSLATION: The effect of the contacts, the aging process and certain other properties of mercury biiodide photoresistors are investigated. The photoresistors were prepared from pure mono- and polycrystalline samples and from samples containing selenium impurities. The experimental investigations showed that it is most expedient to use aquadag or Pt which are quite stable over a wide temperature range. Curves are presented showing the electrical field distribution in the samples immediately after the deposition of the aquadag electrodes and after thorough drying; these curves prove that the photoresistors with freshly deposited contact have only a very low transfer resistance whereas after the drying of the electrodes the transfer contact resistance can be measured. The HgJ$_2$ photoresistor aging process occurs during the first 10-20 hrs

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L 08334-67

ACC NR: AR6017156   O

after their preparation and leads to a 60-70% reduction in photosensitivity; thereafter, the change in photosensitivity becomes negligible. The use of AC fields causes an increase in photosensitivity by a factor of 1.5 to 2 and improves the stability of the photoresistors. The voltage-current characteristics of HgJ_2 photoresistors retain their linearity but change the slope depending on whether AC (frequency 200 cps) or DC is used. The location of the peak spectral response of the photoresistors at 5800 Å is independent of the frequency of the applied field. 11 references. V. Shch.

SUB CODE: 07,02,20

Card 2/2   nat

L 09382-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD

ACC NR: AR6033773   SOURCE CODE: UR/0058/66/000/007/A050/A050   25

AUTHOR: Dovgoshey, N. I.; Chepur, D. V.; Gryadil', I. A.; Nikolyuk, R. G.; Yatskovich, I. I.

TITLE: Microrelief and structure of thin films of cadmium sulfide and cadmium selenide

SOURCE: Ref. zh. Fizika, Abs. 7A426

REF SOURCE: Sb. Tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 25-29

TOPIC TAGS: cadmium selenide, cadmium sulfide, thermal spraying, cadmium film

ABSTRACT: CdS_x and $CdSe_{1-x}$ films were obtained by thermal spraying under vacuum (10^{-4} mm) on cold glass backings and glass backings heated to 120, 200, 250, and 300C. Cadmium sulfide and cadmium selenide powders mixed in a specific ratio served as the source material. The films consisted of small crystals of fine crystals of a substitutional solid solution of $CdS_x \cdot CdSe_{1-x}$. It was found that the films have a hexagonal grain orientation with an axis [0001] perpendicular to the backing. The non-correspondence of the source material composition and the

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L 09382-67
ACC NR: AR6033773

films was shown. P. Agalaradze, abstracter. [Translation of abstract]

SUB CODE: 07, 11/

Card 2/2 mle

L 09381-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD

ACC NR: AR6033772   SOURCE CODE: UR/0058/66/000/007/A050/A050

AUTHOR: Dovgoshey, N. I.; Chepur, D. V.; Gryadil', I. A. $2 2$

TITLE: Effect of the temperature of the glass backing on structure of thin films of cadmium selenide and sulfide

SOURCE: Ref. zh. Fizika, Abs. 7A425

REF SOURCE: Sb. Tesisy dokl. k XIX Nauchn. konferentsif. Ushgorodsk. un-t, 1965. Ser. fiz. Uzhgorod, 1965, 30-34

TOPIC TAGS: cadmium selenide, cadmium sulfide, cadmium film, film orientation

ABSTRACT: CdSe and CdS films were obtained by thermal spraying of the respective compounds on cold glass backings and on glass backings heated to 60 to 400C. All CdS films were shown to be grain-oriented. With $t_n = 60C$, the fine crystals of the films are of a hexagonal modification with an axis [0001], perpendicular to the backing. With $t_n = 100-200C$, a cubic CdS modification appears with an axis [111] perpendicular to the backing. The CdSe films are likewise grain-oriented. When $t_n = 60-100C$, the hexagon axis [0001] is perpendicular to the backing plane. The

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L 09381-67

ACC NR: AR6033772   O

CdSe cubic phase appears when $t_n > 150C$. P. Agalaradze, abstracter. [Translation of abstract]

SUB CODE: 11, 07/

Card 2/2 mla

ACC NR: AR6031890   SOURCE CODE: UR/0058/66/000/006/E095/E095

AUTHOR: Turyanitsa, I. D.; Chepur, D. V.; Golovey, M. I.; Solyanik, E. Yu.;
Gurzan, M. I.

TITLE: Specific characteristics of antimony iodide photoconductivity and absorption

SOURCE: Ref. zh. Fizika, Abs. 6E749

REF SOURCE: Sb. Tezisy dokl. k XIX Nauchn. konferentsii. Uzhgorodsk. un-t,
1965, Ser. fiz. Uzhgorod, 1965, 58-65

TOPIC TAGS: iodide, antimony, antimony iodide, x ray structural analysis,
dark current, main absorption band

ABSTRACT: The photoelectrical and optical properties of SbJ_3 specimens obtained
by crystallization from the vapor phase in air or vacuum were investigated. X-ray
structural analysis showed that the specimens obtained were single-crystals and
that those obtained under vacuum were more prefect than those grown in air. The
dark current depends exponentially on the temperature and has an activation energy
of 0.9 ev. The width of the forbidden band determined on the basis of the longwave
boundary of the main absorption band corresponds to 2.14 ev. It follows, therefore,

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