

Escape of plasma ...

S/056/61/040/001/007/037
B102/B204

80%, is due to an escape to the side walls, and only about 20% to an escape to the end walls of the trap. The escape is nonsteady, the ions are thrown out from regions not connected with one another, whose dimensions - perpendicular to the magnetic field - are small compared to the trap diameter, which, however, extend throughout the entire length of the trap along the magnetic field. There are 5 figures, 3 tables, and 2 Soviet-bloc references.

SUBMITTED: July 20, 1960

Card 5/8

BAYBORODOV, U. T.; IOFFE, M. S.; PETROV, V. M. and SOBOLEV, R. I.

Adiabatic Trapping with Combined Magnetic Fields

report presented at the Study Group on Mirror Configurations, Fontenay-aux-Roses,
France, 15-19 Jul 1963.

3

L 10110-63

SSD Pz-4/Pab-4/Pi-4/Pc-4 AT/IJP(C) ENG(k)/EET(1)/EYC(h)-2/ES(w)-2/RDIS AFMTC/ASD/ESD-3/AFML/

ACCESSION NR: AP3001172

S/0008/63/014/005/0413/0145

AUTHOR: Bayborodov, Yu. T.; Ioffe, M. S.; Petrov, V. M.; Scholev, R. I.

TITLE: Adiabatic trap with combined magnetic field

SOURCE: Atomnaya energiya, v. 14, no. 5, 1963, 443-445

TOPIC TAGS: adiabatic traps, combined magnetic fields, confinement of plasma

ABSTRACT: Results are presented of experiments in plasma confinement by means of a PR-5 adiabatic trap with magnetic mirrors, in which the magnetic field grows in longitudinal and radial directions. The concept behind such a trap is that the growth of the field in a radial direction prevents the development in the plasma of convective instability, which provokes the escape of plasma across the magnetic field. Such a stabilizing field was generated by means of stabilizing windings added to the longitudinal field coils. At a sufficiently large stabilizing-field intensity, the lifetime of plasma in the trap increases considerably. The intensity of the longitudinal field in the central part of the trap and of the stabilizing field reached 5000 and 4500 oe, respectively, and the preliminary

82
81

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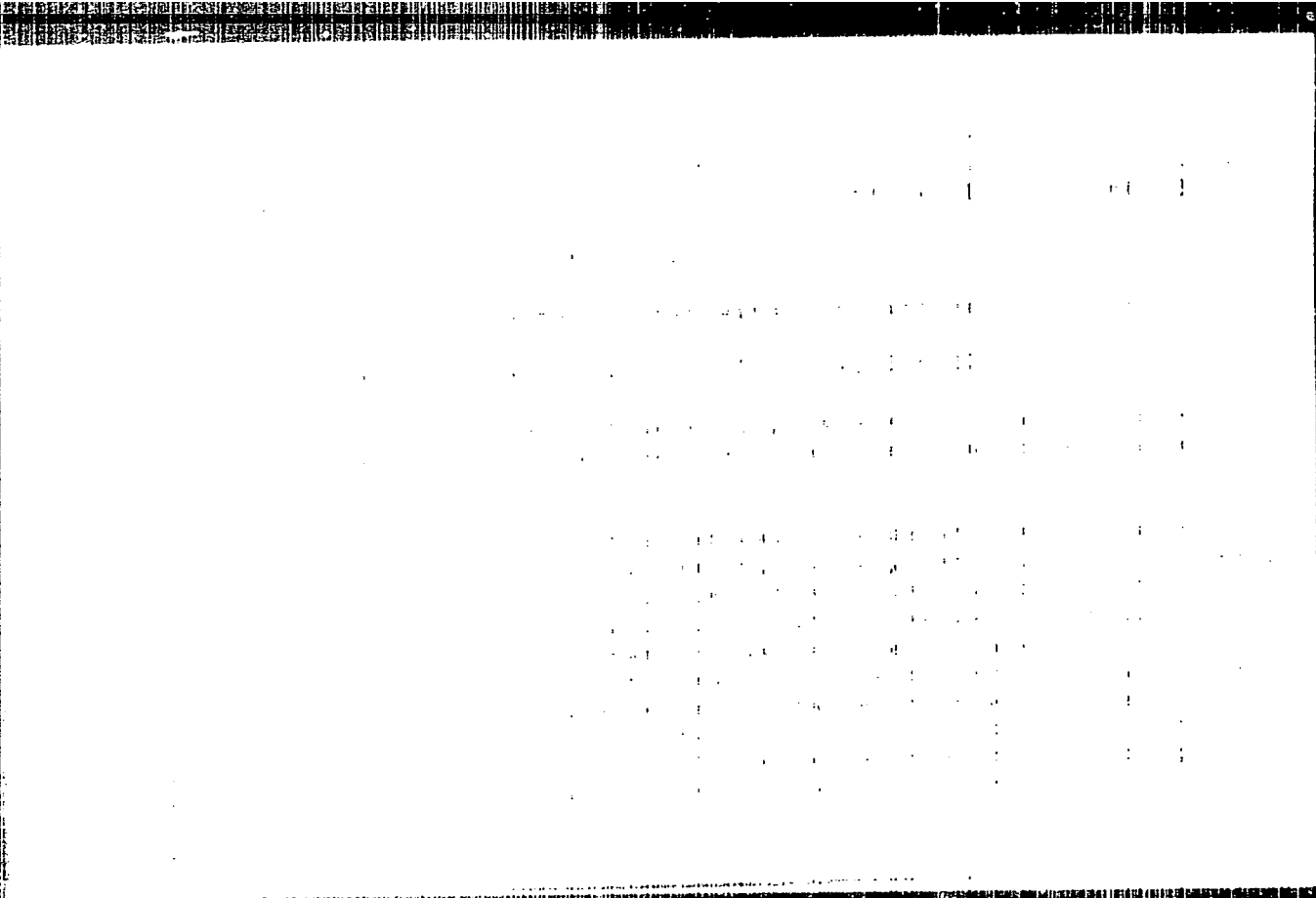
L 10110-63
ACCESSION NR: AP3001172

pressure in the chamber reached 1×10^{-5} mm Hg. A differential system of evacuation by means of titanium pulverized directly on the inner surface of the chamber kept the pressure in the central part of the chamber at 5×10^{-8} mm Hg with a steady admission of hydrogen at 500 cm sup 3/hr into the plasma source. "Magnetron" injection was used to fill the trap with plasma. In these experiments n is approximately equal to 10^9 cm sup -3, $T_{sub i}$ is approximately equal to 5 kev, and $T_{sub e}$ is approximately equal to 20 ev. The effect of the stabilizing field on the confinement features of the trap was determined from the dependence of plasma decay-time variation on the field. It was found that plasma decays 35 times slower when the field equals 1500 oe than when it equals zero. The absolute value for plasma decay during a stabilized mode was 3.5 millisecc, as compared with 0.5 millisecc obtained in previous experiments. This difference is associated with the different pressure of the neutral gas in the chamber and proves that the decay is due to charge exchange. The maximum decay time obtained with this device (at still lower pressure) reached 10--15 millisecc. "The authors express thanks to L. A. Artsimovich for his continuing interest in the work, his contribution to its execution, and his extremely valuable discussion of the results." Orig. art. has: 3 figures.

ASSOCIATION: none
SUBMITTED: 11Apr63
SUB CODE: 100
Card 2/2

DATE ACQ: 21Jun63
NO REF SOV: 004

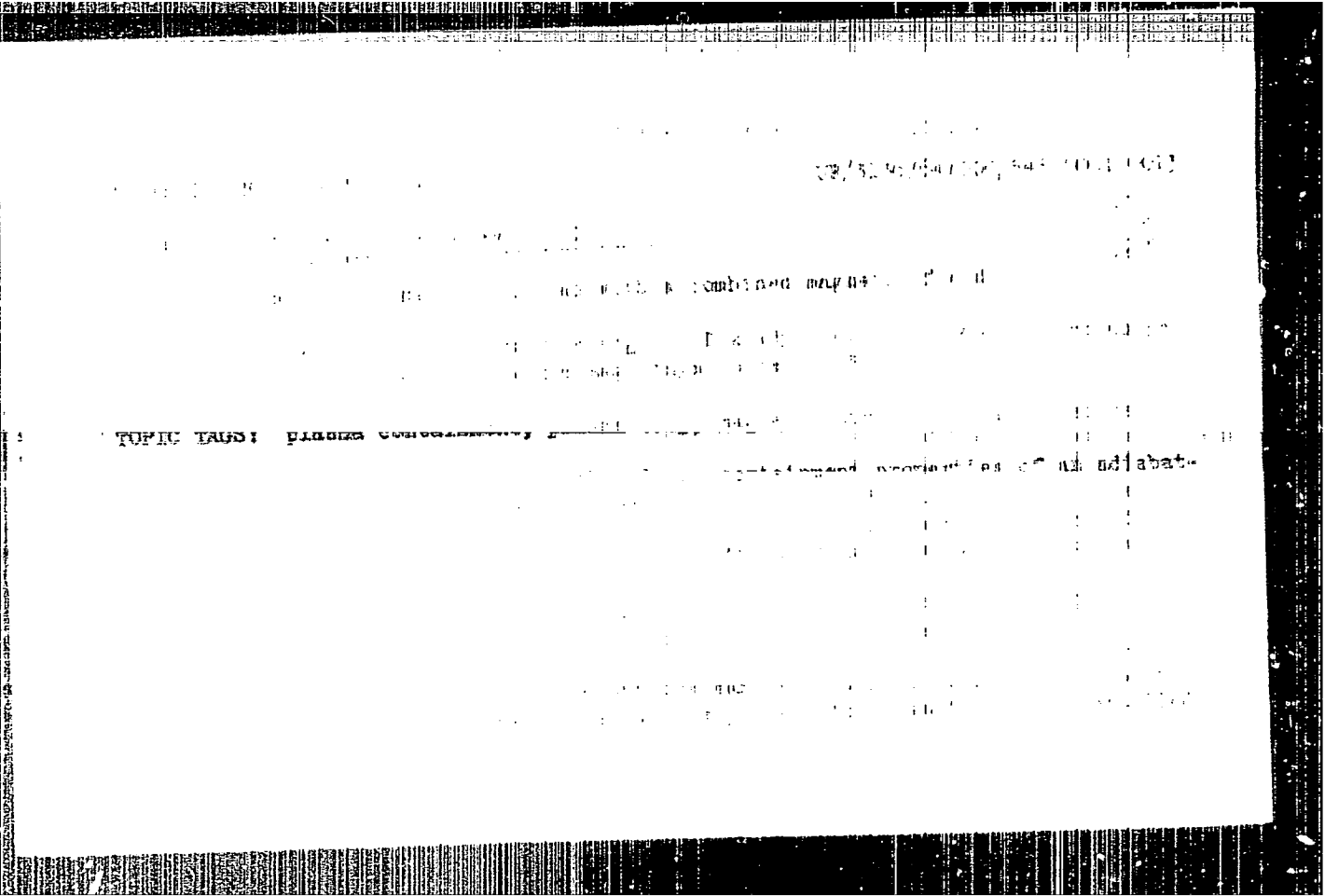
ENCL: 00
OTHER: 001



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Cara 3/3



... was a more detailed description of the ...
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plot of the distribution of the plasma density
presented. Orig. art. has 9 figures.

PLASMA DENSITY
DISTRIBUTION

ENCL 01

FUD CODE 01

SPRINT 007

UR/OC 30/85/000/006/000/0052
533.5.03-533.5.07

... (physico-mathematical sciences) ...
... magnetic mirror traps ...
... plasma instability, magnetic field ...
... scattering/ PR 5 mirror machine ...
... improved plasma stability ...

~~Controlled fusion, adiabatic trap, Coulomb scattering, R.F. mirror machine~~

22
A description is given of an improved plasma stability and
control system. A brief description is given of two loss mechanisms
which are Coulomb scattering and adiabatic trapping conditions.
The main loss mechanism for plasma confinement is
instability that arises from nonresonant R.F. in
the longitudinal direction. To reduce this instability, an additional
R.F. field is applied (see Enclosure) which allows the R.F. field
to be applied in the longitudinal direction. Theoretical
calculations and experimental results are described, with $R_{eff} = 500$ and $R_{eff} = 100$.

a new PR-5 mirror machine (built in 1966) are described, with $\beta_0 = 0.0002$, $\beta_0 = 0.0002$

A typical example of the data shows the sudden drop when β_0 is increased. The jump occurs at $\beta_0 = 0.0002$. The data for total magnetic field as a function of the temperature for the flute instability shows that the jump occurs at $\beta_0 = 0.0002$. The versus mirror pressure curves also show

approximately. Curves are given for various magnetic field strengths and for various
radius where it is seen that compensation for the flute instability losses is
maintained time versus mirror pressure curves also show
flute instability at the higher vacuum. The vacuum selected for the runs was
selected on the basis of the data figures and formulas.

AS 1041 10 1000

AS 1041 10 1000

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SH 1006 10 1000

AS 1041 10 1000

OTHER 1 000

IOFFE, M.S., kand. fiz.-matem. nauk

Confinement of stable plasma in magnetic mirror traps. Vest.
AN SSSR 35 no.5:46-52 My '65. (MIRA 18:6)

ACC NR: AP7007683

SOURCE CODE: UR/0386/66/003/002/0092/0096

AUTHOR: Bayborodov, Yu. T.; Gott, Yu. V.; Ioffe, M. S.; Kushmanov, Ye. Ye.

ORG: none

TITLE: Unstable states of a plasma in a trap with combined field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu, v. 3, no. 2, 1966, 92-96

TOPIC TAGS: plasma instability, plasma density, spectrometer, ion current, plasma antenna, plasma injection

ABSTRACT: The authors investigate distinct unstable states of a plasma observed in a trap with combined field ("minimum B" type) and offer a possible interpretation of the physical nature of the instability. It has been established that each density drop is accompanied by the appearance of high-frequency fields in the plasma. A loop antenna installed near the trap wall registered a burst of electromagnetic radiation whose spectrum consists of the ion-cyclotron frequency and its harmonics (Fig. 1d); the frequency corresponds to the magnitude of the magnetic field in the central region of the trap. The burst duration, as well as the duration of the drop itself, is 15 - 20 μ sec. Figure 1c shows the flux of neutral atoms produced by charge exchange and possessing an energy of 36 keV. At the start of the plasma decay there are no ions with this energy, and their appearance coincides exactly

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ACC NR: AP7007683

with the instant of the jump. (An energy of 40 keV corresponds to proton Larmor orbits with diameter equal to the radius of the vacuum chamber. According to the conditions of collimation of the flux of charge-exchange products entering the spectrometer, protons with higher energies could not be registered in these experiments.) To observe directly the plasma loss during the time of the drop and to ascertain the localization of this loss, the flux of particles from the plasma to the walls of the chamber was measured. On the inner surface of the chamber a total of 26 plate electrodes were installed in order to register the ion current to different elements of the wall surrounding the plasma. Short-duration ejection of particles, both to the ends of the trap and to the side wall, was shown to occur in synchronism with the density jumps (Fig. 1b). Comparison of the signals at the

Fig. 1. a - Flux of neutral particles due to charge exchange, b - ion current to the side wall of the chamber, c - signal from energy spectrometer ($E = 36$ keV), d - signal from loop antenna.



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ACC NR: AP7007683

different electrodes showed that the loss occurs predominantly along the force lines of the resultant magnetic field through the end and radial mirrors. The data shows that the density jumps are due to a short burst of instability of the ion-cyclotron type. This is evidenced both by the frequency spectrum of the produced alternating fields and in the appearance of a group of ions accelerated to high energies in a transverse direction. The acceleration of the ions is apparently produced in resonant fashion in fields of cyclotron frequency that are produced in the plasma, and in this respect it is completely analogous to the acceleration observed in traps with external injection when the Harris anisotropic cyclotron instability is excited. The authors note that density jumps outward similar to those described in this article were observed also in a decaying plasma with hot electrons. In this case the instability develops at electron-cyclotron frequencies. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20 / SUEM DATE: 02Dec65 / ORIG REF: 005 /
OTH REF: 002

Card 3/3

SAPGIR, I.N., doktor tekhn. nauk; IVANOVA, A.A.; GOL'DBERG, M.M.;
SAKHARNOV, A.V.; LUBMAN, A.I.; SVERDLIN, M.S.; TYURIN, B.F.
Prinimali uchastiye: PLIPLINA, A.I.; IOFFE, M.Ya.; LIVSHITS,
M.L., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Paint materials; raw materials and intermediate products;
handbook] Lakokrasochnye materialy; syr'e i poluprodukty;
spravochnik. Pod red. I.N.Saggira. Moskva, Gos.nauchno-
tekhn.izd-vo khim. lit-ry, 1961. 506 p. (MIRA 14:12)
(Paint materials)

POPOVA, Ye.I.; IOFFE, M.Ye.; VASIL'YEVA, O.N.

Specific features of the formation of specialized motor reflexes
to distant stimuli. Trudy Inst. vys. nerv. deiat. Ser. fiziol.
6:50-57 '61. (MIRA 14:12)

1. Iz Laboratorii dvigatel'nykh uslovnnykh refleksov, zav. - G.V.
Skipin.

(CONDITIONED RESPONSE)

IOFFE, M. Ye.

Conditioned motor food reflexes of a tonic form following unilateral extirpation of the nucleus of the motor analyzer in dogs. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 6:78-86 '61. (MIRA 14:12)

1. Iz laboratorii dvigatel'nykh uslovykh reflektsov, zav. - G.V. Skipin.

(CONDITIONED RESPONSE)

IOFFE, M.Ye.

Role of the nucleus of the motor analyzer in the establishment
of local conditioned motor food reflexes of a tonic type in dogs.
Dokl. AN SSSR 139 no.1:242-244 J1 '61. (MIRA 14:7)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN
SSSR. Predstavleno akademikom V.N. Chernigovskim.
(CONDITIONED RESPONSE)

IOFFE, M. YE.

Dissertation defended in the Institute of Higher Nervous Activity and Neurophysiology for the academic degree of Candidate of Medical Sciences: 1962

"Role of the Center of Canine Motor Analyzer in Performing Local Eating Motor Conditioned Reflexes of the 'Tonic' Form."

Vestnik Akad Nauk No. 4, 1963, pp. 119-145

IOFFE, M. Ye.

Role of the cortical tip of the motor analyzer in the accomplishment of localized food motor reflexes of the tonic form in dogs.
Trudy Inst. vys. nerv. deiat. Ser. fiziol. 7:106-115 '62. (MIRA 16:2)

(CONDITIONED RESPONSE)

IOFFE, N. G.

Physics in schools

DECEASED

c. 63

964

IOFFE, N.M., insh.

Investigating indices of gear pumps used in hydraulic implement
control systems of tractors. Mekh. i elek. sots. sel'khoz. 16
no.6:6-11 '58. (MIRA 12:1)

1. Moskovskiy saved imeni Sudennogo.
(Gear pumps)

IOFFE, Naum Mikhaylovich; IVANOV, Vadim Aleksandrovich; NIKITIN,
Vasil'y Vasil'yevich; SOLOV'YEV, V.A.; EPSHT'IN, Ya.V.;
VINOKUR, I.Ye., red.

[Hydraulic suspension system consisting of separate units
for farm tractors] Razdel'no-agregatnaya gidravlicheskaya
navesnaya sistema sel'skokhoziaistvennykh traktorov. [By]
N.M.Ioffe i dr. Izd.2., dop. i ispr. Moskva, Vysshaya
shkola, 1964. 175 p. (MIRA 17:6)

MANVELYAN, V.P.; NIKIFOROVA, I.I.; SMOLINA, M.G.; IOFFE, N.N.; LOSECHINA,
G.A.; GOLOVANOVA, N.A.

Fiber dyeing and artificial fur finishin. Nauch.-issl. trudy
VNIITP no. 5:135-166 '64 (MIRA 19:1)

IOFFE, N.S.

Rarefaction of the air in the external acoustic meatus and its diagnostic importance in otosclerosis. Zhur. ush., "os. i gorl. bol. 23 no.4:87-89 J1-Ag'63. (MIRA 16:10)

1. Iz krasnoarmeyskoy rayonnoy bol'nitsy Zaporozhskoy oblasti. (OTOSCLEROSIS) (MEDICAL INSTRUMENTS AND APPARATUS).

IOFFE, N. S. and TOLKOVSKY, V. G. and GOTT, M. B.

"Some new results on the confinement of magnetic traps"

Report presented at the Conference on Plasma Physics and Controlled Nuclear Fusion, Salzburg, Austria, 4-8 Sep 61

IVANOV, A.A. Primalni uchastiye SOKOLOV, D.S.; VASIL'YEV, N.A.;
IOFFE, N.S.; KRASNOV, V.S., nauchnyy red.; GRUDINKINA, A.P.,
red.; STREL'TSOVA, N.P., red.; ARTSYBASHEVA, A.P., tekhn.
red.; KANTOROVICH, A.P., tekhn. red.

[Mechanization of work in animal husbandry] Mekhanizatsiia
rabot v zhivotnovodstve. Moskva, Sel'khozizdat, 1962. 92 p.
(MIRA 16:5)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystven-
nykh nauk imeni V.I.Lenina (for Krasnov).
(Stock and stockbreeding--Equipment and supplies)

IOFFE, N. Sh.

The achievements of progressive poultry raisers Moskva, Sel'khozgiz, 1945. 78 p.
(Peredovoi opyt v sel'skom khoziaistve)

IOFFE, N. ^{Sh.} Azotkhnik

Raise broilers! Nauka i pered. op v sel'khoz 9 no.5:34-38 My
'59. (MIRA 12:8)

(Poultry--Feeding and feeding stuffs)

IVCHER, M.I.; IOFFE, O.G.

Calculation of the costs of steam and electric power. *Bum.prom.*

33 no.11:26 N '58.

(MIRA 13:8)

(Paper industry)

(Steam engineering--Costs)

(Power engineering--Costs)

PROCEDURES AND PROPERTIES INDEX

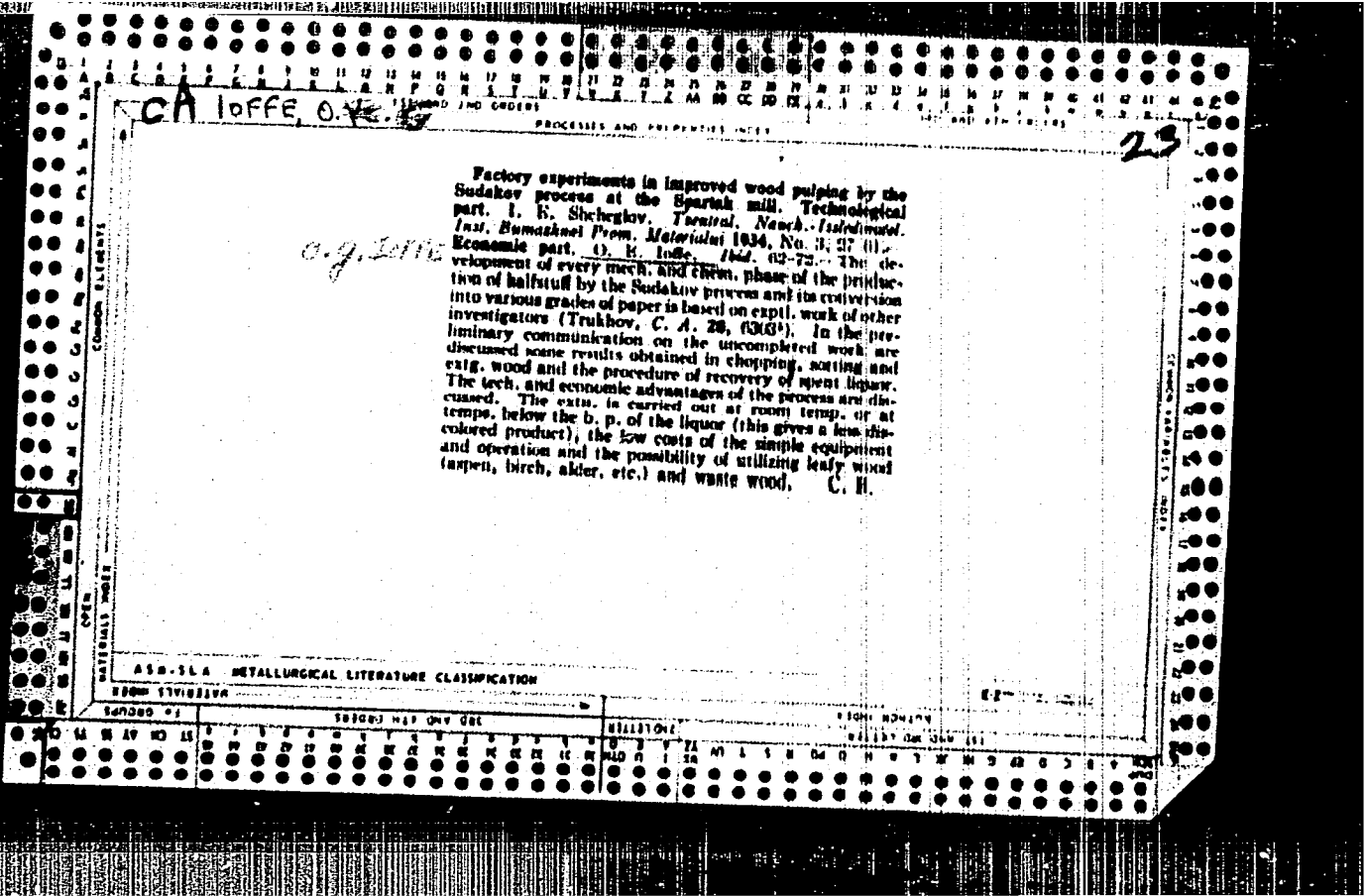
23

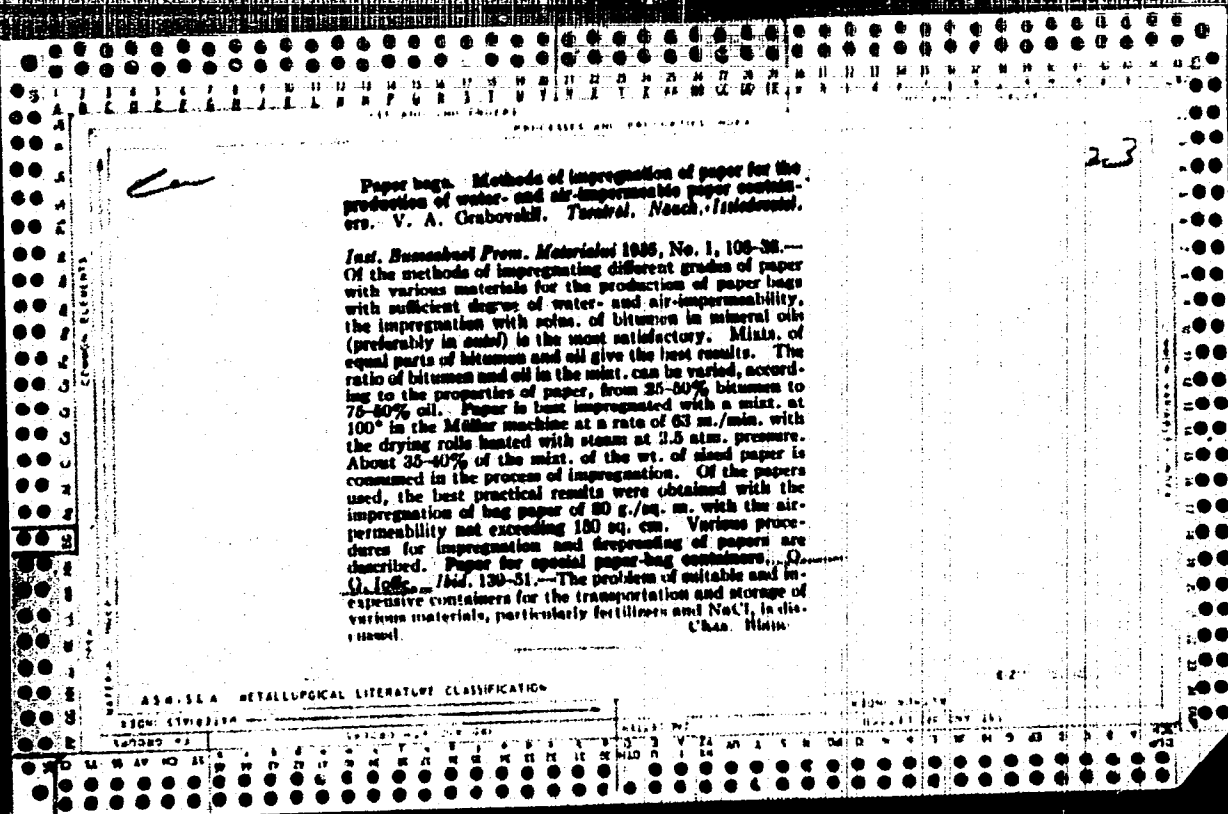
ca

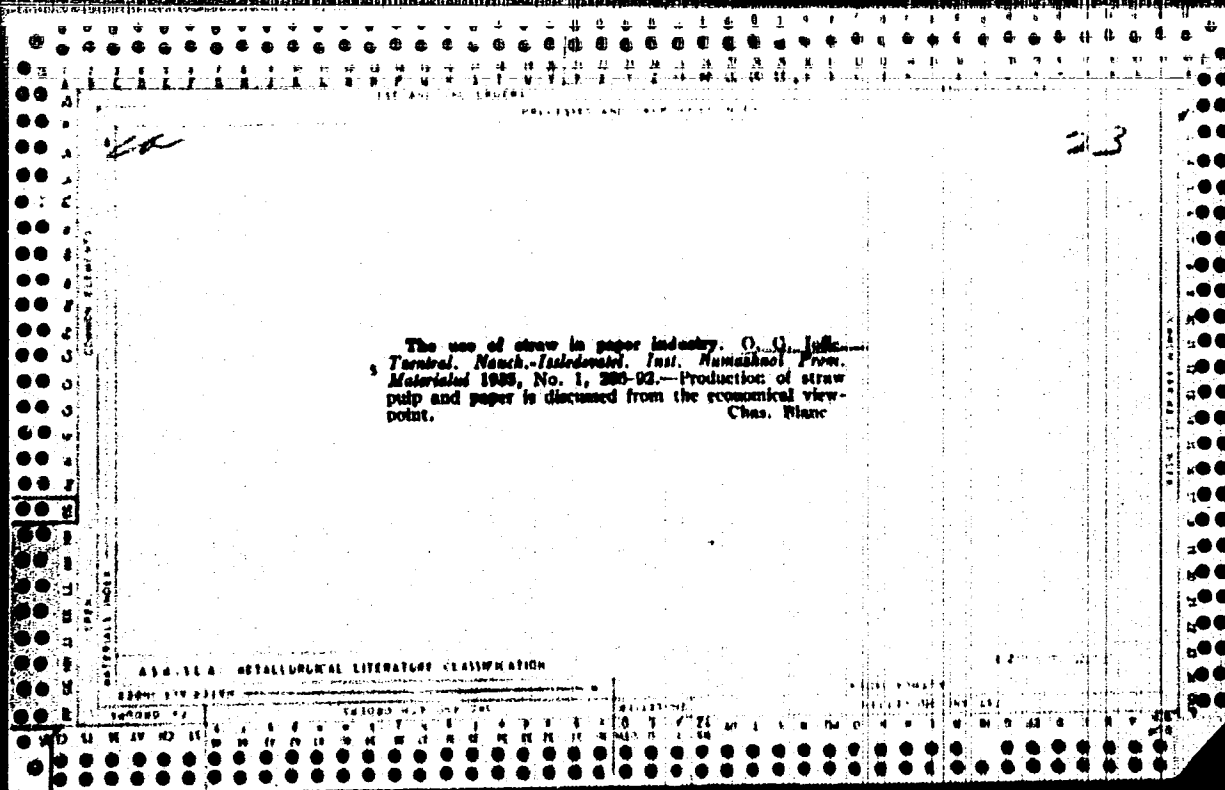
The economics of production of half-stuff by Sudakov process. (I. A. Kaban AND G. I. Ioffe. *Doklady Akad. Nauk SSSR* (1952), 17, No. 6, 20-22 (1952), of Otkrytskaya, 1942, No. 4, 21-23 (1952). Kharkov, C. S. S. R., 6751: Kharzamer and Semukhov, K. I. 26, 4118. The Sudakov process was successfully applied to production of half-stuff from chips and waste of aspen, birch, alder and linden. The process offers considerable economy, requiring only NaOH (60 kg per ton) instead of 300 kg of pyrites and 200 kg of lime for the sulfite process, doing away with the costly receipt of soaking acid, and forming no bulky wastes of pyrites cinders and spent lye which contaminate the production and require transporting. L'vov, Ukraine.

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

SECTION DIVISION		SUBJECT MATTER										RELATIONS										MATERIALS																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	







1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

1ST AND 2ND DIGITS

PROCESSES AND PROPERTIES INDEX

CA

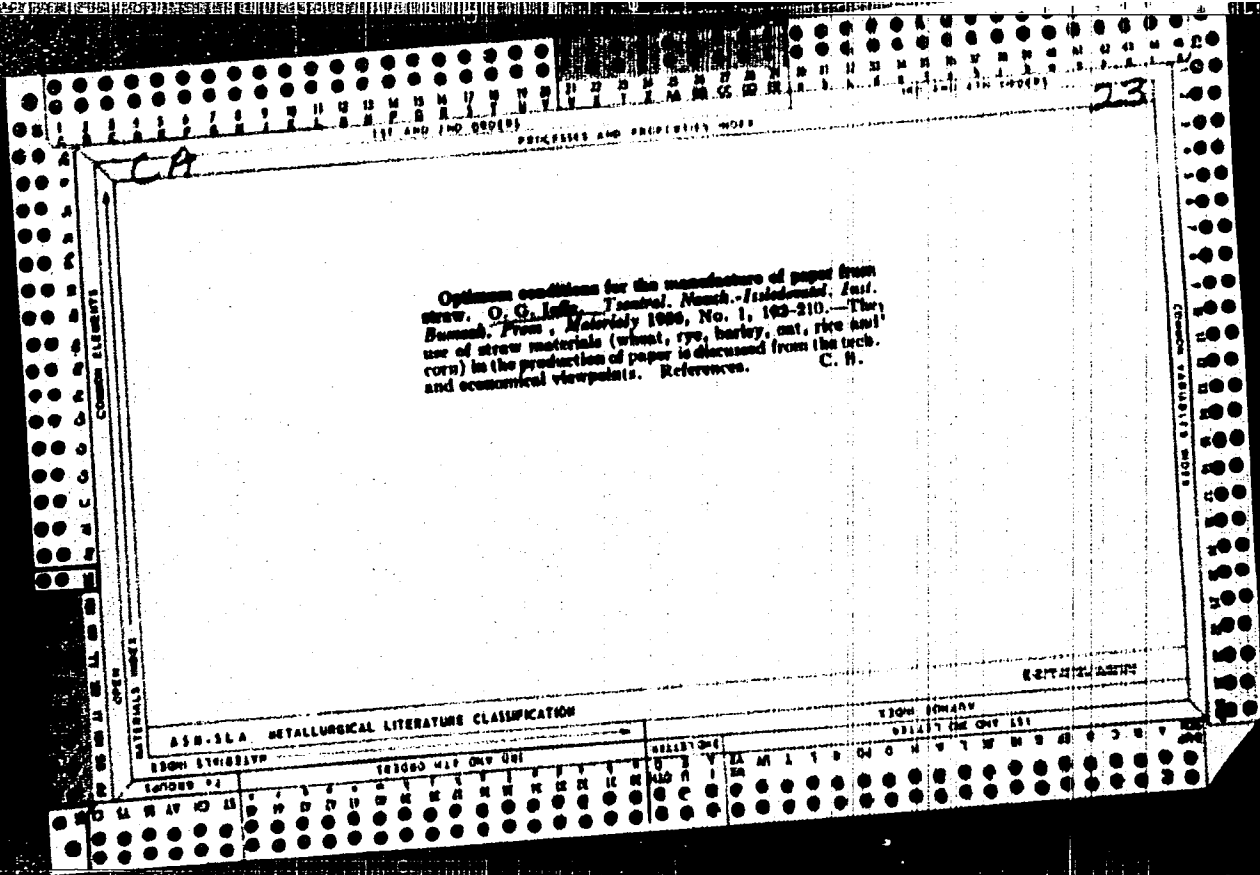
23

Prospects for the development of the production of cast paper-pulp articles in the U. S. E. U. G. Icky and E. M. Shapiro. *Tutorial. Neuch.-Jussieu, Ind. Chimique Front. Material* 1985, Nos. 3-4, 187-210. The tech. and economical problems of production of molded paper-pulp articles is discussed. About 26 references. Chas. Blanc

ASAC 12A METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z



LIST AND NO. ORDERS PROCESSES AND PROPERTIES INDEX

CA 23

Types and class of pulp and paper mills for future construction (in the Soviet Union). O. G. Ioffe. *Tekhnichesk. Nauch.-Issledovatel. Inst. Dneprop. Zavod. Marts 1940. No. 29-30, 302-80.*—All the phases of the rationalization, enlargement and new construction of mills for the production of all kinds of pulp and paper are discussed from the tech. and economical viewpoints. Chas. Blauc.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

22000 SYMBLIV 22000 NIP ONT ON 22000 NIP ONT ON

L I B R A R Y U S N A T I O N A L A R C H I V E S

IOFFE, O.G., kandidat ekonomicheskikh nauk.

Improved planning for lumberyard operations in the woodpulp industry. Bum.prom.31 no.3:27-28 Mr '56. (MLRA 9:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tsellyuloznoy i bumashnoy promyshlennosti.
(Woodpulp industry)

IOFFE, O. G.

VOROSHILOV, M.S.; IOFFE, O.G.

Effect of automatic control and regulation on technical and
economic indexes of sulfite woodpulp cooking. *Dokl. Akad. Nauk SSSR* 32 no.2:
18-20 F '57. (MLA 10:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tsellyuloznoy i
bumazhnoy promyshlennosti.
(Woodpulp industry) (Automatic control)

0.0000

77280
SOV/63-4-6-14/37

AUTHOR: Ioffe, O. G. (Candidate of Economic Sciences)

TITLE: Economics of the Chemical Industry. Perspectives of Increase of Cellulose Production and Consumption

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6, pp 777-779 (USSR)

ABSTRACT: This article contains statistical data on world production and consumption of cellulose and its products. It mentions that the USSR possesses the world's largest supply of lumber and indicates a rapid rise in its industrial use, resulting in a 1958 cellulose output of 2,090,000 tons, or nearly four times that of 1940. The decisions reached at the 21st meeting of the Communist Party of the USSR stipulate that the cellulose production rate in 1965 will reach 4,800,000 tons, of which viscose cellulose production shall equal 580,000 tons, or 4.6 times better than the 1958 viscose cellulose output. During the next seven years, plans include the construction of large

Card 1/2

Economics of the Chemical Industry. Perspectives of Increase of Cellulose Production and Consumption

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SOV/63-4-6-14/37

cellulose plants in new areas of the Azerbaidzhan SSR, Eastern Siberia, and Far East. This will give a better geographical location to the cellulose industry by providing easier access to raw materials (lumber) supply and to cheap sources of electric power and fuel. There are 4 tables; and 5 references, 1 Soviet, 2 U.S., 1 U.K., 1 Indian. The English-language references are: Wood Pulp Statistics, 1958; Statistical Abstract of the United States, 1959; Pulp and Paper, Nr 8, 106 (1958); Indian Pulp and Paper, 13, Nr 1, 81 (1958).

Card 2/2

IOFFE, O.G.

Sheet paper to be cut at the printing houses.
no.3:10 Mr '62.

Bum.prom. 37
(MIRA 15:3)

(Paper)

IOFFE, O.G.; KARANTBAYVEL', B.I.

Calculate the cost of paper correctly. Bum. prom. no.2:29 F 164.
(MIRA 17:3)

IGFFE, Oleg Zalmanovich; KIYANICHENKO, N.S., red.

[Practices in preparing and assembling large panels
made of keramzit concrete] Opyt izgotovleniia i montazha
krupnykh panelei iz keramzitobetona. Kiev, "Budivelnik,"
1964. 52 p. (MIRA 18:1)

30(5)

SOV/2-59-2-7/12

AUTHOR: Ioffe, P.

TITLE: Drawing Up a System of Territorial Indices of Work Efficiency (O postroyenii sistemy territorial'nykh indeksov proizvoditel'nosti truda)

PERIODICAL: Vestnik statistiki, 1959, Nr 2, pp 70 - 82 (USSR)

ABSTRACT: The author is trying to draw up a territorial indices system for the evaluation of work efficiency to be used in planning and accounting. Such evaluation requires commensurable indices for alike as well as non-alike production, and absolute as well as relative work efficiency levels, permitting comparison of the work efficiency not only of two units with another one, but also the work efficiency index of one plant, the index of the economic region, and the index of a region with the index of a republic, etc. The article is published for the purpose of discussion. The di-

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SOV/2-59-2-7/12

Drawing Up a System of Territorial Indices of Work Efficiency

verse views of several authors, including Academician S.G. Strumilin, are discussed. There are 6 Soviet references.

Card 2/2

IOFFE, P.D.

Completion of traction calculations for electric locomotives
with an electronic computer. Trudy Proek. tekhn. i nauk. -issl.
inst. no. 28193-202 '63 (MIRA 17:7)

IOFFE, P.N.

Working capacity and rehabilitation of elderly persons with
pulmonary tuberculosis. Trudy TSIU 63:140-152 '63.
(MIRA 17:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut ekspertizy
trudosposobnosti i organizatsii truda invalidov.

IOFFE, P. S.

USSR/Engineering - Control Equipment

May 51

"Universal Photoelectric Colorimeter VEI," D. A. Shklover, P. S. Ioffe, VEI (All-Union Elec Eng Inst imeni V. I. Lenin)

"Iz Ak Nauk SSR, Otdel Tekh Nauk" No 5, pp 667-681

Describes new photoelec colorimeter developed in VEI Instr permits measurements of light and color intensity and color temp of light-source radiation, and measurements of refraction and reflection coeffs of various transparent and opaque materials. Colorimeter is now used in laboratories of plants and sci res institutes. Submitted by Acad V. S. Kulebakin.

182152

IOFFE, R. A.

Ioffe, R. A. and Gol'dfand, R. A. and Model', L. M. - "Changes in the chemical composition of the spinal fluid of tuberculosis meningitis patients undergoing streptomycin treatment", Trudy Akad. med. nauk SSSR, Vol. II, 1949, p. 133-42.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

PABUKHIN, A.Ye.; IOFFE, R.A. (Moskva)

Influence of tuberculin on blood proteins in tuberculous and non-tuberculous patients. *Klin.med.* 37 no.12:70-75.D '59.

(MIRA 13:4)

1. Iz kafedry tuberkuleza TSentral'nogo instituta usovershenstvovaniya vrachey (direktor M.D. Kvirgina) na baze TSentral'noy klinicheskoy bol'nitsy Ministerstva putay soobshhcheniya imeni Semashko (nachal'nik A.A. Patsubeyenko).

(TUBERCULIN)
(LUNGS--DISEASES)
(BLOOD PROTEINS)

IOFFE, R.A.

Method for the determination of glycoproteins in blood serum. Lab. delo
6 no.1:11-15 Ja-Fe '60. (MIRA 13:4)

1. Iz kafedry tuberkuleza (zaveduyushchiy - prof. A.Ye. Babukhin)
TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(BLOOD PROTEINS) (ELECTROPHORESIS)

IOFFE, R.A.

Protein fractions and glycoproteins in the blood serum in pulmonary tuberculosis. Probl. tub. 38 no.3:94-100 '60. (MIRA 14:5)

1. Iz kafedry tuberkuleza (zav. - prof. A.Ye. Rabukhin) Tsentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D.Kovrigina).
(TUBERCULOSIS) (BLOOD PROTEINS)
(GLYCOPROTEINS)

DÓBROKHOTOVA, M.N., kand.med.nauk; MASSEN, N.I.; POLYAKOVA, S.G.; IQFFE,
R.A.; GOL'DSHTEYN, V.D. (Moskva)

Immediate results of combined chemotherapy with the use of cyclo-
serine. Klin.med. no.3:130-136 '62. (MIRA 15:3)

1. Iz kafedry tuberkuleza (zav. - zasluzhennyi deyatel' nauki
prof. A.Ye. Rabukhin) Tsentral'nogo instituta usovershenstvovaniya
vrachey, Tsentral'noy klinicheskoy bol'nitsy imeni Semashko
Ministerstva putey soobshcheniya (glavnyy vrach A.A Potsubeyenko)
i bol'nitsy "Vysokiye gory" (glavnyy vrach V.G. Samochatov).
(CYCLOSERINE) (CHEMOTHERAPY)

IOFFE, R.A.

Changes of serum protein fractions in children with osteoarticular tuberculosis. Probl. tub. 42 no.3:54-58 '64.

(MIRA 18:1)

1. Kafedra tuberkuleza (zav. - prof. A.Ye.Rabukhin) Tsentral'nogo instituta usovershenstvovaniya vrachey i bol'nitsa Ministerstva putey soobshcheniya imeni N.A.Semashko, Moskva.

ANDREYEVA, N.Ye.; IOFFE, R.A.

Proteins, glycoproteins and lipoproteins of the blood serum in
multiple myeloma and Waldenstrom's macroglobulinemia. Probl.
gemat. i perel. krovi 9 no.6:18-23 Je '64. (MIRA 18:2)

1. 3-ya kafedra terapii (zav.- deystvitel'nyy chlen AMN SSSR prof.
I.A. Kassirskiy) i kafedra tuberkuleza (zav.- prof. A.Ye. Rabukhin)
TSentral'nogo instituta usovershenstvovaniy vrachey, Moskva.

LEVITOV, M.M.; INOZEMTSEVA, I.I.; GOTOVTSEVA, V.A.; KOMOKINA, Z.F.;
YUDINA, O.D.; KLEYNER, G.I.; IOFFE, R.I.; NAGLE, A.M.

Production and basic properties of almeicillin (allylmercaptomethyl-
penicillin). Med. prom. 15 no.11:12-19 N '61. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov
i Riazskiy zavod meditsinskikh preparatov.
(PENICILLIN)

IOFFE, R.M.

Branch structure of industry during Stalin's prewar five-year plans.
Trudy EKRTI no.16:197-216 '51 [Publ. '52]. (MIRA 12:12)
(Industrial organization)

IOFFE, R.M.; SOLGANIK, G.Ya., red.; NEDEL'KO, G.H., tekhn.red.;
~~SHARAFUTDINOVA, M.Z., tekhn.red.~~

[Ways of increasing labor productivity in industry] Puti
povysheniia proizvoditel'nosti truda v promyshlennosti. Kazan',
Tatknigoizdat, Red. nauchno-tekhn.lit-ry, 1957. 85 p. (MIRA 11:5)
(Labor productivity)

USSR/Medicine - Penicillin Sep/Oct 59

Results of Treatment of Some Otolaryngological Diseases With Aerosol of Penicillin, R. M. Ioffe, Ear, Nose, and Throat Clinic First Moscow Med Inst of the Order of Lenin

"Vest Oto-Rino-Laringol" No 5, pp 66-70

Treatment of otolaryngological diseases with aerosol of penicillin, administered by way of respiratory tract and lungs, is a very effective method and must be widely employed alongside other therapeutic methods. Aerosol of penicillin may be recommended for both the general therapeutic action

225719

and for local action as well. Acute illness of upper respiratory tract has been cured, as a rule, with 3-5 treatments. In isolated instances 10 treatments were necessary. Patients treated during early days of illness became well quicker. When various solvents such as 1% soln of pyramidon or 40% glucose soln are used in aerosol therapy, the action of penicillin is not prolonged.

225719

IOFFE, R. M.

Ioffe, R.M.

BORISENKOVA, R.V.; IOFFE, R.M.; KAPLUN, Z.S.; MOGILEVSKAYA, O.Ye.

Prophylactic role of examining the upper respiratory tract in workers of the chemical industry [with summary in English]. Gig. i san. 22 no.6:41-46 Je '57. (MIRA 10:10)

1. Iz kliniki ukha, gorla i nosa i kafedry gigiyeny truda I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(CHEMICAL INDUSTRY,

prev. exam. of upper resp. tract in workers (Rus))

(RESPIRATORY TRACT,

prev. exam. in workers in chem. indust. (Rus))

IOFFE, R.M.

IOFFE, R.M.

Second All-Union conference on antibiotics. Vest.oto-rin. 20

no.1:131-132 Ja-F '58.

(MIRA 11:3)

(ANTIBIOTICS)

AKOPOVA, Ya.I.; CALIBINA, V.A.; PETELINA, O.N.; IOFFE, R.M.; TSYPLAKOVA, N.A.;
PARTIGULOVA, R.Z.

Effectiveness of compound health-resort treatment of residual
phenomena following infectious diseases of the central nervous
system. Sbor. nauch. rab. vrach. san.-kur. uchr. profsoiuzov
no.1:29-32 '64.

(MIRA 18:10)

1. Pyatigorskii nevrologicheskiy sanatoriy "Mashuk" (glavnyy vrach
R.Z.Partigulova, nauchnyy rukovoditel' prof.S.M.Petelin).

IOFFE, R. P.
REYBMAN, A.I.; FINKEL'SHTEYN, M.I.; IOFFE, R.P.

Protecting metal and concrete surfaces of the Bachman apparatus.
Khim. prom. no.6:373-375 S '57. (MIRA 11:1)

1.Leningradskoye otdeleniye Gosudarstvennoy proizvodstvennoy
kontory "Lakokraspokrytiye."
(Corrosion and anticorrosives)

S/081/62/000/015/026/038
B168/B101AUTHOR: Ioffe, R. P.

TITLE: Durable paint and varnish coats for tropical climates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 15, 1962, 565-566,
abstract 15P209 (Sb. "Zashchita izdeliy ot vozdeystviya
tropich. klimata". L., 1959, 18-26)

TEXT: Coats intended for the protection of ferrous and non-ferrous metals (aluminum, copper and their alloys - magnalium, duralumin, alumin, brass and bronze) were tested and selected for durability in tropical climates. The durability of such coats is not the same on ferrous as on non-ferrous metals, being lower on the latter. Basically, however, all coating enamels recommended for ferrous metals can also be used for non-ferrous metals provided that they are applied over special undercoats. Enamels based on alkyd-melamine and on alkyd and butylmethacrylate resins, epoxy/nitrocellulose enamels of type ЭП-51 (EP-51), instrument enamels, e. g. ФЛ-56 (FL-56) black phenolformaldehyde, heat-resistant enamels, e. g. aluminum No. 9 on organosilicone lacquer of type ФГ-9 (FG-9),

Card 1/3

Durable paint and varnish coats for ...

S/081/62/000/015/026/038
B168/B101

solvent-resistant enamels, e. g. polyvinylbutyral No. 60r (60t) and self-drying enamels based on perchlorvinyl resin are recommended. The undercoats must be selected in accordance with the material of the article and with the composition of the enamel. The compositions of undercoats and their drying conditions are given for cases where the above-mentioned enamels are being used on ferrous and non-ferrous metals. Fine filler layers do not reduce the durability provided that the filler is compatible both with undercoat and enamel, but in this case the mechanical strength of the coatings is reduced. Several new types of epoxy-based fillers have been developed, and these are being tested in composition with various materials, including epoxy and phosphatizing undercoats. The best method of preparing metals is by phosphatizing in the case of ferrous metals and by sand-blasting in the case of copper and aluminum alloys. Where an article of aluminum or aluminum-alloy sheeting cannot be sand-blasted it can be subjected to anodic oxidation. Brass sheeting can be subjected to ammonium blacking or, in the case of transparent lacquer coatings, to gloss etching followed by passivation. In order to preserve a decorative appearance of the metal the following transparent lacquers are recommended: alkyd lacquers e. g. KP-95 (KF-95),
Card 2/3

Durable paint and varnish coats for ...

S/081/62/000/015/026/038
B168/B101

amber ЯК-1 (YAK-1), alkyd-styrene MC-25 (MS-25), polyurethan 976-1, alkylphenol СБ-1 (SB-1) and butylmethacrylate lacquers e. g. AC-1 (AS-1). Drying conditions for the lacquers are given. For fungicidal protection of coats it is recommended that a solution of phenylmercurio-oleate or of phenylmercuriopalmitate should be added to the last coat of enamel at the rate of 0.25-0.5% fungicide referred to the dry content. Enamels containing a fungicide are dried at a temperature of $\leq 110-120^{\circ}\text{C}$. Coats for use under tropical conditions can be protected from mold by means of fungicidal pastes of two types - respectively prophylactic and for maintenance - in which copper trichlorophenolate (7-10% of binder) and pentachlorophenol (10% of binder) are used as fungicides. [Abstracter's note: Complete translation.]

Gard 3/3

S/196/61/000/010/006/037
E194/E155

AUTHOR: Ioffe, R.P.

TITLE: Electrical insulating varnishes which dry at 60 °C

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,
no.10, 1961, 16, abstract 10B 75. ("Lakokrasochn.
materialy i ikh primeneniye" no.2, 1961, 49-52)

TEXT: Electrical insulating varnishes with drying temperatures not above 60 °C were investigated. They were based on polymers, mostly with low temperatures of film formation; in particular the following were tried: various epoxide and silicone enamels; alkydes, vinyflex, polyurethane and succinic varnishes, with various fillers; also copolymers of methylmethacrylate, styrene, and nitryl acrylic acids. The object was to produce varnish films to the following requirements: thickness less than 0.8 mm; breakdown voltage over 1.5 kV; insulation resistance not less than 10^{10} ohms in the initial condition and 10^7 ohms at a temperature of 60 °C and after 120 hours' exposure to marine and tropical humidity; stability at a temperature of 60 °C and with high resistance to vibration. The testing procedure is described and the properties

Card 1/2

Electrical insulating varnishes ...

S/196/61/000/010/006/037
E194/E155

of many of the varnishes tested are given. The following varnishes are particularly recommended: 1) epoxide enamel grade OЭП-4173-1 (OEP-4173-1) without filler or with filler grade Э-4021 (E-4021); giving films with a total thickness of about 170 microns and of comparatively high electric strength and insulation resistance; 2) butyl methacrylate varnish grade АС-72 (AS-72) with filler grade АГ-3а (AG-3a), the film being about 100 microns thick and of comparatively high insulation resistance but somewhat lower in electric strength; and 3) alkyde-styrene materials with filler grade МС-015 (MS-015), enamel ЭС-41 (ES-41) and varnish МС-25 (MS-25), a 150-micron film which though of somewhat lower insulation resistance is of improved elasticity. Cost has a bearing on the selection of varnishes; thus alkyde-styrene materials are about 1.5 times cheaper than butyl methacrylate ones and 3 or 4 times cheaper than epoxide ones. [The article gives not specific properties of the insulating materials but the value of the insulating resistance in ohms and the breakdown voltage in kV, often without stating the dimensions, which makes comparison of the data difficult.]

[Abstractor's note: Complete translation.]

Card 2/2

S.B. IOFFE, R.S.
Section A.

535.65 : 537.512.5
6443. The universal photoelectric colorimeter VIII.
D. A. SHILOVER AND R. S. IOFFE. (Izv. Akad. Nauk
SSSR, Otdel Tekh. Nauk, No. 5, 667-81 (1951) In
Russian.

Describes the theoretical principles and construction of a new colorimeter designed by the authors. Light from the standard (or tested) light source (up to 100 W) passes through light filter and enters a photometer headpiece containing a Se photoelement and 2 rotatable disks with light-filter windows. One of these disks enables 3 special light-filter combinations to be inserted in front of the photoelement for determining the colour components X', Y', Z'; the other disk contains 3 filters (red, blue, green) for measuring the colour temperature of incandescence lamps by the red/blue ratio method, and for checking the accuracy of work. Se photoelements used were prepared by the State Optical Institute's method and are claimed to have excellent

characteristics. Glass filters (coloured with metal oxides and sulphides) were used, and a CaO₂ filter absorbed ultra-violet radiation. The measurement consisted in taking the reading of the Mulliken galvanometer (sensitivity 5 x 10⁻⁶ amp/mm) for an appropriate set of filters, and in evaluating the magnitude sought by means of previously derived colorimetric equations. The optical arrangement of various parts of the apparatus on the optical bench is shown diagrammatically for the measurement of the light and colour characteristics of (1) light sources, (2) materials with "directional" (perfect) transmission, (3) material with diffuse transmission, and (4) materials with diffuse reflection and bi-directionism. A monograph is included for facilitating the calculations. It is claimed that the colorimeter gives more accurate

*P.C.
Leslie A*

results than the best visual estimations available, even when mean values are taken from results by several observers. The calibration curve shows that a 1% variation in the photo-current corresponds to a colour temperature change of c. 3-10°K. It follows from the foregoing that 1% changes in the photo-current (values of photo-currents obtained with different filters) correspond to c. 0.2-0.3 of the colour discrimination threshold value. K. LACHMANN

USSR

✓Photoelectric universal colorimeter V. M. D. A. [unclear]
ver and R. S. Ioffe. *Izv. Akad. Nauk S.S.S.R., Otdel.
Tekh. Nauk* 1951, 44: 81; *Chem. Zentr.* 1951, II, 3214-16.
—In the app. described, the fundamental principles of
which have previously been reported (cf. *C.A.* 43, 6921c),
a Se photometer is used as the radiation receiver. With
the app. it is possible to det. the light intensity, the color,
and color temp. of the radiation from a light source, as well
as the transmission and reflection coeffs. of transparent
and nontransparent substances. A change of 1% in the
ratio of the photoelec. currents corresponds on the av. to a
change in the color temp. of 5-10°K. A change in the rela-
tive light components of the color of 0.001-0.005 is equiv-
to 0.2-0.5 of the characteristic wave of the color. This
makes possible a high degree of accuracy and of reproduc-
ibility of measurements. M. G. Moorg.

335,247.4 : 621,327.43
9531. Photo-elastic installations for testing the
colour and light characteristics of the radiation of
mercury lamps. B. S. JONES AND E. A. SAKLOSSE.
Sovetskaya, No. 2, 8-13 (1955) In Russian.

*Soviet
Ray*

①

~~IC 1117, D.S.~~

SHKLOVER, D.A., kand.tekhn.nauk; IOFFE, R.S., inzhener.

Photoelectric colorimeter with direct M0-2 color reading.
Svetotekhnika 3 no.10:10-16 0 '57. (MIRA 10:10)

1. Vsesoyuznyy svetlotekhnicheskiy institut.
(Colorimeters)

Fogge, R.S.

SUBJECT: USSR/Luminescence

48-4-45/48

AUTHORS: Shklover D.A. and Ioffe R.S.

TITLE: Methods and Devices for Measuring Luminescence (Metody i pribory dlya izmereniya lyuminestsentsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, pp 619-622 (USSR)

ABSTRACT: VNISI, the All-Union Scientific Research Institute of Lighting-Engineering Industry, has developed several devices for measuring the radiation of luminescence with respect to its brightness, lumen output, color and spectral composition.

Selenium photocells and photoelectronic multipliers with bismuth-caesium cathode are applied as luminescent radiation receivers.

Universal photoelectric colorimeters UFK-1 and UFK-2 are used for measuring brightness, lumen output and color of lumino-phores for luminescent tubes and cathodoluminophores.

A special colorimeter was constructed for checking the radiation of luminescent tubes. Its capacity is 30 tubes per hour.

Card 1/2

TITLE:

48-4-45/48
Methods and Devices for Measuring Luminescence (Metody i pribory dlya izmereniya lyuminestsentsii)

The accuracy of determination of color relative components amounts to 0.005. Lumen output is determined with an accuracy of 2 to 3 %.

VNISI has also developed and produces a small number of new devices. television colorimeters of the TK-1 type, in connection with the problems of colored television. This device uses a photoelectronic multiplier FEU-13 with bismuth-cesium cathode as a radiation receiver. It can be used also as a luminosity meter. The maximum dimensions of a surface to be measured with this colorimeter are 50 x 50 mm and minimum dimensions are 5 x 5 mm. The photo-electronic multiplier is supplied from a high-voltage electronic stabilizer which ensures the voltage constancy with a tolerance of 0.1 %.

The article contains 3 photos and 1 graph.

The bibliography lists 3 references, all of them are Slavic (Russian). The report was followed by a short discussion.

INSTITUTION: All-Union Scientific Research Lighting-Engineering Institute.

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

IOFFE, R.S., inzh.

Radiation receivers for photoelectric colorimetry. Svetotekhnika
4 no.6:16-19 Je '58. (MIRA 11:6)

1.Vsesoyuznyy svetotekhnicheskiy institut.
(Colorimetry) (Photoelectric measurements)

IOFFE, R. S., Cand Tech Sci -- (diss) "Photoelectric methods and devices for wavelength measurements of sources of luminescent light." Moscow, 1960. 19 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Power Inst); 120 copies; price not given; (KL, 51-60, 118)

IOFFE, R.S., inzh.

Errors of spectral and color measurements. Svetotekhnika 7 no.6:
24-26 Fe '61. (MIRA 14:6)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Electric lighting—Standards) (Light—Spectra)

IOFFE, R.S., kand.tekhn.nauk; USVIATSOVA, Ye.P., inzh.

Fluorescent lamps with improved color transmission.
Svetotekhnika 8 no.11:13-18 N '62.

(MIRA 15:10)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Fluorescent lamps)

IOFFE, R.S., kand. tekhn. nauk

Color transmission and methods for measuring it. Sveto-
tehnika 9 no.10:1-7 0 '63. (MIRA 16:11)

1. Vsesoyuznyy svetotekhnicheskiy institut.

IOFFE, R. YA.

27825. Ioffe, R. Ya. Ken af v uzbekistane. Sots. Sel. Khoz-vo Uzbekistana,
1949, No. 2, s. 76-80

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

1. IOFFE, R. Ya
2. USSR (600)
4. Bast
7. Action of fertilizers on best crops sown on sod or with sod plowed under. Sov. agron. 10. no. 11. 1952.

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

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29901

Author : Ioffe, R.Ya.

Inst : The All-Union Institute for Fiber Crops.

Title : The Effectiveness of Various Doses and Ratios of Fertilization for Fiber Crops on the Perennial Grass Blanket and Its Preparation.

Orig Pub : Tr. Vses. n.-i. in-t lub. kul'tur, 1957, vyp. 22, 97-103

Abstract : No abstract.

Card 1/1

- 20 -

USSR/Cultivated Plants - Technical. Oil-Bearing. Sacchariferous. M-7

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000618630002-5"

Abs Jour : Ref Zhur - Biol., No 7, 1958, 39430

Author : Ioffe, R.Ya., Shevtsova, D.I.

Inst : All Union Scientific Research Institute of Best Cultivation

Title : The Time of Gambo Hemp (*Hibiscus Cannabinus*) Sowing in Uzbekistan.

Orig Pub : Tr. Vses. n.-i. in-ta lub. kul'tur, 1957, vyp. 22, 132-137.

Abstract : No abstract.

Card 1/1

- 123 -

ASKAROVA, S.A.; IOFFE, R.Ya.

Effect of trace elements on the activity of actinomyces and
the resistance of cotton to verticillium wilt. Uzb. biol.
zhur. 6 no.1:5-9 '62. (MIRA 15:3)

1. Institut botaniki AN UzSSR.
(COTTON WILT)
(TRACE ELEMENTS)

ASKAROVA, S.A.; IOFFE, R.Ya.

Possibility of the use of the fungicidal antibiotic trichothecia in the control of cotton wilt. Antibiotiki 7 no.10:
929-930 0'62 (MIRA 16:12)

1. Institut botaniki AN Uzbekskoy SSR.

ASKAROVA, S.A.; IOFFE, R.Ya.; IKRAMOVA, R.B.

Possibility of using actinomycetes-antagonists in controlling the
causative agent of verticilliosis in cotton. Uz. biol. zhur. 8
no.6:16-19 '64. (MIRA 18:3)

1. Institut botaniki AN UzSSR.

TAYTSLIN, I.S., kand.med.nauk; IOFFE, H.Z. (Lugansk)

Atherosclerotic neuritis and polynneuritis. Vrach. delo 4:138-139
Ap '62. (MIRA 15:5)

(ARTERIOSCLEROSIS)

(NEURITIS)

TAYTSLIN, I.S., kand. med. nauk; IOFFE, R.Z. (Lugansk)

Stenosis of the vertebral artery in the neck. Klin. med. 41 no.9:
145-146 S*63 (MIRA 17:3)

1. Iz bol'nitsy Luganskogo oblastnogo otdela zdorovoakhrane-
niya (glavnyy vrach - zasluzhennyy vrach UkrSSR F.I. Trotsen-
ko)

NEKRASOV, Mikhail Il'ich, mekhanik pod'yema: IOFFE, S., redaktor; V'YUSHINA, L.
redaktor; OYSTRAKH, V., tekhnicheskij redaktor

[Automatic control of belt conveyers] Avtomaticheskoe upravlenie
lentochnym pod'emom. Alma-Ata. Kazakhskoe gos. izd-vo, 1956. 14 p.
(MLRA 9:10)

1. Shakhta No.117-bis tresta Leninugol' kombinata "Karagandugol' "
(for Nekrasov)

(Conveying machinery)
(Mine hoisting)
(Automatic control)

MARKMAN, David Yefimovich, gorany inzhener; IOFFE, S., redaktor; GRABARNIK, A.
redaktor; OYSTRAKH, V., tekhnicheskiy redaktor

[Hero of Socialist Labor Khairullin's brigade's method of multistope
mining] Mnogozabolnaia prokhodka gornykh vyrabotok po metodu
brigady geroia sotsialisticheskogo truda G.Khairullina. Alma-Ata,
Kazakhskoe gos. izd-vo 1956. 20 p. (MLRA 9:10)
(Coal mines and mining)

IOFFE, S. B. (State Optical Institute)

"Interference-Polarization Filters," a report presented at the Conference of Commission on Astronomical Instruments Construction of the Astronomical Council, AS USSR, 10-12 Feb 56.

Sun. No. 1047, 31 Aug 56

3(1), 28(5)
AUTHORS:

SOV/20-127-4-18/60

Ioffe, S. B., Drichko, N. M., Prokof'yeva, I. A., Sotolev, V. M.

TITLE:

Observation of the Chromosphere on the Sun's Disk and Limb in the Radiation of the K-Line of Ionized Calcium by Means of an Interference-polarization Filter

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 796-797 (USSR)

ABSTRACT:

Interference-polarization filters (IPF) are in wide use for the observation of the chromosphere and prominences, and have delivered valuable observation material. Observations were mostly made concerning the H_{α} -line of hydrogen, but the K-line of ionized calcium is equally important. The IPF for the K-calcium line, which had hitherto been manufactured by the Institut kristallografii Akademii nauk SSSR (Institute of Crystallography of the Academy of Sciences, USSR) and the Harvard Observatory, did not meet the requirements. Ioffe and Drichko developed a new IPF for the K-line of ionized calcium which has a transmission band 0.5 \AA wide. High optical characteristics are attained by the method of production applied. Figures 1, 2, and 3 show pictures of the sun's disk and limb of March 21 and 23, 1959. Figure 1 shows prominences, figure 2 bright spots near the

Card 1/2

Observations of the Chromosphere on the Sun's Disk and Limb in the Radiation of the K-Line of Ionized Calcium by Means of an Interference-polarization Filter SOV/20-127-4-18/60

sun's limb, and figure 3 sunspots in the center of the sun's disk. The new IPF can be used - together with a large helioscope - for the investigation of the fine structure of the chromosphere on the sun's disk and limb as well as for the investigation of prominence motion. The authors thank Academician V. P. Linnik for his interest in the work. There are 3 figures and 8 references, 7 of which are Soviet.

SUBMITTED: April 7, 1959

PRESENTED: April 20, 1959, by V. P. Linnik, Academician

Card 2/2

3,1510(1062,1166,1170)
9.5300

87261
S/033/60/037/006/020/022
E032/E514

AUTHORS: Ioffe, S. B. and Drichko, N. M.
TITLE: ~~Interference Polarization Filter~~
An Interference Polarization Filter for Astrophysical
Studies of the Sun in the K-Line of Ionized Calcium
PERIODICAL: Astronomicheskii zhurnal, 1960, Vol. 37, No. 6,
pp. 1096-1101 + 1 plate

TEXT: The optical system of the interference polarization filter is shown in Fig. 1. The device consists of ten sections. Each section is in the form of a birefringent plate cut parallel to the optic axis and placed between polarizers in such a way that its principal plane makes an angle of 45° with the planes of polarization of the polarizers. The first eight plates are made of quartz (1 - 8, Fig. 1) and the last two are composite and consist of a plate of Iceland spar (9a and 10a) and a compensating quartz plate (9b and 10b). The introduction of the compensating plates was necessitated by difficulties in the preparation of the Iceland spar elements. The polarizers 11 and 12 are in the form of polyvinyl film sandwiched between pieces of glass. These films will polarize radiation in the near-ultraviolet part of the

Card 1/4

87261

S/033/60/037/006/020/022
E032/E514

An Interference Polarization Filter for Astrophysical Studies of the Sun in the K-Line of Ionized Calcium

spectrum (Ref.8). The polarizer 12 may be removed from the light beam and the bandwidth of the instrument can then be increased by a factor of 2. An additional filter 13 is provided to remove unwanted transmission bands. This filter consists of the YFC3 (UFS3) glass (1 mm) and BC8 (BS8) glass (3 mm). Heating of the device is prevented by the heat filter 14 made of SC13 (ZS13) glass. The filter has an aperture of 28 mm, an angular field of about 1.5 deg, and a transmission in the maximum of about 1%. The device is thermostated automatically to an accuracy of $\pm 0.1^\circ$ and the maximum of the transmission band corresponds to the K-line at 37.2°C . The transmission bandwidth of the filter is 0.5 \AA so that high contrast detailed photographs of the solar chromosphere can be obtained. A general theory of such a filter has been given by the first of the present authors in Ref.9. The filter was used at Pulkovo in the summer of 1959 under the direction of Professor V. A. Krat. The observations were carried out by I. A. Prokof'yeva and V. M. Sobolev. High contrast

Card 2/4