

1. OLEYNIK, V.I.
2. USSR (600)
4. Agriculture
7. Collective farm with high crop yeilds, Dost.s.l'khoz. no. 5, 1953.

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

OLEYNIK, V.

Economic effectiveness of feeding sugar-beet pulp. Mas.
ind.SSSR 30 no.1:31-33 '59. (MIRA 12:4)

1. Nauchno-issledovatel'skiy institut zivotnovodstva
lesostepi i poles'ya USSR.
(Cattle--Feeding and feeding stuffs)

KUTIKOV, S.I., prof.; OLEYNIK, V.I., nauchnyy sotrudnik

Effectiveness of raising young cattle for meat in a sugar beet zone.
Zhivotnovodstvo 22 no.7:26-33 '60. (MIRA 16:5)

1. Nauchno-issledovatel'skiy institut zhivotnovodstva lesostepi
i Poles'ya UkrSSR.

(Ukraine--Beef cattle--Feeding and feeds)
(Sugar beets as feed)

KUTIKOV, S.I., prof.; OLEYNIK, V.I., starshiy nauchnyy sotrudnik

Organization of farms specialized in meat production in the vicinity
of sugar refineries. Zhivotnovodstvo 23 no.2:26-32 F '61.
(MIRA 15:11)

1. Nauchno-issledovatel'skiy institut zhivotnovodstva lesostepi
i Poles'ya UkrSSR.
(Bogodukhov District--Beef cattle--Feeding and feeds)
(Sugar manufactures--By-products)

OLEYNIK, V.M.

Overall mechanization of earthwork and the use of excavating machines in the construction of railroads. Mekh. stroi. 21 no.3:
7-8 Mr '64. (MIRA 17:3)

1. Upravlyayushchiy trestom Kuzbasstransstroy.

L 22048-66 EWT(1)/EWT(m)/ETC(f)/EPF(n)-2/ENG(m)/ENF(j)/ETC(m)-6 IJP(c) RM/-

ACC NR: AP6003585(N) SOURCE CODE: UR/0171/66/010/001/0064/0067

M/JW

AUTHOR: Kuznetsov, N. M.; Oleynik, V. N.

ORG: Higher Naval Engineering Institute im. F. I. Dzerzhinskiy, Leningrad (Vyssheye voyennomorskoye inzhenernoye uchilishche)

TITLE: Use of the theory of thermodynamic similarity for the generalization of experimental data on the heat transfer of boiling organic coolants.

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 1, 1966, 64-67

TOPIC TAGS: coolant, heat transfer, thermodynamic property, heat transfer coefficient

ABSTRACT: The authors demonstrate how the basic concepts in the theory of thermodynamic similarity may be applied for the generalization of experimental data on the heat transfer of boiling fluids. The following formula is proposed:

$$\alpha = 190 \frac{\rho_k^{1/2}}{T_k^{1/2} M^{1/2}} \left(\frac{p}{p_k} \right)^{0.1} \left[1 + 0.65 \left(\frac{p}{p_k} \right)^{1.16} \right]^{0.33} \quad (1)$$

The experimental data of the authors on the boiling of a diphenyl mixture (DPM) and mono-isopropylidiphenyl (MIPD) in a tube and annular ducts of a natural-circulation circuit at pressures of $10^6 - 8 \cdot 10^6 \text{ n/m}^2$ and thermal loads of $50 \cdot 10^3 - 380 \cdot 10^3 \text{ w/m}^2$ were compared with the

Card 1/2

UDC: 536.248.2 + 536.24

L 22048-66

ACC NR: AP6003585

formula (1). The results showed a distinctly appreciable deviation between the theoretical and experimental data in the heat transfer coefficient values. The deviation of the results and reasons for the deviation are discussed. It is concluded that the formula obtained makes it possible to calculate the heat transfer coefficients during the boiling of organic coolants which are thermodynamically similar to DPM and MIPD on the basis of information on the critical parameters of a boiling fluid and its molecular weight. Orig. art. has: 9 formulas and 2 figures.

SUB CODE: 11, 20 / SUBM DATE: 16Feb65 / ORIG REF: 004

Card

2/2 MGS

AP6036432

(N)

SOURCE CODE: UR/0096/66/000/012/0057/0059

AUTHOR: Kuznetsov, N. M. (Doctor of Technical Sciences, Professor); Gleyrik, V. N.
(Engineer)

ORG: Naval College of Engineering im. Dzerzhinskiy (Vysshoye Voyenno-Morskoye Inzhenernoye uchilishche)

TITLE: Study of heat transfer during boiling of organic heat carriers

SOURCE: Teploenergetika, no. 12, 1966, 57-59

TOPIC TAGS: heat transfer coefficient, heat carrier, boiling

ABSTRACT: Heat transfer was studied experimentally during boiling of a diphenyl mixture and monoisopropylbiphenyl in a tube and in annular channels with natural circulation, at pressures of $10^5 - 8 \times 10^5$ n/m² and thermal loads of $50 \times 10^3 - 470 \times 10^3$ W/m². In the case of the biphenyl mixture, all the experiments showed that the heat transfer coefficient is independent of the velocity of the natural circulation, is proportional to the thermal load, and increases with the pressure. The experimental points are described by the empirical formula $\alpha = 1.28q^{0.7}p^{0.24}$. In the case of monoisopropylbiphenyl, the heat transfer coefficient is independent of the circulation velocity and of the geometrical dimensions of the heating surface; as in the case of the biphenyl mixture, it depends only on the thermal load and pressure of

Card

1/2

UDC: 536.24.1.662.987.661.7.001.5

ACC NR: AP6036432

the boiling liquid. It is expressed by the formula $\alpha = 1.23q^{0.7}p^{0.19}$. Orig. art. has: 4 figures, 1 table and 2 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 007

Card 2/2

ACC NR: AT7000573

(N)

SOURCE CODE: UR/0000/63/000/000/0053/0062

AUTHOR: Oleynik, V. P.

ORG: none

TITLE: Elimination of one defect in the "Amur" gyrocompass

SOURCE: Vladivostok. Dal'nevostochnyy tekhnicheskii institut rybnoy promyshlennosti i khozyaystva. Trudy, no. 3, 1963, 53-62

TOPIC TAGS: gyrocompass, inertial guidance, fishing vessel, ship component / *Amur Gyrocompass*

ABSTRACT: Since its introduction in the Far-eastern fishing fleet in 1955 experience has shown that the Amur gyrocompass has the following shortcomings: 1) gyrospheres wearout rapidly, 2) when the gyrocompass is stopped or when the supply voltage decreases rapidly the gyrosphere oscillates around its NS axis, and 3) the presence of errors associated with its construction. It was observed that when the 3-phase 120V power is disconnected (a single wire is broken) from the gyroscope drive or when the supply voltage suddenly drops the gyrosphere begins to oscillate around its NS axis with increasing period and amplitude which decreases from the initial angle of 70°. This gyrosphere oscillation tends to splatter the flotation fluid which may cause premature gyrosphere wearout and may introduce additional errors. These faults were completely eliminated by adding an automatic tripping circuit which removes two power line wires from the gyrocompass drive whenever the power voltage drops suddenly.

Card 1/2

ACC NR: AT7000573

Before this circuit modification was made the gyrocompass, because its drive mechanism was essentially connected to the vessel power source when the nominal power dropped, tended to supply some of its energy back to the power source giving rise to erratic behavior. Orig. art. has: 7 figures.

SUB CODE: 17,13/ SUBM DATE: 18May63

Cerd 2/2

OLEYNIK, V. P.

"Investigation of the Influence of Periodic Oscillations of a Gyrosphere Relative to the NS Axis on Its Behavior in the Azimuth." Cand Tech Sci, Leningrad Inst of Precision Mechanics and Optics Min Higher Education USSR, Leningrad, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

OLEYNIK, V.P.

Automation of a pumping unit. Transp. i khran. nefi no.1:17-19
'63. (MIRA 16:9)

1. Saratovskoye rayonnoye nefteprovodnoye upravleniye.

SHEVTSOV, G.G.; OLEYNIK, V.P.

Using track-laying machinery and proportioning equipment for track repair in tunnels. Put' i put.khoz. 8 no.4:22-23 '64. (MIRA 17:4)

1. Nachal'nik Sverdlovskoy distantzii puti (for Oleynik). 2. Glavnyy inzh. putevoy mashinoy stantsii No.171, Sverdlovsk (for Oleynik).

OLEYNIK, V.P.

For the inhabitants of Novosibirsk. Veat. sviazi 25 no.5:23-25
My '65. (MIRA 18:5)

1 Nachal'nik Novosibirskogo pochtanta.

112-57-8-16778D

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 8, p 120 (USSR)

AUTHOR: Oleynik, V. S.

TITLE: Selection and Investigation of a Single-Phase AC Electric Drive for Mechanized Transportation at Livestock-Breeding Farms (Vybor i issledovaniye elektroprivoda na odnofaznom peremennom toke dlya mekhanizatsii transporta na zhi/otnovodcheskikh fermakh)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences; presented to Ukr. s. -kh. akad. (the Ukrainian Academy of Agriculture), Kiyev, 1956.

ASSOCIATION: Ukr. s. -kh. akad. the Ukrainian Academy of Agriculture)

Card 1/1

OLEYNIK, Viktor Petrovich; SERGU, G.S., red.; TIKHONOVA, Ye.A., tekhn.
red.

[Brief theory of navigational aids] Kratkaiia teoriia elektronavigatsion-
nykh priborov. Moskva, izd-vo "Morskoi transport," 1961. 105 p.
(MIRA 14:8)

(Nautical instruments)

OLEYNIK, V. S.

OLEYNIK, V. S.: "The selection and investigation of electric drive using single-phase DC current for mechanizing transportation on animal-husbandry farms." Min Higher Education USSR. Ukrainian Order of Labor Red Banner Agricultural Academy. Kiev. 1956. (Dissertation for the Degree of Candidate in Technical Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

OLEYNIK, V.S., inzhener.

Screwdriver voltage indicator. Energetik 4 no.11:31-32 N '56.
(MIRA 9:12)

(Electric instruments)

OLEYNIK, Viktor Stepanovich [Oliiryk, V.S.], kand.tekhn.nauk;
SEMENKO, M.V., red.; MAVCHENKO, M.S., tekhn. red.

[Maintenance and repair of electrical equipment] Tekhnichne
obsluhovuvannia i potachnyi remont elektroobladnannia. Kyiv,
Derzhsil'hospydav URSS, 1960. 71 p. (MIRA 15:7)
(Electric machinery—Maintenance and repair)

OLEYNIK, V.S. [Oliinyk, V.S.], kand.tekhn.nauk

New series of asynchronous electric motors. Mekh. sil'. hosp. 11
no.9:23 S '60. (MIRA 13:9)

(Electric motors, Induction)

CHUMAKOV, Yu.I.; OLEYNIK, V.S.; LEDOVSKIKH, V.M.

2-Methyl-6-ethylpyridine. Metod. poluch. khim. reak. i prepar.
no.11:77-79 '64. (MIRA 18:12)

1. Kiyevskiy politekhnicheskij institut. Submitted April, 1964.

DUDNIK, Prokofiy Yermolaysvich; OLEYNIK, V.T., inzh., retsenzent;
PILIPENKO, Yu.P., inzh., red.; GORNOSTAYPOL'SKAYA, M.S.,
tekhn. red.

[Burnishing and flattening tools and mandrels] Obrabotki,
raskatki i dorny. Moskva, Mashgiz, 1962. 73 p.

(MIRA 15:4)

(Metalworking machinery)

GAVRILENKO, N. E.; OLEYNIK, V. V.; LOMAZOV, D. B.

Street Railroads - Dnepropetrovsk

Street car in Dnepropetrovsk which started operating in 1897. Elektrichestvo.
No. 2, 1953.

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

OLEYNIK, YA

AUTHOR: Oleynik, Ya., Engineer.

110-9-9/23

TITLE: The Technology of Manufacture of Parts of Press Tools for Stator and Rotor Laminations. (Tekhnologiya izgotovleniya detaley vyreznikh shtampov dlya plastin statorov i rotorov)

PERIODICAL: Vestnik Elektromyshlennosti, 1957, Vol.28, No.9, pp. 31 - 37 (USSR).

ABSTRACT: The technology of manufacturing press tools for stator and rotor laminations of induction motors has developed because of pressing requirements in Czechoslovakia since the war. Until 1948, press tools for laminations were finished by hand, but such methods required too much skilled labour and did not result in tools of adequate quality. Manufacturing procedures were developed which obviated hand-operation as far as possible, mainly by dividing into two parts the operations of shaping dies and tools for making slots. The tools were manufactured to their approximate dimensions before hardening and finished to size after hardening, mainly by grinding and the machining operations were adapted to relatively unskilled workers. The raw material for the dies consists of prismatic or cylindrical rods of tool steel brand CH-12 containing 12% Cr and 1.9% C; the design of forging tools for making the dies is described. The Card 1/3 metal is heated for forging by electric conduction as illustrated

110-9-9/23

The Technology of Manufacture of Parts of Press Tools for Stator and Rotor Laminations.

in Fig.2, and after forging, the dies are hardened and ground to final dimensions by methods which are described. To grind one die for a complicated slot shape takes 12 minutes and the maximum deviation of the main dimensions is 0.01 mm. The succession of manufacturing operations used in making a die for a double slot is given in Table 1. The process of manufacturing female dies is then described and the sequence of operations, in all, shown in Table 2. Methods of inspection for accuracy are described and illustrated in Figs. 5, 6, 7 and 8. In particular, the methods of manufacture achieve great stability of the press tools and their reliability in operation, as a result of selecting the best conditions for machining and also for forging the blanks for the dies. In suitable service, a tool will normally produce 60 000 stampings, after which the average sharpening required is 0.05 mm. Further development in the manufacture of press tools will probably be directed to improvements in the manufacture of female dies. There are 8 figures and 2 tables.

ASSOCIATION: MEZ Works, Mchelnice, Czechoslovakia. (Zavod MEZ,
Card 2/3 Mogel'nitse Chekhoslovatskaya Respublika)

The Technology of Manufacture of Parts of Press Tools for Stator and Rotor Laminations. 110-9-9/23

SUBMITTED: June 14, 1957.

AVAILABLE: Library of Congress.

Card 3/3

OLEYNIK, Ya.

OLEYNIK, Ya., inzh., laureat Natsional'noy premii.

Using punching dies made of heavy alloys in the electrical industries. Vest. elektroprom, 28 no.11:59-64 N '57. (MIRA 10:12)

1. Zavod Mogel'nitsa, Chexhoslovatskaya Respublika.
(Punching machinery)

OLEYNIK, Ya.S.

Draining of water bearing levels beneath the coal seams in the
Korostyshv lignite mines. Ugol' 35 no. 12:22 D '60.
(MIRA 14:1)

(Donets Basin--Mine drainage)

OLEYNIK, Ya V.

V-10

USSR/Human and Animal Physiology - The Nervous System.

Abs Jour : Ref Zhur - Biol., No 2, 1958, 9071

Author : I.A. Medyanik, L.A. Medyanik and Ya.V. Oleynik

Inst : Lvov University

Title : The Role of Protein Sulfhydryl Groups in the Conditioned Reflex Activity of Animals.

Orig Pub : Dopovidi ta povidomlennya. L'vivs'k. un-t, 1955, vip. 6, ch. 2, 50-52

Abstract : When 1 ml of a 1% solution of CaCl_2 or 5 ml of a 1% solution of FeCl_3 was given to dogs to block protein sulfhydryl groups, there was observed a lengthening of the latent period of conditioned-reflex salivation and a reduction in positive conditioned feeding responses, at times to complete disappearance, with simultaneous reinforcement of differentiation and conditioned inhibition.

Card 1/2

OLEYNIK, Ya.V.

Changes in cortical excitability induced by different positions of electrodes during polarization. Dop. ta pov. L'viv.un. no.6 pt.2;58-59 '55.

(MLRA 10:3)

(Cerebral cortex) (Electrophysiology)

USSR/Human and Animal Physiology - Nervous System.
Metabolism.

T-10

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84572

Author : Medyanik, I.A., Oleynik, Ya.V.

Inst : University of Lvov.

Title : The Role of SH-Groups in the Development of Cortical Cell
Parabiosis.

Orig Pub : Dopovidi ta povidomlennya. L'vivs'k. un-t, 1957, vip. 7,
ch. 3, 72-79

Abstract : Positive symmetric food conditioned reflexes (CR) were de-
veloped in dogs. As the cerebral cortex was stimulated by
direct current, parabiotic inhibitions were created, which
were accompanied by a considerable decrease of CR. Subcu-
taneous injections of 1-2 ml of a 1 percent cysteine solu-
tion restored CR magnitude to the initial level by

Card 1/3

USSR/Human and Animal Physiology - Nervous System.
Metabolism.

T-10

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84572

increasing the activity of SH-groups. When cortical parabiosis was created as 1-2 ml of a 1 percent CdCl_2 solution (SH-group block) was administered internally, reflexes diminished. As direct descending 1-10 ma current was passed through the cortex every 40-60 minutes, the blocking effect of CdCl_2 was removed and CR increased. Also, when 1-2 of a 1 percent urea solution were administered internally, parabiosis was produced, since this solution assisted in the transition of SH-groups into -S-S-groups. The urea effect was removed by stimulating the cerebral cortex by direct current anode every 40-50 minutes, and thus a rise of CR was produced. The effect of CdCl_2 strengthened and deepened previously developed differentiations and caused a gradual disappearance of food CR. Electric current applied every 30-60 minutes caused increased activity of SH-group; at the same time, differentiations and the

Card 2/3

Card 3/3

OLEYNIK, Ya. V.

MEDYANIK, I.A.; OLEYNIK, Ya. V.

Effect of constant current on the excitability of the vegetative centers of the brain. Fiziol.zhur. 43 no.5:400-403 My '57.

(MIRA 10:12)

1. Kafedra fiziologii cheloveka i zhivotnykh Gosudarstvennogo universiteta im. Iv.Franko, L'vov.

(SALIVATION, physiology,

eff. of stimulation of autonomic centers of brain with constant current (Rus))

(BRAIN, physiology,

eff. of constant current stimulation of autonomic centers on salivation (Rus))

(AUTONOMIC NERVOUS SYSTEM, physiology,

eff. of constant current stimulation of cerebral autonomic centers on salivation (Rus))

(ELECTRICITY, effects,

constant current stimulation of cerebral autonomic centers on salivation (Rus))

OLEYNIK, Ya.V.

MEDYANIK, I.A. [Medi:nyk, I.A.]; OLIYNIK, Ya.V. [Oleinyk, IA.V.]

Phasic variations in the excitability of the cerebral cortex due to the action of a continuous unintermittent current. Biol.

zbir. no.8:4-46 '58. (MIRA 12:7)

(CEREBRAL CORTEX) (ELECTROPHYSIOLOGY)

OLEYNIK, YA. V., CAND BIO SCI, "VARIATION IN THE ACTIVITY
OF SYMMETRICAL ^{parts} ~~MEMBERS~~ OF THE ^{cortex of the large hemispheres of the brain} ~~ADRENAL CORTEX UNDER ACTION OF~~
^{under the effect} AN ELECTRICAL CURRENT." L'VOV, 1961. (MIN ~~AGR~~ AGR USSR. L'VOV
ZOOVET INST). (KL-DV, 11-61, 215).

hh982

S/858/62/000/001/004/013
D296/D307

27 1120

27 1220

AUTHORS: Aksenova, G. V., Zrada, O. S., Krugovaya, G. N., Oleynik, Ya. V., Starostyuk, A. K., Cherkashchenko, L. N. and Chernogalova, A. G.

TITLE: The influence of radiation upon the phosphorous content and its metabolism in the brain

SOURCE: L'vov. Universytet. Problema lyaboratoriya radiobiologii. Biologicheskoye deystviye radiatsii, no. 1, 1962, 30-34

TEXT: Frogs were exposed to total body irradiation of 200r (at 10r/min) from a distance of 16 cm. The brains were then investigated 2 hrs, and 2, 5, 7 and 11 days after exposure. 4 hours before decapitation 0.5 ml of aq. $\text{NaH}_2\text{P}^{32}\text{O}_4$ of a dosage of 25 μc per 100 g weight, was administered by intraperitoneal injection. The amount of acid-soluble P and its metabolism, the phospholipids and the protein P of the brain were then investigated. Two hours after ex-
Card 1/3

The influence of radiation ...

S/858/62/000/001/004/013
D296/D307

posure, the total P-content in the acid-soluble fraction increased by 12.8% as compared with the control animals. The inorganic P-content increased by 11%, the total protein P by 21%, and the content of phospholipids decreased by 23.7%. These changes were even more marked after 2 days, when the total acid-soluble P fraction increased by 27.1%, out of which the inorganic P increased by 31%, the total protein P by 27.8% and the phospholipid content decreased by 42%. Six days after exposure, the total acid-soluble P fractions had increased up to 46.2% and the inorganic P-content by 87%. At the same time, however, the phospholipid content decreased by 23% and the content of protein P by 18%. Seven days after exposure the total acid-soluble P fraction increased by 50% but the total quantity of inorganic phosphate increased by 11.1% compared with the control animals. The phospholipid content was still decreased by 33% and the total protein P by 30%. 11 days after exposure, the total acid-soluble P fraction was still increased by 45% out of which the inorganic P exceeded the values found in the control animals by 36%, the content of the phospholipids was again increased by

Card 2/3

The influence of radiation ...

S/858/62/000/001/004/013
D296/D307

37% and the content of the total protein P decreased by 39%. Thus the acid-soluble P fraction remained increased throughout the experiment, but the changes in protein P and phospholipids moved in opposite directions. After an initial increase in the protein P level a decrease could be observed, whilst the phospholipids showed an increase. Two hours after exposure, the rate of metabolism, as estimated by the relative specific activity of the fractions, showed changes parallel to those in the P content. After 2 - 5 days, the decrease of the specific activity in all fractions indicated a slowing down of the phosphate metabolism which reverted to its normal level after 8 - 12 days. There are 2 tables. ✓

ASSOCIATION: Kafedra fiziologii cheloveka i zhivotnykh L'vovskogo universiteta (Department of Human and Animal Physiology, L'vov University)

Card 3/3

BAIKOVA, Ye.A., cand. techn. sci.; TRAPONSKYY, N.S., cand. techn. sci.;
GOLYNIK, I.S.; POLISHCHIK, I.S., akademik; PRONIN, V.S.;
KARAVAYEV, V.I.; ANDRIYEVICH, I.A.

Dry cleaning of blast furnace gas in ceramic metal filters.
Met. i gor. prom. no. 6/11-17 H-D '64.

(MIRA 18:3)

1. Akademiya nauk SSSR (for Sverdlovsk).

OLEYNIK, Ye.D., inzhener.

Cleaning heating surfaces of waste-heat boilers. Stal' 16 no.2:
174-176 P '51. (MLRA 9:5)

1. Zavod imeni Dzerzhinskogo.
(Open hearth process) (Heat regenerators)

O. O. Y. N. I. K. Ye. D.

137-1957-12-23263 :

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 59 (USSR)

AUTHOR: Oleynik Ye. D.

TITLE: Operational Experience With the KU-60 Recovery Boilers at the Dzerzhinskiy Plant (Opyt ekspluatatsii kotlov-utilizatorov KU-60 na zavode im. Dzerzhinskogo)

PERIODICAL: V sb.: Kotly-utilizatory martenovsk. pechey. Moscow. Metallurgizdat, 1957, pp 90-95

ABSTRACT: The KU-60 recovery boilers (RB) were installed with open-hearth furnaces of 185 t capacity and operated on a mixture of coke-gas and blast-furnace gas. At the RB inlet the amount of flue gases varies between 43 and 52,000 nm³/hr, and their temperature fluctuates between 450 and 550°. The boiler steam pressure is 9-13 atm (gauge), the temperature of the superheated steam, 280-320°. The average steam-generating capacity of the RB varies from 5 to 8.2 t/hr. Between 237 and 397 kg of steam are obtained per ton of steel. The amount of heat utilized by the RB is approximately 23 percent of the total heat introduced into the furnace. The initial expenses are recovered within 2.0 - 2.5 years. One ton of steam costs 7.54 - 11.53 rubles. Ye. N.

Card 1/1

1. Boilers-Operation

OLEYNIK, Ye. D.

137-1957-12-23268

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 59 (USSR)

AUTHOR: Oleynik, Ye. D.

TITLE: The Removal of Charge Dust From the Heating Surfaces of the Recovery Boilers (Ochistka poverkhnostey nagreva kotlov-utilizatorov ot zagryazneniya shikhtovym unosom)

PERIODICAL: V sb. : Kotly-utilizatory martenovsk. pechey. Moscow, Metallurgizdat, 1957, pp 96-103

ABSTRACT: The following methods are employed by metallurgical plants for the removal of the charge dust from the heating surfaces:

- 1) Washing with water once a day by means of a special washing apparatus installed between the coil-sections; this procedure requires 20-30 minutes; the operation of the boiler is interrupted every 12 days to permit cleaning;
- 2) Washing with feed water introduced into the steam-blast system at a pressure of 22 atm (gauge), this is done once every shift and requires 8-10 minutes; the operation of the RB is interrupted every 30-35 days to permit cleaning;
- 3) Washing with industrial water introduced into the steam-blast system under a pressure of 10-12 atm (gauge),
- 4) Steam-blasting. The above methods of cleaning the heating

Card 1/2

137-1957-12-23268

The Removal of Charge Dust From the Heat. Surf. of the Recov. Boilers

surface: exhibit the following inadequacies: 1) in a system with many closely spaced pipes stationary steam-blowing is inefficient because only small areas in the vicinity of the jets are cleaned thoroughly; 2) water washing does not reach the more remote piping areas in sufficient amounts to wash off the dust completely; the dust also adheres to certain sections of the pipes; when a boiler which has been disconnected from the gas line is washed with cold water, rolled joints may fail. One metallurgical plant employs an effective method of cleaning the RB's by spraying them with water throughout the cross-section. Thus the water, supplied in considerable amounts, washes the boiler tubes simultaneously throughout the entire height of the RB. This method requires 5 minutes and utilizes industrial water (75-86 t/hr) at a pressure of 2-3 atm (gauge) and a temperature of 12-35°. The system of spray-washing made possible: 1) to eliminate fully interruptions in the operation of the boilers due to the cleaning of the heating surfaces, to extend the run of the RB to equal the run of the furnace, to clean the boiler without having to disconnect it; 2) to increase the amount of heat utilized by the RB by 5-10 percent and to increase the output of the RB by 30-45 percent.

Card 2/2

1. Boilers-Maintenance

Ye. N.

137-58-4-6646

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 47 (USSR)

AUTHOR: Oleynik, Ye. D.

TITLE: Raising the Degree of Purification of Blast-furnace Gas by Disintegrators (Povysheniye stepeni ochistki domennogo gaza dezintegratorami)

PERIODICAL: Sb. statey po energetike. Moscow, Metallurgizdat, 1957, pp 151-164

ABSTRACT: The theoretical principles of the wet-cleaning of gas are employed to demonstrate the need for increasing the peripheral velocity of the squirrel cage of the disintegrator to improve cleaning. The results of work done to improve the disintegrators at the im. Dzerzhinskiy Plant after installation of a fifth stage of squirrel-cage devices and reconstruction of the fan vanes are presented. The dust content of the gas dropped from 20 to 6-10 mg/m³; the output rose by 25-30% with simultaneous reduction of power consumption by 15-20%. The importance of adhering to a number of requirements in planning an effective procedure to ensure a high level of gas purification is noted.

Card 1/1

G. Ch.

1. Blast furnaces--Operation 2. Gas--Purification 3. Disintegration--Processes--Applications

OLEYNIK, Ye. D.

137-1958-3-4781

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 46 (USSR)

AUTHORS: Oleynik, Ye. D., Pogorelyy, V. P.

TITLE: The Employment of Flue Gases in the Recarbonization of Water Used in Cooling Various Portions of Metallurgical Apparatus (Rekarbonizatsiya dymovymi gazami vody, idushchey na okhlazhdayemye elementy metallurgicheskikh agregatov)

PERIODICAL: Sb. statey po energetike. Moscow, Metallurgizdat, 1957. pp 246-260

ABSTRACT: In 1951, particularly in the months of November and December when the hardness of the Dnepr water was significantly increased, the Dzerzhinsky metallurgical plant in Dneprodzerzhinsk suffered large-scale breakdowns of water-cooled components of blast furnaces, such as casings, footstep girders, and caissons. The effect of the increased water hardness was also felt in the operation of sliding pipes of the rolling furnaces. Prompted by the massive nature of the burn-outs in the plant's heat-exchangers, the plant adopted a procedure of determining regularly the pH value and the CO₂ content of the water. Thus, for example, in December of 1951, the content of free CO₂ amounted to

Card 1/2

137-1958-3-4782

The Employment of Flue Gases in the Recarbonization of Water (cont.)

2 mg/liter, the temporary hardness being 3.9 - 4.2 mg-equiv/liter, at a pH of 8 - 8.4. Attempts to eliminate the deposition of carbonates by simultaneously reducing the temperature of water and increasing its discharge rate failed to give satisfactory results. Then, in a radical step, it was decided to recarbonize all water entering the plant by utilizing flue gases (FG); to this end a special installation was constructed and set into operation. The FG, taken from the multicyclone of the boiler, were passed through a scrubber (for purposes of cooling and purification) CO₂ content was maintained in the 10-12 mg/liter range, at a pH of 7.0 - 8.0. At a flow rate of 1500-1700 m³/hr. it was sufficient to supply 3000-3500 m³ of FG containing 18 percent to 22 percent of CO₂.

A M.

Card 2/2

NAGORNYKH, M.O., uchitel'; OLEYNIK, Ye.I., agronom (Odesskaya oblast',
Starobazatskiy rayon, s. Semenovka.

Experiment in growing perennial feed grasses. Biol. v shkole
no. 1:49-50 Ja-F '61. (MIRA 14:4)
(Grasses)

OLEYNIK-GROD, 1/19/78

FRONT BOOK EXPLANATION

807/3365

Akademiya nauk Azerbaydzhanskoy SSR

Doklady dokladov Sovetskoye na vykhoditel'nykh materiyale i primeneniya sredstv vychislitel'noy tekhniki (Outlines of Reports of the Conference on Computational Mathematics and the Use of Computer Techniques) Baku, 1978. 63 p. 400 copies -risted.

Additional Sponsoring Agencies: Akademiya nauk SSSR, Vychislitel'nyy tsentr, and Akademiya nauk USSR, Institut avtomatiki i telemekhaniki.

No contributors mentioned.

PURPOSE: This book is intended for pure and applied mathematicians, scientists, engineers and scientific workers, whose work involves computation and the use of digital and analog electronic computers.

COVERAGE: This book contains summaries of reports made at the Conference on Computational Mathematics and the Application of Computer Techniques. The book is divided into two main parts. The first part is devoted to computational mathematics and contains 19 summaries of reports. The second section is devoted to computing techniques and contains 20 summaries of reports. No personalities are mentioned. No references are given.

Alexandrov, S.A. Mathematical Description of Transient Processes in Nonlinear Electromagnetic Systems	11
Khatlashvili, I.P. The Adams-Mitchell Problem for a Borel Formed by Two Concentric Circular Cylinders of Various Materials	12
Karapina, L.N. The Work of the Mathematical Tables Branch of the Computing Center at the Academy of Sciences, USSR	13
Osmanov, A.M. Solution of the Fundamental Problem of the Filtration of Gas-containing Petroleum by Relaxation Methods	14
Tarabov, A.P., and V.M. Kurochkin. Automatic Programming, the Contemporary State, Fundamental Problems	15
Velikanova, T.M., and A.P. Tarabov, E. V. Kiz, V.M. Kurochkin, Ya. A. Mayskaya-Grod, and V. D. Podderygina. Computer Programming ROUTINE for the "Sirota" Computer (PDS)	16

Card 3/

1. OLEYNIK, Yu.

- 5) A. V. Malozemov, A. I. Kuznetsov, and Yu. Oleynik - Methods of Approximation in the Application of Mathematical Programming for a Solution of the Multiple Nationalization Problem.
- 6) A. Kaplan - Problems for the Use of Linear Programming in the
- 7) Ye. G. Gerasimov - A Program for the Solution of Transport Problems as an Extended Linear Programming Problem
- 8) A. V. Kostin - An Optimal Freight Haulage Plan for the USSR Coal Industry
- 9) V. S. Maslennikov - Theoretical Problems of the Checkboard-Type Balance
- 10) I. Ye. Kozlov - The Checkboard-Type Balance and the Planning of National Economy
- 11) Ye. I. Gerasimov - Experience in Working by the Checkboard-Type Balance for the Economic-Administrative Region
- 12) V. S. Malozemov - Some Planning Calculations Based on the Input-Output Balance of an Economic Region
- 13) V. V. Emser - A Regional Model of Agricultural Production
- 14) Y. I. Levin, A. I. Kuznetsov - The Nature and Special Features of Social Needs
- 15) Reading Session - 17 December 1979, 1600 hours
VI. Mathematical Statistics
- 16) Ye. M. Baskakov - Statistical Methods for Estimating the Average Prices of Goods
- 17) V. V. Shvachkin - The Consumption Elasticity Indicator and Its Practical Importance in Studying the Workers' Level of Living
- 18) P. Malozemov - Analytical Methods of Studying the Dependence of Consumption on Income
- 19) L. B. Mordukhai - Statistics and the Use of Mathematical Methods in Economic Research
- 20) V. V. Shvachkin - Research on Statistics and Economic Theory in Non-Linear Stochastic Models with the Aid of Correlation Theory
- 21) V. S. Malozemov - Application of Correlation Methods in the Analysis of Worker Operating Costs

Report submitted at the Soviet Conference on Problems in the Application of Mathematical Methods in Economic Research, Leningrad, 16-21 January 1980.

OLBYNIK, Kuriy Aleksandrovich; CHERENIN, V.P., otv.red.; YAKOVKIN,
M.V., red.; POPOVA, N.S., tekhn.red.

[Solution of transportation problems on an electronic computer
by approximation with relatively optimum plans] Reshenie zadachi
o transportirovke na elektronnoi vychislitel'noi mashine metodom
priblizheniia uslovno-optimal'nymi planami. Moskva, Vychislitel'nyi
tsentr AN SSSR, 1960. 32 p. (MIRA 13:12)
(Electronic calculating machines) (Transportation)

OLEYNIK, Yu. A.

"Solution With the Aid of an Electronic Computer of the Problem of Constructing
an Optimum Transportation Plan"

presented at the All-Union Conference on Computational Mathematics and
Computational Techniques, Moscow, 16-28 November 1961

So: Problemy kibernetiki, Issue 5, 1961, pp 289-294

NESTEROV, Yevgeniy Pavlovich; OLEYNIK, Yu.A., reviszent; PREDE, V.Yu.,
inh., red.; USENKO, L.A., tekm. red.

[Transportation problems in linear programming] Transportnye za-
dachi lineinogo programmirovaniia. Moskva, Transzheldorizdat,
1962. 169 p. (MIRA 15:7)
(Linear programming) (Transportation)

ZAKHAROV, V.V.; OLEYNIK, Yu.M.

Blocking out chambers at the Tashtagol mine with use of fan-cut
and rod boring. Trudy Inst.gor.dela.Sib.otd.AN SSSR no.1:134-137 --
'58. (MIRA 12:11)
(Tashtagol region (Gornaya Shoriya)--Mining engineering)

TREGUBOV, B.G., gornyy inzh.; KOVALENKO, V.A., gornyy inzh.; OLEYNIK, Yu.M.,
gornyy inzh.; MINAYEV, A.G., gornyy inzh.

Reply to A.I.Churakov's article "Upraise mining by means of
Sectional blasting of deep holes in mines of the Kursk Magnetic
Anomaly." Gor. zhur. no.9:78-79 S '62. (MIRA 15:9)

1. Institut gornogo dela Sibirskogo otdeleniya AN SSSR (for
Tregubov).
2. Gornoye upravleniye Kuznetskogo metallurgicheskogo
kombinata (for Kovalenko).
3. Rudnik "Tashtagol" (for Oleynik).
4. Rudnik "Temir-Tau" (for Minayev).
(Kursk magnetic anomaly--Mining engineering)
(Blasting)

OLEYNIK, Yu. P.

Adjustment of remote control devices. Elek. i topl. tiaga 6
no.9:17-19 S '62. (MIRA 15:10)

1. Starshiy elektromekhanik Belgorodskogo uchastka energo-
snabzheniya Yuzhnoy dorogi.

(Remote control—Equipment and supplies)
(Railroads—Electronic equipment)

OLEYNIK-OVOD, Yu.A.

32903

S/194/61/000/011/016/070
D209/D302

9,7100

AUTHOR(S):

Velikanova, T.M., Yershov, A.P., Kim, K.V., Kurochkin, V.M., Oleynik-Ovod, Yu.A. and Podderyugin, V.D.

TITLE:

Programming program for machines

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 3, abstract 11 B14 (Tr. Vses. soveshchaniya po vychisl. matem i primeneniyu sredstv vychisl. tekhn., Baku, AN AzerbSSR, 1961, 81-93)

TEXT:

It is shown that in 1957 in the Computing Center of the Academy of Sciences of the USSR, work on forming the system programming program (SPP) was completed. By using SPP the need for formulating programs of actual problems is avoided and this process is replaced by the process of compiling the information for SPP concerning the problem being solved. In working out the method of providing information about the problem for SPP the following points were observed: a) If possible, to provide the best approximation of

Card 1/4

32903

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D209/D302

Programming program for machines

the information to mathematical formulation of problems (i.e. to calculated formulae); b) reduction of the volume of auxiliary and purely technical work connected, as a rule, with the mathematical formulation of the problem and with the specific character of work on universal computing machines; c) that from the information one could see more or less accurately the structure of the completed program; d) reduction of volume of total information in order to make it more descriptive and easily surveyed. The information for SPP consists of five parts: 1) Program scheme - basic part of the information; 2) operators (O); 3) information about magnitudes; 4) information about memory blocks; 5) blocks. Except for the program scheme all the remaining parts of the information do not have to be given in an actual problem. The whole terminology used in this paper is explained. The program scheme is given. It is shown that the scheme can include O's of the following types: 1) Arithmetical O's; 2) restoration O's; 3) non-standard O's; 4) re-addressing O's; 5) double counting O's. Each operator in the scheme is represented by a letter giving the type of the O followed by the

Card 2/4

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D209/D302

Programming program for machines

information about the given 0. The arithmetical 0's and certain non-standard 0's of special form are the exceptions. The popularity of the program scheme, the nearness of its form to the form of the mathematical formulation of the problem are obtained basically by a specific solution of the registration of mathematical formulae in arithmetical 0 and preservation in the program scheme. Examined in detail is an arithmetical 0 which realizes a single calculation to a certain sequence of formulas of the type $F(x_1, x_2, \dots, x_n) = > y$, where the symbol = ">" indicates that y is a result of calculation according to the formula F. Further on, logical 0's non-standard 0's, cycles, re-addressing 0's, restoration 0's and double counting 0's are examined. Finally, an example of integration of a parabolic equation of the type

$$\frac{\partial z}{\partial t} = 0.75 \sqrt{x(1-x)(\tau^2 x + 2)} \frac{\partial^2 z}{\partial x^2},$$

$$z(x, 0) = 0; \quad z(0, t) = 0; \quad z(1, t) = t$$

Card 3/4

32903

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Programming program for machines

up to the moment when $t = T$ is given. One of the possible calculated formulas is shown. Information is provided about the block and the program scheme. [Abstracter's note: Complete translation]

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13169-66 EWT(d)/EWT(m)/T/EWP(1) LJP(c)

AC NR: AP6001204

SOURCE CODE: UR/0378/65/000/005/0066/0087

AUTHOR: Oleynik-Ovod, Yu. A. (Deputy director); Klepper, L. Ya. (Senior engineer)

64
63
B

ORG: [Oleynik-Ovod] Central Institute of Economics and Mathematics, AN SSSR (Tsentral'nyy ekonomiko-matematicheskyy institut AN SSSR); [Klepper] Institute of Medical Radiology, Obninsk (Institut meditsinskoy radiologii)

TITLE: Use of linear programming methods to select optimum conditions for irradiation of malignant neoplasms in remote radiation therapy

1644.55

SOURCE: Kibernetika, no. 5, 1965, 66-87

1944.55

TOPIC TAGS: computer application, computer programming, linear programming, irradiation, tumor, neoplasm, radiobiology

ABSTRACT: The authors discuss some problems associated with the use of linear programming methods in the selection of optimum conditions for radiation treatment of malignant neoplasms. Conditions for optimum dosage distribution in the organism being irradiated are mathematically analyzed. A program was set up on the BESM-2 computer for calculating the dosage distribution in homogeneous and heterogeneous media, determining the dosage at control points in the medium being irradiated, and determining the total absorbed dosage and the integral radiation energy both in the separate organs and tissues of the cross section being considered, and through the entire cross section of the organism being treated. The program may also be used for analysis of information on dosage distribution and for preparing

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UDC: 519.82:61

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ACC NR: AP6001204

this information to solve the problem of selecting optimum radiation conditions. Data from the solution of this problem are tabulated and given graphically. A comparison of these data for heterogeneous and homogeneous media indicates that the total duration of irradiation in all directions for a heterogeneous medium is much shorter than for a homogeneous medium. The resultant data may be used for determining the optimum directions for irradiation, the most effective radiation sources and skin focal lengths for each radiation direction, and also the duration of irradiation for the selected optimum directions. It is found that there may be a considerable change in the optimum irradiation conditions when Co-60 γ -radiation is used for treatment of esophageal cancer if the heterogeneity of the medium is taken into consideration when there is considerable pulmonary substance. The number of optimum directions for irradiation may vary from 3 to 8, depending on the medium. A little more than an hour is needed for solution of the problem on the BESM-2 computer. In conclusion, the authors thank Doctor of medical sciences A. S. Pavlov for valuable advice and consultation on this work. Orig. art. has: 15 figures, 4 tables, and 9 formulas.

SUB CODE: 06,09 / SUBM DATE: 21Feb65 / ORIG REF: 006 / OTH REF: 002

Card

2/2 *g*

KULEMOV, K.K., inzh.; ZORIN, M.I., inzh.,-meliorator; DASHKOVSKAYA,
L.T., rybovod; GUDYM, L.M.; KONOVALOV, D.N., rybovod;
KOTIKOV, A.P., inzh.; ROZHKOV, N., red.; FAIKED'KO, S.,
red.; OLEJNIKOV, A., red.; ZLOBIN, M., tekhn. red.

[Fishery resources of Kazakhstan; a manual for fisher-
men] Rybnye bogatstva Kazakhstana; spravochnik rybaka.
Alma-Ata, Kazgosizdat, 1963. 262 p. (MIRA 17:2)

1. Glavnyy spetsialist otdela pishchevoy promyshlennosti
Gosudarstvennogo Komiteta Soveta Ministrov Kazakhskoy SSR
po koordinatsii nauchnykh i tekhnicheskikh rabot (for
Gudym).

OLITSKIY, G.; OLEYNIKOV, A., red.

[Standard method of accounting for expenditures in construction and assembling operations; practices of the Alma-Ata Housing Combine] Normativnyi uchet v stroitel'no-montazhnom proizvodstve; iz opyta Alma-Atinskogo domo-stroitel'nogo kombinata. Alma-Ata, Kazgosizdat, 1964. 70 p.
(MIRA 17:8)

KHOMYACHKOVA, T., inzh.-ekonomist; OLEYNIKOV, A., red.

[Serving again] Snova na sluzhbe. Alma-Ata, Kazakh-
skoe gos. izd-vo, 1964. 44 p. (MIRA 18:9)

OLESENKOV, A.N.

Find of fauna in effusive-sedimentary sediments in the Kuti
region (eastern Transbaikalia). Trudy Vsesoyuznogo Nauchno-Issledovatskogo
(MIRA 17:7)

DEVYATKOV, A.G.; KOGAN, Sh.M.; LIFSHITS, T.M.; OLEYNIKOV, A.Ya.

Electroconductivity of n-type indium antimonide at low
temperatures. Fiz. tver. tela 6 no.6:1657-1663 Je '64.

(MIRA 17:9)

1. Institut radiotekhniki i elektroniki AN SSSR, Moskva.

ACCESSION NR: AP4039650

S/0181/64/006/006/1657/1663

AUTHOR: Davyatkov, A. G.; Kogan, Sh. M.; Lifshits, T. M.;
Oleynikov, A. Ya.

TITLE: Conductivity of n-type indium antimonide at low temperatures

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1657-1663

TOPIC TAGS: n type indium antimonide, volt ampere characteristic
nonlinearity, field dependent conductivity, temperature dependent
conductivity, nonlinear temperature dependence

ABSTRACT: The nonlinearity of n-type InSb volt-ampere characteris-
tics at low temperatures and its dependence on field, temperature,
and concentration are discussed. Measurements were made at about
1.5—15K on specimens with dimensions of 10 x 1.5 x 1 mm and electron
concentrations of 1.8×10^{13} to $1.5 \times 10^{15} \text{ cm}^{-3}$ in a field range of
0.02 to 0.3 v/cm. The results of the investigation have shown that:
1) conductivity σ increases with temperature, while nonlinearity

Cord 1/3

ACCESSION NR: AP4039650

considerably decreases both with an increase in carrier concentration and with an increase in specimen temperature; 2) in all cases, the dependence of σ on lattice temperature T_0 is markedly weaker than $T^{3/2}$; 3) at low temperatures specimens with high electron concentrations showed a saturation of $\sigma(T_0)$, which is apparently caused by the degeneration of the electron gas; 4) at a donor concentration of 10^{14} cm^{-3} and a carrier concentration of $1 \times 10^{14} \text{ cm}^{-3}$, the coefficient of nonlinearity $\beta(E)$, where E is the field intensity, first increases as the field increases, reaches a maximum, and then decreases. In the region of the low fields, β increases with an increase in lattice temperature, and decreases in the region of the maximum and of higher fields, so that at high T_0 , function $\beta(E)$ declines monotonically with the field. The authors explain the field and temperature dependences of σ and β by the fact that electron pulse dispersion occurs on the charged impurity, while energy dispersion occurs on the deformed and piezoelectric potential of acoustic phonons. Orig. art. has: 6 figures and 7 formulas.

Card 2/3

ACCESSION NR: AP4039650

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR, Moscow
(Institute of Radio Engineering and Electronics, AN SSSR)

SUBMITTED: 16Dec63

DATE ACQ: 19Jun64

ENCL: 00

SUB CODE: EM.PE

NO REF SOV: 003

OTHER: 004

Card 3/3

ACCESSION NR: AP4041710

S/0181/64/006/007/2064/2071

AUTHORS: Nad', F. Ya.; Oleynikov, A. Ya.

TITLE: Photoconductivity of n-type indium antimonide in the long wave region of the spectrum

SOURCE: Fizika tverdogo tela, v. 6, no. 7, 1964, 2064-2071.

TOPIC TAGS: photoconductivity, indium antimonide, electron conductivity, Hall constant, Hall effect, ionization energy, photoeffect

ABSTRACT: In order to ascertain which of two possible photoconductivity mechanisms predominates under various conditions, the authors investigated the relative contribution of extrinsic photoconductivity and the photoconductivity connected with heating of the carriers by the radiation, to the photosensitivity of n-type InSb at millimeter wavelengths and helium temperatures. The dependence of the Hall constant on the temperature and on the magnetic field was

Cord 1/3

ACCESSION NR: AP4041710

measured. The ionization energy of shallow impurities in n-InSb and its dependence on the magnetic field were determined. The investigation showed that in specimens where the uncompensated donor density is lower than 10^{15} cm^{-3} the application of a magnetic field increases the photosensitivity appreciably, owing to the increased contribution of the extrinsic photoconductivity. The Hall-effect measurements yielded a value 10^{-3} -- 10^{-4} eV for the ionization energy, which is found to depend on the magnetic field. The Hall-effect measurements were well confirmed in the investigation of the photoelectric properties. Variation of the magnetic field makes it possible to shift the "red edge" of the photoeffect. The effect of the concentration of the uncompensated donors on the photoresistivity in the long wave region is briefly discussed. "The authors are grateful to T. M. Lifshits and Sh. M. Kogan for valuable discussions and continuous interest." Orig. art. has: 6 figures, 2 formulas, and 2 tables.

Card: 2/3

ACCESSION NR: AP4041710

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR, Moscow
(Institute of Radio Engineering and Electronics, AN SSSR)

SUBMITTED: 29Jan64

ENCL: 00

SUB CODE: SS, EM

NR REF SOV: 003

OTHER: 006

Card

3/3

L 11951-66 EWT(1)/EWT(m)/EWP(t)/EWP(b)/EWA(m)-2 LJP(c) JD/AT
 ACC NR: AP6000739 SOURCE CODE: UR/0386/65/002/009/0423/0426
 AUTHOR: ^{44,55}Lifshits, T. M.; ^{44,55}Oleynikov, A. Ya.; ^{44,55}Shul'man, A. Ya. ⁸¹
 ORG: ^{44,55}Institute of Radio Engineering and Electronics, Academy of Sciences, SSSR (Insti- ^B
 titut radiotekhniki i elektroniki Akademii nauk SSSR)
 TITLE: Scattering of ^{21, 44,55}electron gas energy in n-InSb at helium temperatures
 SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. ²¹Pis'ma v redaktsiyu.
 Prilozheniye, v. 2, no. 9, 1965, 423-426
 TOPIC TAGS: indium alloy, electron collision, electric conductivity, relaxation pro-
 cess, temperature dependence, ²¹electron gas, crystal lattice
 ABSTRACT: To study the energy scattering mechanisms in InSb, the authors investi-
 gated the field and temperature dependences of the time of electric conductivity re-
 laxation of n-InSb samples, which is simultaneously the time required to transfer the
 excess average energy from the electron gas to the crystal lattice. The tests con-
 sisted of measuring the active and reactive components of the complex admittance of a
 sample with nonlinear voltage-current characteristic, and calculating from these com-
 ponents the relaxation time τ of the average energy for each value of the lattice tem-
 perature and of the power dissipated in the sample. It is noted that the electric-
 conductivity relaxation time depends on the circuit parameters and on the manner in
 which the sample is connected in the circuit, this being the consequence of the pump
 action of the battery. To compare the obtained data with theory, the authors used

Card 1/2

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ACC NR: AP6000739

the results of a calculation of the electron energy loss function $P(T)$ for scattering by the piezoelectric and deformation potentials of the acoustic phonons and by the optical phonons, obtained by Sh. M. Kogan (FTT v. 4, 2474, 1962) and H. Frohlich and B. V. Paranjape (Proc. Phys. Soc. v. B69, 21, 1956), respectively. Comparison of the experimental and theoretical curves leads to the conclusion that the nonmonotonic dependence of τ_p on T is connected with the interchange of mechanisms for the transfer of energy to the lattice from the electron gas when the temperature of the latter increases. When $T < 8K$, energy scattering by the piezoelectric potential of the acoustic phonons predominates. At electron temperatures $T \geq 10K$, the agreement between theory and experiment is only qualitative. Authors are grateful to Sh. M. Kogan for a valuable discussion. Orig. art. has: 1 figure and 1 formula. 44,55

SUB CODE: 20/ SUBM DATE: 08Sep65/ ORIG REF: 003/ OTH REF: 002

lch
Card 2/2

LIFSHITS, T.M.; OLEYNIKOV, A.Ya.; SHUL'MAN, A.Ya.

Scattering of the energy of an electron gas in n-InSb at helium temperatures. Pis'. v red. Zhur. eksper. i teoret. fiz. 2 no.9: 423-426 N '65. (MIRA 18:12)

1. Institut radiotekhniki i elektroniki AN SSSR. Submitted September 8, 1965.

OLEYNIKOV, B.Y.

New find of monticellite marbles in the Siberian Platform. Zap. Vses.
min. ob-va 89 no.3:359-361 '60. (MIRA 13:8)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki
i mineral'nogo syr'ya, Novosibirsk.
(Siberian Platform--Marble)

OLEYNIKOV, B.V.; SHARAPOV, V.N.

Trappean volcanism in the western Siberian Platform. Geol.
i geofiz. no.6:51-60 '61. (MIRA 14:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN
SSSR, Novosibirsk.
(Siberian Platform--Rocks, Igneous)

OLEYNIKOV, B.V.

Pyroxenite from the lower Kureyka River. Geol. i geofiz. 4:129-
131 '62. (MIRA 15:8)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii,
geofiziki i mineral'nogo syr'ya, Novosibirsk.
(Kureyka Valley--Pyroxenite)

OLEYNIKOV, B.V.

Making models of mines from plexiglas. Gor. zhur. no.3:52-53
Mr '63.

(MIRA 16:4)

1. Glavnyy marksheyder kombinata Baileyzoloto.

ZOLOTUKHIN, V.V.; OLEYNIKOV, B.V.

Acidic hybrid rocks from the Gorbachin Valley (Siberian Platform).
Trudy Inst.geol.i geofiz.Sib.otd.AN SSSR no.15:80-106 '63.
(MIRA 17:4)

OLEYNIKOV, B.V.; SHVARTSEV, S.L.; MANDRIKOVA, N.T.; OLEYNIKOVA, N.N.

Nickel hexahydrate, a new mineral. Zap.Vses.min.ob-va 94
no.5 534-547 '65. (MIRA 18:11)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii,
geofiziki i mineral'nogo syr'ya, Novosibirsk.

OLEYNIKOV, F.G.; KITAYEV, I.P.

Table with built-in ventilation system for processing sulfited fruit.
Kons. i ov. prem. 12 no. 4:23-24 Ap '57. (MIRA 10:6)

1. Rostovskiy konservnyy zavod "Smychka".
(Fruit--Preservation) (Canning industry--Equipment and supplies)
(Ventilation)

OLEYNIKOV, F.S.

Cherry jam production line. Kons.i ov.prom. 12 no.5:5-6 Ky '57.
(MIRA 10:8)

1. Rostovskiy konservnyy zavod "Smychka."
(Jam)

OLSHNIKOV, P.G.; CHERNYI, M.A.

Stamping attachment for the labeling machine produced by the Odessa
machine manufacturing plant. Kons.i ov.prom. 12 no.9:23-24 S '57.
(MIRA 10:10)

1. Rostovskiy konservnyy zavod "Snychka."
(Labeling machines)

OLEYNIKOV, F.G.
OLEYNIKOV, F.G.

Apparatus for vulcanization of automobile inner tubes. Kons. 1
ov. prom. 12 no.11:38 H '57. (MIRA 11:1)

1. Rostovskiy konservnyy zavod "Smychka".
(Automobiles--Tires--Repairing)

OLEYNIKOV, F.O.

Mechanical nailing of box tops. Kons.i ov.prom. 14 no.2:22-23 J '59.
(MIRA 12:3)

1. Rostovskiy konservnyy zavod "Smychka."
(Packing for shipment)

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Work of efficiency promoters of the "Smychka" Canning Factory in
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(MIRA 12:3)

1. Rostovskiy konsernyy zavod "Smychka."
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