PAVLIS, O. [Pavlis, H.], inzh., TKACHENKO, V., inzh.; KIRTBAYA, Zh., inzh.

Using large blocks in building houses in Kiev. Prosk. i bud. 1 no.1:34-36 O '59. (MIRA 13:12)
(Kiev--Apartment houses) (Building blocks)

[illegible] V. P.; KIRICHEVA, N. [illegible]

Complexometric quantitative determination of aluminum and vanadium in case of their simultaneous presence. Doklady BAN 17 no.5[illegible] 164

1. Note presentée par [illegible], membre de l'Académie.

KIRTOK, V.I., inzh.

Modernizing the reverse mechanism on E-502 and E-754 excavators. Stroi. i dor. mash. 6 no.6:24-25 Je '61. (MIRA 14:7)

(Excavating machinery)

KIRTOVSKIY, I.

Correlation between a rise in labor productivity and wages. Izv.AN Latv.SSR no.6:35-42 '63. (MIRA 17:4)

KIRTOVSKIY, I. (Riga)

Attitude of the Latvian bourgeoisie to agrarian problems, 1905-1917. Vestis Latv ak no.6:5-12 '60.

(EEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut ekonomiki.

(Latvia--Agriculture)

KIRTSOV, N.

Establishing technical standards for the multiple machining of machine parts. Sots. trud 6 no.5:76-80 My '61. (MIRA 14:6)
(Machinery industry--Production standards)

CZECHOSLOVAKIA

KIRULCUK, V., Physiological Institute, Medical Faculty, Comenius University (Fyziologicky Ustav LFUK), Bratislava.

"The Importance of Reflexes of the Oral Cavity in Saliva Secretion During Thermal Polypnea in Dog."

Prague, Ceskoslovenska Fysiologie, Vol 15, No 2, Feb. 66, p 74

Abstract: Polypnea causes secretion by means of reflexes in the oral cavity. Experiments were conducted by inducing polypnea by infrared radiation or by heating the experimental chamber to 35-40°C. In experiments with 9 dogs it was found that oral anesthesia reduced secretion by about 50%. Experiments on 5 dogs showed that tracheal breathing caused similar reduction. Experiments on 6 dogs showed that denervation of oral cavity also had a similar influence. The author believes that half of the secretion is due to reflexes of the oral cavity, and half is influenced by the CNS. 2 Western references. Submitted at the "16 Days of Physiology" at Kosice, 29 Sep, 65.

1/1

KIRUSENKO, T.S.

3(5, 8) PHASE I BOOK EXPLOITATION SOV/3028

Akademiya nauk SSSR. Yakutskiy filial

Materialy po geologii poleznykh iskopayemykh Yakutii (Materials on the Geology of the Minerals of Yakutiya) Moscow, Izd-vo AN SSSR, 1959. 199 p. (Series: Its: Trudy. Seriya geologicheskaya. Sbornik, no. 4) Errata slip inserted. 1,500 copies printed.

Resp. Ed.: N. V. Cherskiy; Ed. of Publishing House: S. P. Shobolov; Tech. Ed.: P. S. Kashina.

PURPOSE: This collection of articles is intended for geologists, mineralogists, petrographers, and stratigraphers.

COVERAGE: This collection of articles discusses the geology of various East Siberian mineral complexes. Of particular interest are an article on Yakut diamonds (photographs show morphology and crystal structure) and one on alterations in rock complexes (albitization, biotization, etc.). References accompany each article.

AVAILABLE: Library of Congress

Card 3/3

MM/lsb
12-21-59

USSR / General and Special Zoology. Insects. Insect and Mite Pests. P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54319.

Author : Yatsyna, L. T.; Kirushev, A. G.
Inst : Not given.
Title : A Chemical Control Method for the Colorado Potato Beetle.

Orig Pub: Zashchita rast. ot vredit. i bolezney, 1957, No 4-46.

Abstract: The station of the Ministry of Agriculture USSR for the study of the beetle, tested 337 insecticidal preparations in the German Democratic Republic. The most toxic preparations were DDT and hexachlorocyclohexane, and also dieldrin, heptachlorine, aldrin, preparation Ya-120, thiophos, dithiophos, taxonomic preparation No 120 (against the larva of stage IV). The application of 400 kg/ha. of DD

Card 1/3

USSR / General and Special Zoology. Insects. Insect and Mite Pests. P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54319.

Abstract: (1,3-dichloropropane-1,2-dichloropropane) secured complete destruction of the diapausing beetles. The fumigant A-1-8 from the INOKh [Institute of Vegetable Raising?] of the Academy of Sciences USSR was not inferior to dichloroethane and carbon bisulfide in toxicity. A fine spraying of 200 liters per ha, is the most effective and the most efficient method of applying the contact insecticide. The best result was produced by the DDT paste (2.2 kg/ha. of the active substance). DDT emulsion was also very effective against the beetles of the second generation. The feasibility of using aerosol method was proven in principle. The most effective period for treatment is during the first emergence of the larva of the III stage, when the larva of the stage I

Card 2/3

KIRUSHEV, A.G., aspirant

Control of the Colorado beetle. Zashch. rast. ot vred. i bol. 9 no.7:42-43 '64. (MIRA 18:2)

KIRUSHEV, A.G.; KOROTKIKH, G.I.

Aerosols against the cutworm Hadena basilinea. Zashch. rast. ot vred. i bol. 4 no.2:21 Mr-Ap '59. (MIRA 16:5)

(Kazakhstan--Cutworms--Extermination)

KIHUSHEV, Aleksey Mikhaylovich; GOLOSOV, A., red.; TSIVUNIN, I., tekhn. red.

[Maintenance and use of ice roads] Soderzhanie i ekspluatatsiia lediankh dorog. Syktyvkar, Komi knizhnoe izd-vo, 1962. 22 p. (MIRA 15:9)

(Roads, Ice) (Lumber—Transportation)

KIRVALIDZE, A.Z.

Zone of painfulness to percussion in acute appendicitis.
Soob. AN Gruz. SSR 31 no.1:227-231 Jl '63. (MIRA 17:7)

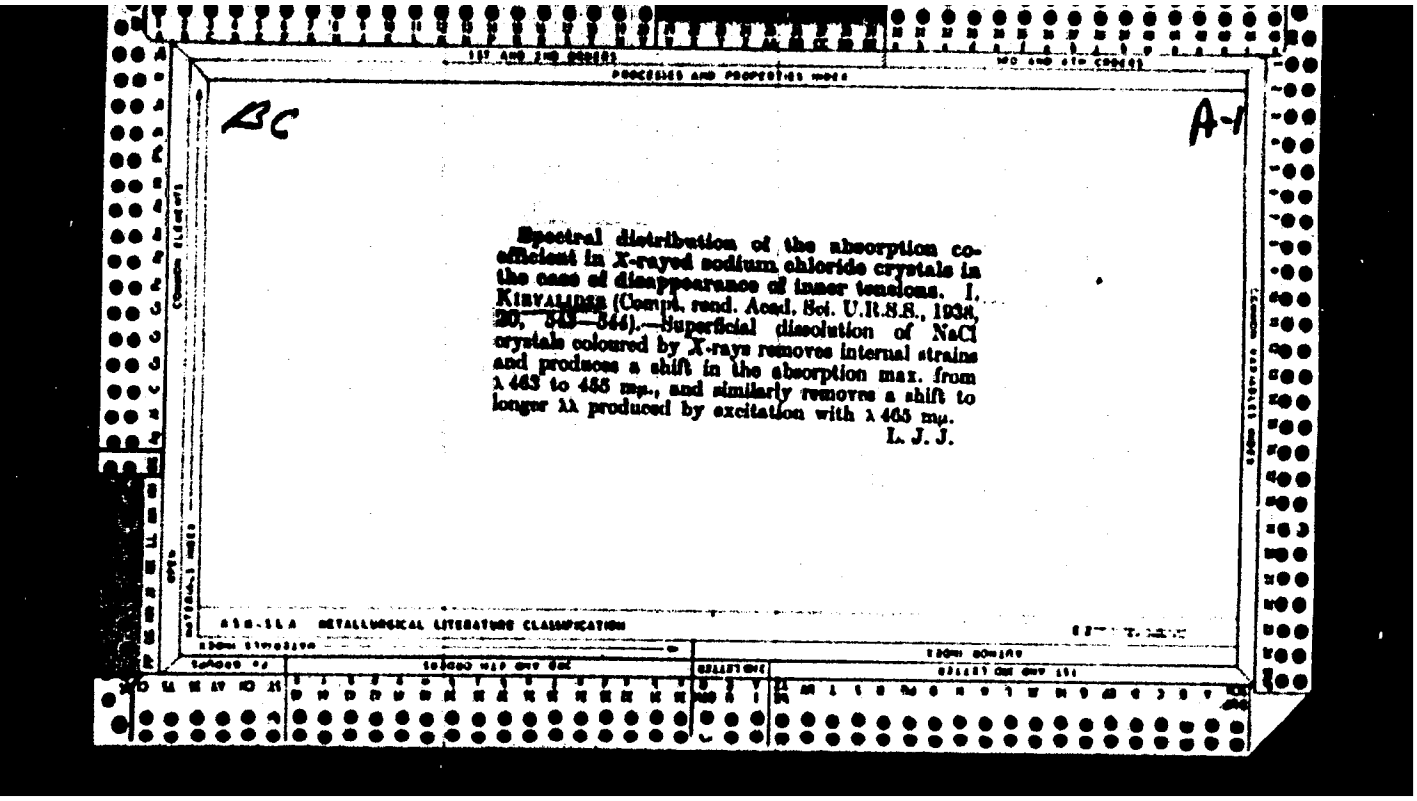
KIRYALIUTE, A.E.

Bacterial flora during acute apperdicitis. Zhur. Mikrobiol. Epidemiol. i Immunobiol. SSSR 32 no.3:627-632 D '63. (MIRA 17:11)

KIRVALIDZE, A.Z.; TSAGARELI, Z.G.

Changes in intramural nerves of the vermiform appendix during acute appendicitis. Soob. AN Gruz. SSR 32 no.2:455-462 '63.
(MIRA 18:1)

1. Submitted January 20, 1963.

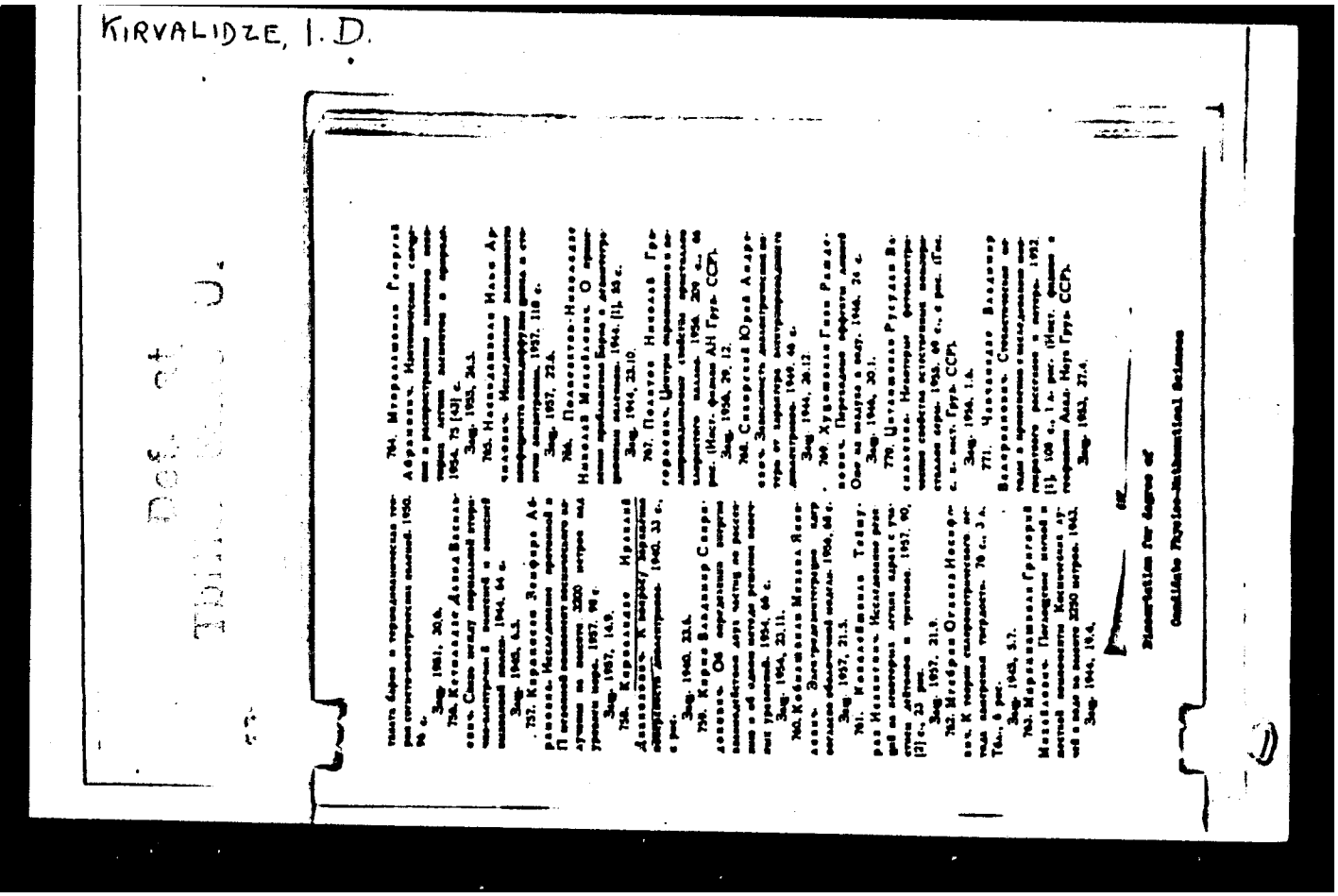


BC

A-1

Spectral distribution of the absorption coefficient in X-rayed sodium chloride crystals in the case of disappearance of inner tensions. I. Kirvalidze (Compt. rend. Acad. Sci. U.R.S.S., 1938, 20, 343—344).—Superficial dissolution of NaCl crystals coloured by X-rays removes internal strains and produces a shift in the absorption max. from λ 463 to 485 mμ., and similarly removes a shift to longer λλ produced by excitation with λ 465 mμ.

L. J. J.

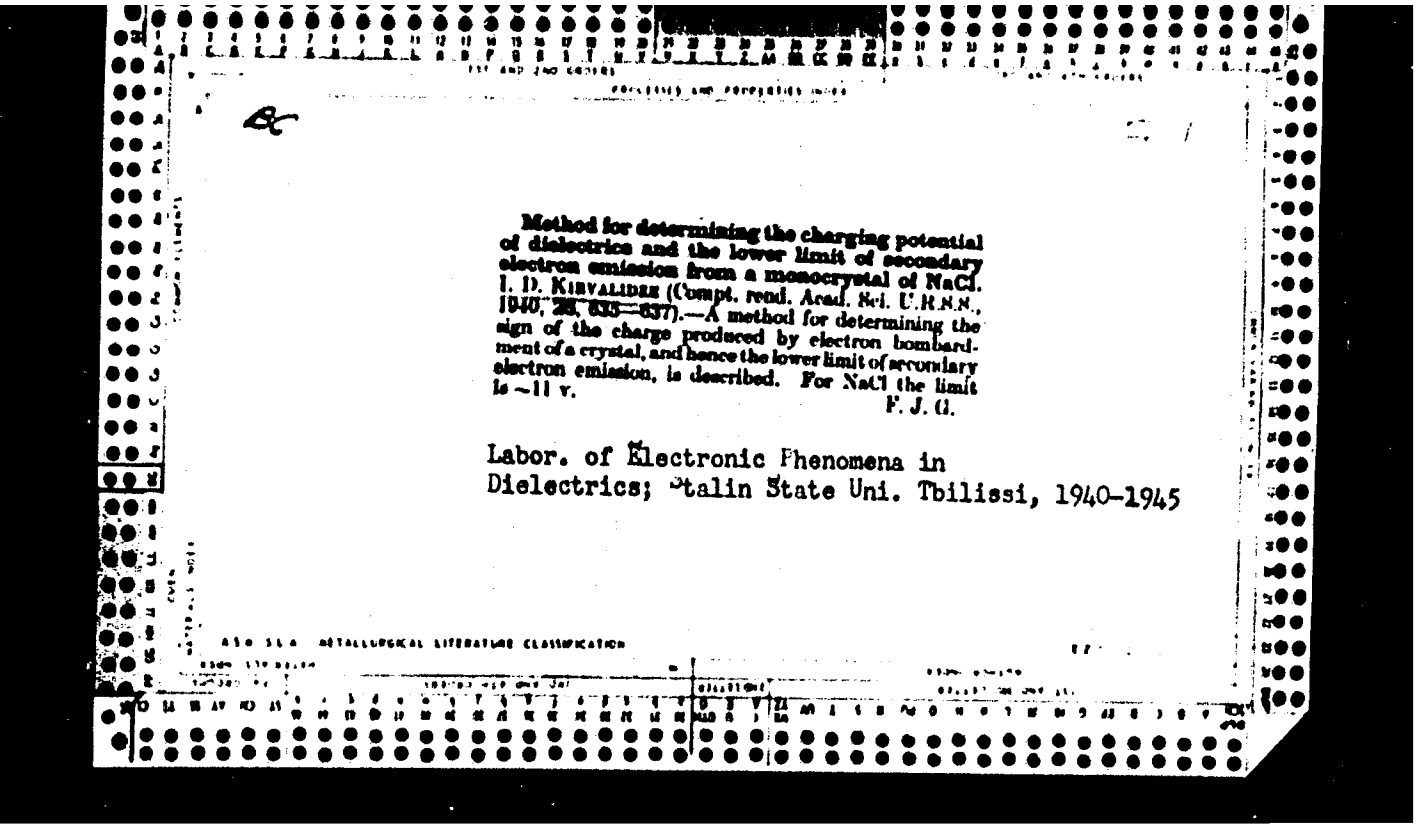


KIRVALIDZE, I. D.

Dissertation for degree of

Candidate Physico-Mathematical Sciences

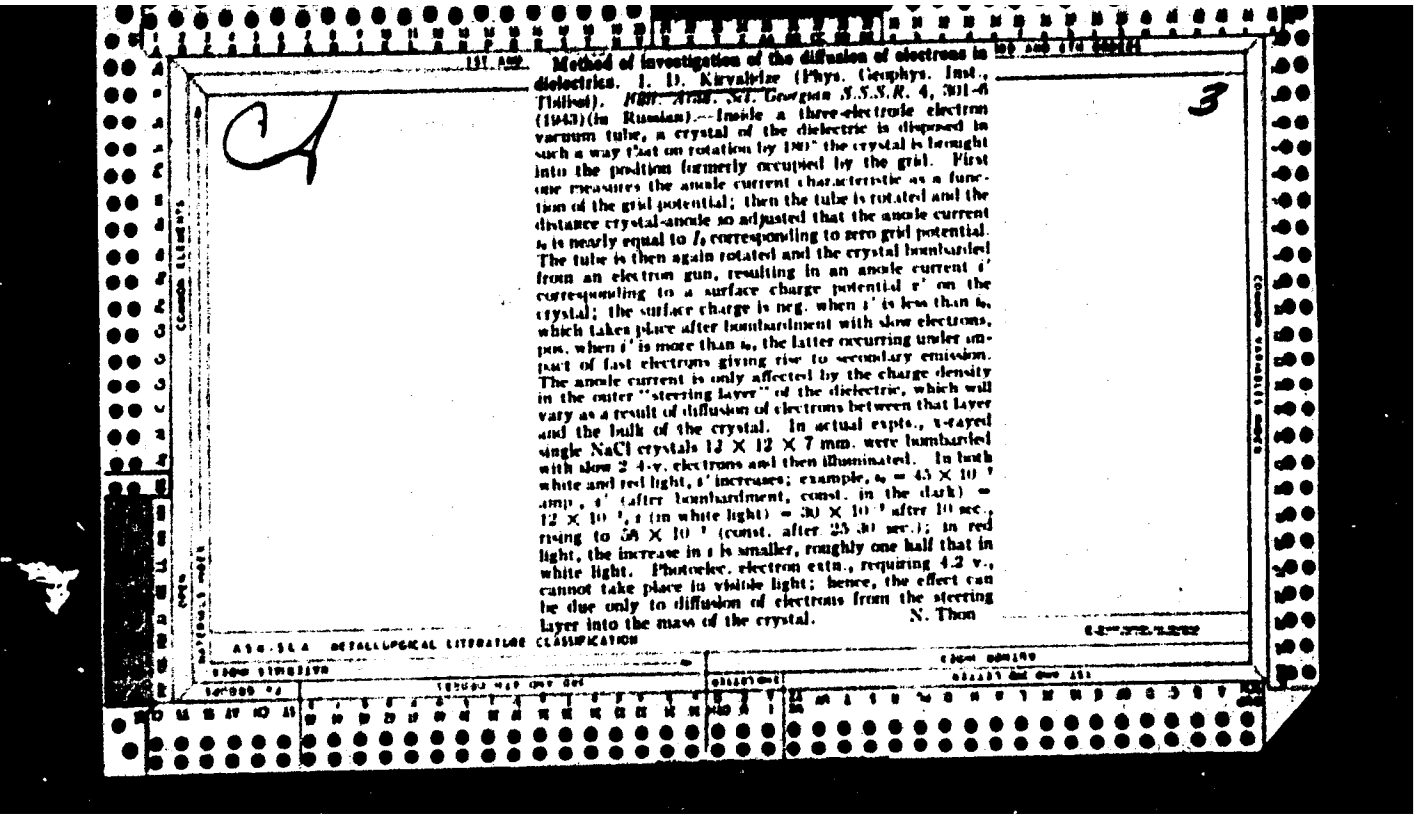
APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722720013-7"



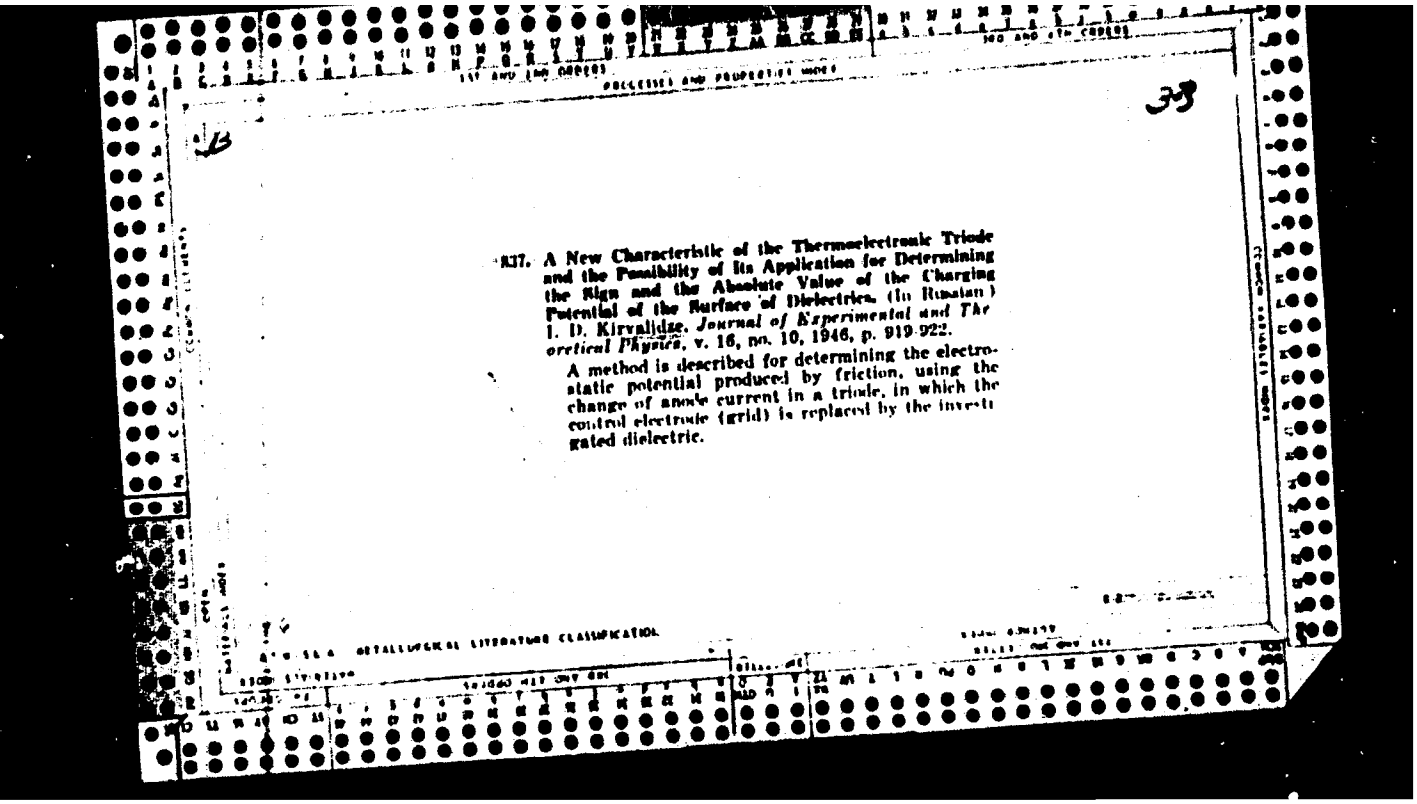
Method for determining the charging potential of dielectrics and the lower limit of secondary electron emission from a monocrystal of NaCl. I. D. KIRVALIDZE (Compt. rend. Acad. Sci. U.R.S.S., 1940, 28, 635—637).—A method for determining the sign of the charge produced by electron bombardment of a crystal, and hence the lower limit of secondary electron emission, is described. For NaCl the limit is −11 v.

F. J. G.

Labor. of Electronic Phenomena in Dielectrics; Stalin State Uni. Tbilissi, 1940-1945

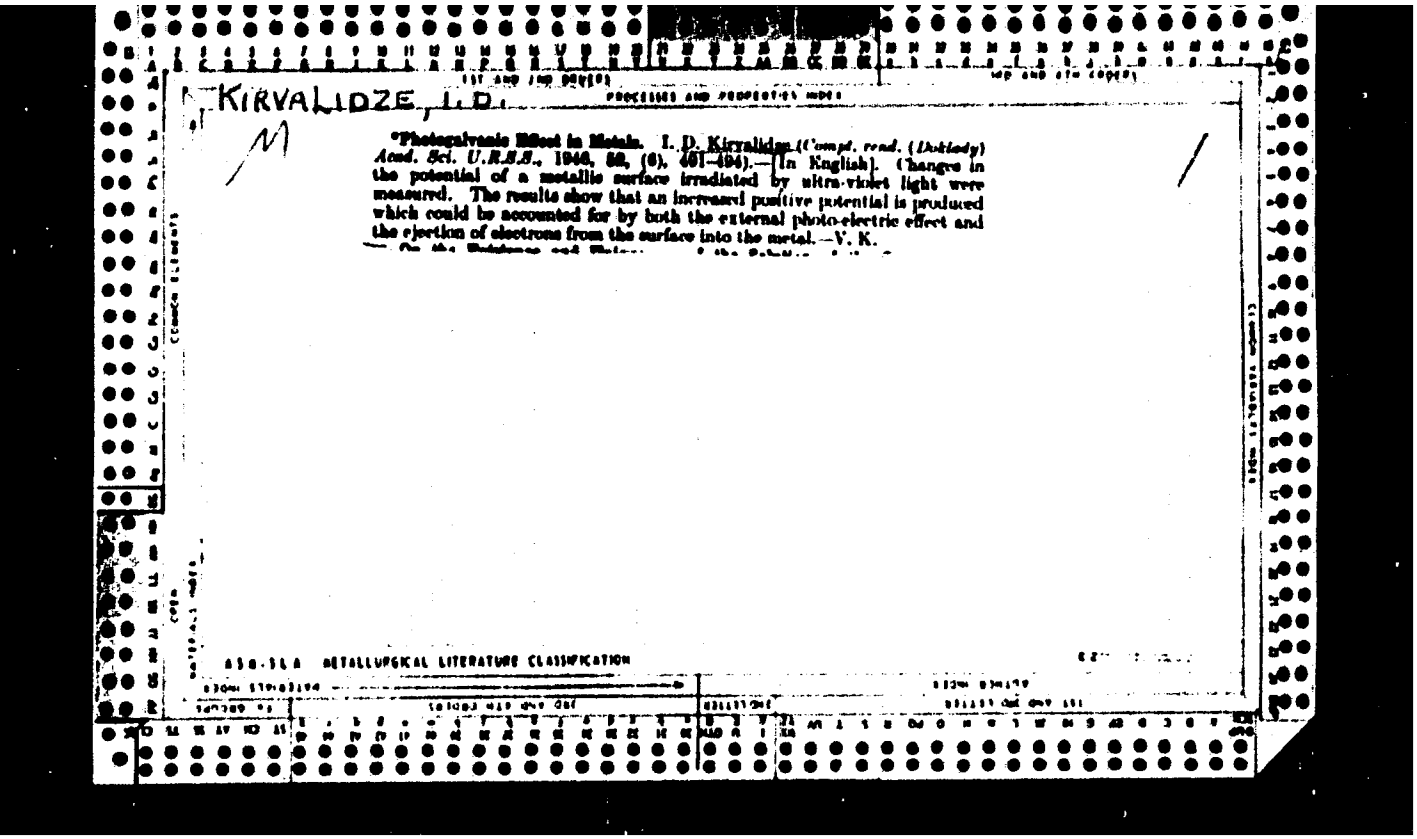


Method of investigation of the diffusion of electrons in dielectrics. I. D. Kivaldze (Phys. Geophys. Inst., Tiflis). *Mem. Acad. Sci. Georgian S.S.S.R.* 4, 301–6 (1943)(in Russian).—Inside a three-electrode electron vacuum tube, a crystal of the dielectric is disposed in such a way that on rotation by 180° the crystal is brought into the position formerly occupied by the grid. First one measures the anode current characteristic as a function of the grid potential; then the tube is rotated and the distance crystal-anode so adjusted that the anode current i_0 is nearly equal to I_0 corresponding to zero grid potential. The tube is then again rotated and the crystal bombarded from an electron gun, resulting in an anode current i' corresponding to a surface charge potential v' on the crystal; the surface charge is neg. when i' is less than i_0, which takes place after bombardment with slow electrons, pos. when i' is more than i_0, the latter occurring under impact of fast electrons giving rise to secondary emission. The anode current is only affected by the charge density in the outer "steering layer" of the dielectric, which will vary as a result of diffusion of electrons between that layer and the bulk of the crystal. In actual expts., x-rayed single NaCl crystals 13 × 12 × 7 mm. were bombarded with slow 2–4-v. electrons and then illuminated. In both white and red light, i' increases; example, $i_0 = 4.5 \times 10^{-9}$ amp., i' (after bombardment, const. in the dark) = 12×10^{-9}, i (in white light) = 30×10^{-9} after 10 sec., rising to 58×10^{-9} (const. after 25–30 sec.); in red light, the increase in i is smaller, roughly one half that in white light. Photoelec. electron extn., requiring 4.2 v., cannot take place in visible light; hence, the effect can be due only to diffusion of electrons from the steering layer into the mass of the crystal. N. Thon



A37. A New Characteristic of the Thermoelectronic Triode and the Possibility of Its Application for Determining the Sign and the Absolute Value of the Charging Potential of the Surface of Dielectrics. (In Russian) I. D. Kirvalidze. *Journal of Experimental and Theoretical Physics*, v. 16, no. 10, 1946, p. 919-922.

A method is described for determining the electrostatic potential produced by friction, using the change of anode current in a triode, in which the control electrode (grid) is replaced by the investigated dielectric.



KIRVALIDZE, I. D.

"Photogalvanic Effect in Metals. I. D. Kirvalidze (*Compt. rend. (Doklady) Acad. Sci. U.R.S.S.*, 1946, 52, (6), 491–494).—[In English]. Changes in the potential of a metallic surface irradiated by ultra-violet light were measured. The results show that an increased positive potential is produced which could be accounted for by both the external photo-electric effect and the ejection of electrons from the surface into the metal.—V. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KIRVALIDZE, I. D.

PA 193T101

USSR/Physics - Optical Methods
Metals - Fatigue
Oct 51

"Study of Fatigue Phenomena in Hard-Salt Monocrystals by Optic Methods," D. B. Gogoberidze, I. D. Kirvalidze

"Zhur Tekh Fiz" Vol XX, No 10, pp 1255-1261

Reference is made to previous work by I. D. Kirvalidze ("Dok Ak Nauk SSSR" Vol XX, No 7/8, 1938). Transparent samples of hard salt are bent and fatigue phenomena studied optically. Double refraction appears during fatigue, long before break

193T101

USSR/Physics - Optical Methods (Contd) Oct 51

and remains after discontinuance of expt. It was found that a scratch parallel to cube edge and perpendicular to deforming force increases fatigue and accelerates break. Submitted 23 Jan 50.

193T101

137-58-4-8057

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 240 (USSR)

AUTHOR: Kirvalidze, I. D.

TITLE: The Applicability of the Photoelectric Method of Measuring the Diffusion Length of Non-basic Current Carriers in Silicon (K voprosu o primenimosti fotoelektricheskogo metoda izmereniya diffuzionnoy dliny neosnovnykh nositel'ey toka v kremnii)

PERIODICAL: V sb.: Vopr. metallurgii i fiz. poluprovodnikov. Moscow, AN SSSR, 1957. pp 138-141

ABSTRACT: It is assumed that the reason for the anomalously long diffusion length of Si, as measured by the photoelectric method, is the incomplete ionization of centers of impurities at room temperature. To measure the true diffusion length in Si by the photoelectric method, it is proposed to ionize all impurity levels completely by heating or by illumination. Experiments in p-Si yielded the following results: diffusion lenth without illumination $\ell_d = 18$ mm, with illumination $\ell_d = 0.9$ mm. The latter value was also obtained at a temperature of 180°C. The fact that the article is intended for discussion is noted.

Card 1/1

1. Silicon--Diffusion--Photoelectric measurements

B. Zh.

66338

~~24(6)~~ 24.7700 SOV/181-1-10-13/21

AUTHORS: Kirvalidze, I. D., Zhukov, V. F.

TITLE: On the Possibility of Producing Ohmic Contact on Silicon by Metal Rubbing During Dry Friction by Means of a Semiconductor

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 10, pp 1583 - 1586 (USSR)

ABSTRACT: The nickel end contacts were applied to silicon monocrystals of the n- and p-type (25.8.3 mm^3) by precipitation on the cut crystal faces. Strips of Mo, Fe, brass, Sn, Ta, bronze, Ni, Cu, and Al were successively applied to the crystal faces parallel to the end contacts. This was done by metal rubbing in dry friction after the crystal faces had been purified by cutting (granulation: 200) or etching (10% KOH at 100°C). The diode characteristics were taken by the statistical method. A tungsten wire whose pointed or spherical end was pressed onto one of the metal strips, served as second electrode. The volt-ampere characteristics are graphically represented in figures 1-5. It was shown that it is possible to establish ohmic recombination contacts without preparatory cutting and

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66338

On the Possibility of Producing Ohmic Contact on Silicon by Metal Rubbing During Dry Friction by Means of a Semiconductor

SOV/181-1-10-13/21

scapling. The method permits simultaneous development of two processes, namely, metal rubbing and the formation of "disturbed layers". The latter contain a large number of minute cracks and mutually disoriented microblocks. Good ohmic contact is thus obtained in the "disturbed layers" on contact with metals because, as a result of structure defects, these layers contain much more recombination centers than the initial surface of the semiconductor. It is pointed out that I. V. Durnev assisted in measurements. There are 7 figures and 1 reference.

SUBMITTED: October 1, 1958

4

Card 2/2

KIRVALIDZE, I.D.

81946
S/181/60/002/04/04/034
B002/B063

24.7700

AUTHORS: Kirvalidze, I. D., Zhukov, V. F.

TITLE: The Influence of Heat Treatment on the Electric Properties of p-Type Silicon

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 4, pp. 571-574

TEXT: The influence of heat treatment on the resistivity and carrier concentration was studied on ten single crystals of p-type silicon. The crystals were grown in rotating quartz crucibles or by zone melting. Samples 25 x 6 x 3 mm were cut from these crystals, polished with electrolytically produced artificial corundum (granularity No. 280), and etched in 10% KOH. The samples were heated to 800°C for six minutes, and then quenched in vacuum diffusion oil. Resistivity was measured by the compensation method with two tungsten probes. The resistivity of all samples was considerably increased after quenching (Table 1), with a gradual decrease at room temperature. Fig. 1 shows the course of resistivity during 24 hours. This decrease takes place even at 77°K (Fig. 2), although it proceeds more slowly. One sample was heated six times to 800°C and

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81946

The Influence of Heat Treatment on the Electric Properties of p-Type Silicon

S/181/60/002/04/04/034
B002/B063

quenched, and in the meantime, it was tempered at 100°C for one hour. The maximum resistivity was found after the second quenching (Table 2). Another sample had previously been tempered at 1200°C for eight hours; heating to 800°C and quenching only led to a slightly increased resistivity. The irreversible process occurring on tempering at 1200°C can be attributed to 1) the disappearance of defects formed when the crystal was grown; 2) loss or acquisition of impurities; 3) "activity" loss of some foreign atoms by reaction with oxygen. The resistivity of n-type silicon samples is not increased by heating or quenching. There are 2 figures, 2 tables, and 15 references: 1 Soviet, 7 American, 5 British, 1 German, and 1 Japanese.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Gruzinskoy SSR
(Physicotechnical Institute of the AS of the Gruzinskaya SSR)

SUBMITTED: June 15, 1959

Card 2/2

81632
S/181/60/002/06/20/050
B006/B056

24.7700

AUTHOR: Kirvalidze, I. D.

TITLE: The Influence of Heat Treatment on the Photoelectromotive Force in Cuprous Oxide

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1152-1154

TEXT: The influence exerted by excess oxygen upon the conductivity and photoactivity of cuprous oxide is well-known. The present paper describes investigations of the influence exerted by heat treatment in vacuo upon the photoelectromotive force in a cuprous oxide surface layer. The method described already in Refs. 1-3 is based upon the observation of the plate-current variations ΔI in a thermoelectronic triode in which the grid electrode was replaced by the sample to be investigated. From the plate-current variation before and after exposure conclusions are drawn as to the sign and value of the electromotive force. An Hg quartz lamp served as a light source. The preparation of the samples is described; seven samples were used for each series of measurements. Fig. 1 shows ΔI (in μa) as a function of the duration of annealing (in minutes) of

two series of measurements (annealing at 250 and 200°C). Heat treatment lasted between 30 and 210 min. Experiments on cuprous oxide produced only a positive effect of the photoelectromotive force both in ultraviolet and visible light (motion of the photoelectrons in the direction of the light gradient). Such a result has been obtained for the first time by V. Ye. Lashkarev and K. M. Kosonogova. In the following, the author discusses several effects resulting from the grinding of the sample surfaces. Thus, one sample showed a ΔI of 30.5 μa in ultraviolet light after grinding as against 24.5 μa previously, whereas in visible light no effect could be observed. The present method of determining the photoelectromotive force is suited for investigating the photoelectric properties of semiconductors as well as the temperature dependence of the photoelectromotive force in semiconductors. The experimental scheme is shown in Fig. 2. Fig. 3 shows the result of three successive measurements of $\Delta I(t)$ on one and the same sample in the t-range 100-250°C. As mentioned in conclusion, I. V. Durnev took part in the measurements. There are 3 figures and 5 Soviet references.

SUBMITTED: August 11, 1959

Card 2/2

KIKVALIDZE, I.D.

Plasticity of silicon. Fiz. tver. tela 7 no.6 [illegible] Je '65.
(MIRA 18:6)

1. Institut fiziki AN Gruzinskoy SSR, Tbilisi.

KIRVALIDZE, I.D.; MAKHATADZE, I.L.

Method for measuring the microhardness of silicon single crystals. Soob. AN Gruz. SSR 37 no.3:559-562 Mr '65. (MIRA 18:5)

1. Institut fiziki AN GruzSSR, Tbilisi. Submitted November 11, 1964.

L 2501-66 EWT(m)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/HM/

ACCESSION NR: AP5014608 UR/0181/65/007/006/1897/1898

AUTHOR: Kirvalidze, I. D.

TITLE: On the plasticity of silicon

SOURCE: Fizika tverdogo tela, v. 7, no. 6, 1965, 1897-1898

TOPIC TAGS: semiconductor, plastic deformation, plasticity, silicon, temperature dependence, hardness

ABSTRACT: The author proposes a simple method for determining the temperature at which plastic deformation of silicon begins. The method consists of determining the change in the dynamic harness as a function of the temperature, by measuring the height to which a steel ball bounces from the surface. The variation of the rebound of a hardened steel ball 4 mm in diameter, dropped from 50 cm, from a mirror-polished surface of single crystal silicon was measured at temperatures from room temperature to 950C. The results showed that the height of the rebound at temperatures at 700C remains practically constant, and a sharp decrease sets in above 750C. Since the height of the rebound is due to an increase in plasticity and a decrease in the hardness, it can be concluded that the dynamic hardness de-

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ACCESSION NR: AP5014608

creases and plasticity begins for silicon in the temperature interval 700 — 750C. Analogous experiments for germanium showed the corresponding temperature to be 450C. "V. S. Afonchenko participated in the measurements." Orig. art. has: 1 figure.

ASSOCIATION: Institut fiziki AN GruzSSR, Tbilisi (Institute of Physics AN GruzSSR)

SUBMITTED: 22Jan65 ENCL: 00 SUB CODE: IC, MM

NO REF SOV: 000 OTHER: 001

Card 2/2

L 24081-66 EWT(m)/EWP(w)/T/EWP(t) IJP(c) JD

ACC NR: AP6014982 SOURCE CODE: UR/0251/65/037/003/0559/0562

AUTHOR: Kirvalidze, I. D.; Makhatadze, I. L.

ORG: Institute of Physics, AN GruzSSR, Tbilisi (Institut fiziki AN GruzSSR)

TITLE: Methods for measuring the micro-hardness of silicon monocrystals

SOURCE: AN GruzSSR. Soobshcheniya, v. 37, no. 3, 1965, 559-562

TOPIC TAGS: silicon single crystal, hardness, crystal surface, crack propagation

ABSTRACT: The authors present the results of a study on the effect of treatment of the surface on the micro-hardness of a silicon monocrystal, for various loads applied, on a diamond pyramid, the (111) surface being used in the investigation. Surface treatments used were: 1) mechanical polishing with dry magnesium oxide powder; 2) two-minute immersion in a solution of HF, HNO_3, and CH_3COOH, followed by dilution of the solution to 40% with distilled water, 1 minute retention, and washing; 3) heat treatment of the mechanically polished sample in air at 960° C for 10 hrs., followed by removal of the surface oxide layer with hydrofluoric acid. Curves of micro-hardness vs. load are presented. Reduction of mechanical load from 75 to 30 g. results in an increase of micro-hardness in the mechanically polished sample from 1100 to 1800 kg/mm^2, whereas in the heat treated and chemically polished samples the hardness does not rise over 1200 kg/mm^2. Crack formation was noted at loads over 45 g. Regardless of the method of surface treatment, the micro-hardness

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ACC NR: AP6014982

increased with an increase in load from 85 to 125 g, which phenomenon was associated with the resilient properties of the crystal surface. This paper was presented by Academician Ya. I. Frenkel'chliser on 5 November 1964. Orig. art. has: 3 figures.
[JPRS]

SUB CODE: 20 / SUBM DATE: 05Nov64 / ORIG REF: 003

Card 2/2 ale

L 30102-66 EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6012508 SOURCE CODE: UR/0181/66/008/004/1287/1288

53
B

AUTHOR: Kirvalidze, I. D.

ORG: Institute of Physics AN GruzSSR, Tbilisi (Institut fiziki AN GruzSSR)

TITLE: Formation of cracks in silicon single crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1287-1288

TOPIC TAGS: silicon, single crystal, crystal defect, crack propagation

ABSTRACT: The author considers some features of formation of cracks in silicon single crystals under dynamically concentrated loading at room temperature. The tests were made on plane-parallel octahedral samples cut from single crystals grown by the Czochralski method. The surfaces were mirror-polished and struck with falling steel balls. In the case of thin samples, cracks appeared on the side opposite the struck side, they were several millimeters long, did not penetrate through the crystal, and made angles of 60 or 120° to each other. When the experiments were made with a cube, the cracks likewise appear on the opposite side, but made angles of 90° to each other. In all cases the cracks were in the <110> directions. Longitudinal cracks, which diverge in the form

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L 30102-66
ACC NR: AP6012508 0

of rays and which do not penetrate through the crystal, were produced only on the side opposite to the struck side. On the struck side, in both cubic and octahedral crystals, symmetrical impact-figure cracks were produced. The linear sections of the cracks produced on the impact figures were also in the <110> direction. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 09Nov65/

Card 2/2 CU

TRUBCHENKO, P.A., inzhener; KOROBOCHKIN, I.Yu., inzhener; KIRVALIDZE, N.S., inzhener.

Wider application of tube-beader mills. Stal' 16 no.1:41-43 '56. (MLRA 9:5)

(Pipe, Steel) (Rolling mills)

AUTHORS: Kirvalidze, N. S., Koroboshkin, I. Yu. SOV/32-24-7-32/65

TITLE: A Simplified Method for the Testing of Metals on Their Boring Suitability (Uproshchennyy metod ispytaniya metalla na proshivayemost')

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 850 - 854 (USSR)

ABSTRACT: G.G.Pishchikov, V.S.Rudoy, D.V.Gladkikh and N.S.Yakimenko assisted in the tests carried out in the laboratory and the works. A number of determination methods for such investigations are already known. They are, however, inaccurate or too complicated, as for example the method of estimating the boring suitability according to the critical pressure at which a cavity is formed on the sample. With this method a greater number of test pieces is required in order to obtain accurate results. In order to remove this shortcoming a method was developed, using conical or step-shaped samples. The critical pressure is computed from a given equation. After the test the bore-hole is uncovered (by planing etc.). By this method values were

Card 1/2

obtained which correspond to the dimensions of the sample and of the bore-hole. In order to find the range of applicability and the accuracy of the method tests were made with a number of steel types. The samples were heated to 1200° for 20 minutes. The results obtained for the different steel types are given. It was found that values obtained from control samples of the step-like and the conical type are comparatively close to each other. However, the latter give more precise values than the first. Among other tests comparative determinations were carried out according to a method which was developed by the Institute for Electric Welding imeni Paton AS Ukraine SSR. The method was found to have a satisfactory accuracy. Hence it can be applied as a standard method for this type of determination with highly-alloyed and alloyed steels. There are 4 figures, 3 tables, and 6 references, 6 of which are Soviet.

ASSOCIATION: Nikopol'skiy Yuzhnotrubnyy metallurgicheskiy zavod (Nikopol' South Metallurgical Tubeworks)

SOV/133-59-1-15/23

AUTHORS: Rudoy, V.S., Alferova, N.S., Konovalov, V.P., Nesterova, N.N., Korobochkin, I.Yu, Kirvalidze, N.S., Dergach, A.Ya. and Yakimenko, N.S.

TITLE: The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron (Tekhnologiya proizvodstva besshovnykh trub iz vysokolegirovannykh staley s borom)

PERIODICAL: Stal', 1959, Nr 1, pp 68 - 73 (USSR)

ABSTRACT: Efforts made in 1956 to produce seamless tubes from high-alloy steels containing boron EI769 and EI770 gave negative results but in 1957 after some changes in the technology of smelting the metal, satisfactory results were obtained although there were no substantial changes in the chemical composition of the metal (%, numerator - data for 1957, denominator - for 1956):

	C	Si	Mn	Cr	Ni	W	Ti	B
EI769(Kh13N16TR)	0.08 / 0.07	0.55 / 0.64	1.65 / 1.73	13.7 / 13.7	15.7 / 14.9	- / -	0.81 / 0.90	0.009 / 0.0037
EI770(Kh13N18V2TR)	0.08 / 0.08	0.51 / 0.56	1.58 / 1.90	13.2 / 14.2	19.7 / 19.4	2.34 / 2.10	0.81 / 0.69	0.0023 / 0.0026

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The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron

The main characteristics of the technology of smelting metal in 1956 and 1957 differed as follows: a) in 1956, smelting was carried out in a 20-ton arc furnace from a charge containing 40-47% of stainless scrap (the remaining-soft iron and fresh ferroalloys); oxygen was used during melting and oxidising period (500 - 700 m^3 per heat); slag and metal were deoxidised before the addition of ferro-chromium and with the addition of ferrotitanium onto the metal freed from slag 15-20 min before tapping; b) in 1957 smelting was carried out in a 4.5-ton arc furnace from a fresh charge containing from 55 to 78% armco iron and corresponding ferroalloys without utilisation of scrap and oxygen; refining under a white slag with the addition of ferrotitanium after the removal of slag 8-10 min before tapping. In both cases the metal was cast in 500-kg ingots. The quality of tube billets 85 mm in diameter in 1957 was higher than in 1956. The microstructure of metal in both cases consisted of austenite with fine intermetallic inclusions, stretched in the form of lines along the direction of rolling. Piercing ability of the steels was tested on conical specimens (Ref 3). The determination of

The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron

plasticity and structure of steels was carried out within a temperature range 950 - 1 300 °C. Both steels were found to possess a comparatively high plasticity in the temperature range 975 - 1 075 °C (Figures 1 and 2), higher than for steel 1Kh18N9T. However, the plasticity of the latter steel increases with increasing temperature while for EI769 and 770 it sharply decreases. In hot torsion tests (Figures 3 and 4) the differences in the plasticity of the experimental steels was more pronounced. The resistance to deformation of both steels is similar (Figure 4) but at all temperatures is higher than for 1Kh18N9T steel. In hot torsion tests the loss of plasticity of the experimental steels was less pronounced than in piercing tests. In the first case, loss of plasticity was observed at 1 300 °C and in the second case at 1 250 °C. On the basis of the above investigation the following piercing practice for the industrial conditions was proposed: the temperature of billets before the mill 960-980 °C, piercing temperature 1 100 - 1 120 °C, in addition piercing at 1 140 - 1 150° and 1 180 - 1 200 °C was tested. Hot rolling of tubes

The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron

under industrial conditions is described in some detail. The results obtained are given in Table 1. The inspection of tubes after pickling indicated that for steel EI769 the proposed piercing practice (temperature 1 100 - 1 120 °C) gave the best results. A large-scale rolling of tubes from this steel yielded 90% of good-quality products. Rolling of tubes from steel EI770 was tried at four different temperature ranges (temperature before piercing: 920-980; 980-1 000; 1 020-1 040 and 1 040-1 050 °C - Table 2). Optimum results were obtained at a temperature before piercing of 950 °C. 95% of good-quality tubes was obtained. Mechanical properties of hot-rolled tubes before and after hardening are given in Table 3. Hardening of tubes was carried out from 1 100 °C. The dependence of the consumption of energy, power and heating-up of the metal during piercing on the temperature of the metal before piercing is shown in Figure 6. It is concluded that: 1) boron-containing steels of austenitic class EI769 and EI770 possess a lowered temperature at the beginning of incipient melting of grain boundaries; their optimum plasticity is shifted towards lower temperatures; they

The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron

possess high resistance to deformation and heat up intensively during piercing. The resistance to deformation of these steels is higher than of 1Kh18N9T steel which makes their piercing more difficult, particularly that with increasing temperature their plasticity decreases (unlike 1Kh18N9T steel). The developed methods of rolling these steels give quality hot-rolled tubes from EI769 steel without repairs and from EI770 steel with repairs which are usually permitted for high-alloy tubes, providing the metal is produced from fresh charges by the improved (1957) technology. The results of measurements of power consumption and heating up can be utilised for an approximate evaluation of these parameters during piercing of other austenitic steels. There are 6 figures, 3 tables and 6 Soviet references.

Card5/5

SOV/133-59-5-16/31

AUTHORS: Plyatskovskiy, O.A., Candidate of Technical Sciences and Korobochkin, I.Yu, Kirvalidze, N.S., Engineers

TITLE: Some New Techniques in the Production of High-alloy Tubes (Novoye v tekhnologii proizvodstva vysokolegirovannykh trub)

PERIODICAL: Stal', 1959, Nr 5, pp 436 - 441 (USSR)

ABSTRACT: A considerable increase in the rate of production of medium- and large-diameter high-alloy tubes was obtained by increasing the degree of elongation to optimum values during the first and subsequent piercing operations. The new practice was based on the following considerations: 1) Cracks and other defects which are usually observed on the internal surface of pierced billets appear not only as a result of stresses acting on metal in the zone of the piercing cone, but also due to stresses in the cone of rolling (in the zone of deformation of metal between the rolls, mandrel and guides). 2) A decrease in the non-uniformity of deformation which is a characteristic feature of piercing, can be obtained by applying large coefficient of elongation during the first piercing in the

Card1/3

Some New Techniques in the Production of High-alloy Tubes

rolling section of rolls of the piercing mill. The optimum value of the degree of elongation should be determined for each type of steel and for each size of tube billets. 3) It is advantageous to concentrate the main deformation of the metal on a possibly smaller length of the zone contact of metal with rolls. 4) A decrease in the volume of the metal undergoing deformation with tensile stresses can be obtained by using a more closed pass by a maximum decrease in the ratio of the distance between guides to the distance between rolls, or by an appropriate shaping of the guides. 5) It is necessary to decrease the number of plumbing operations and reheatings as these have a negative influence on the plastic properties of metal. The latter can be obtained by an increase in the degree of reduction (in comparison with that recommended in the literature) at the narrowing part of the rolls and in front of the mandrel. The influence of the degree of elongation on the quality of tubes from steel 1Kh18N9T is shown in Tables 1 and 2. The technology of production of high-alloy tubes on mills 140 and 400, based

on the above considerations was introduced at the Novotrubnyy Works. The comparative data on the old (nominator) and new (denominator) practices are given in Table 3. With the new rolling practice the output of the mill 140 on rolling high-alloy tubes was nearly doubled and of 400 increased by 10-20%.
There are 3 tables, 4 figures and 9 Soviet references.

ASSOCIATIONS: UkrNITI and Yuzhnotrubnyy zavod (Yuzhnotrubnyy Works)

KIRVALIDZE, N.S.

14.5100

AUTHORS: Orekhov, V. Ya. (Candidate of Technical Sciences), Golubenko, N. M., Vasilenko, S. I., [illegible], Shvetchenko, A. A., Kirvalidze, N. S. (Deceased)

TITLE: Improvement in Operation of Plug Rolling Mills on 400-mm Tube Rolling Installation

PERIODICAL: Stal', 1960, Nr 2, pp 136-139 (USSR)

ABSTRACT: The authors investigated power and speed rates of tube rolling by the plug mill process in an attempt to determine factors which would enhance productivity and improve tube quality, as follows: (1) Metal pressure on rolls was studied in plug mill Nr [illegible] equipped with a 900 hp motor. The mill is farthest from the automatic stand and, consequently, rolls the tube at comparatively low temperatures. The [illegible] part of the grooved tapered rolls is 91 mm long. Pressure gages installed between housing screws and roll pads and oscillograph MPO-2 were used. Tubes of various sized and steels (see Table A) were experimentally rolled. The steel compositions are not given.

Card 1/1

ASSOCIATION: Moscow Steel Institute (Moskovskiy institut stali), Southern Pipe Plant (Yuzhnotrubnyy zavod)

Card 2/1

TRUBCHENKO, P.A., inzh.; KOROBOCHKIN, I.Yu.; KIRVALIDZE, N.S., inzh.; SHVEDCHENKO, A.A., inzh.

Investigating the parameters of the second piercing of specially thin-walled shells. Stal' 20 no.10:922-928 O '60. (MIRA 13:9)

1. Yuzhnotrubnyy zavod.
(Rolling (Metalwork)) (Pipe mills)

KOROBOCHKIN, I.Yu.; KIRVALIDZE, N.S.; GLADKIKH, D.V.; YESAULOV, A.T.; ROMANYUK, I.Ye.; KUTSENKO, I.S.

Accelerating the heating of stainless steel ingots before piercing. Biul.TSIICHM no.4:40-42 '61. (MIRA 14:10)

1. Nikopol'skiy Yuzhnotrubnyy zavod.
(Rolling (Metalwork)) (Steel, Stainless)

POLUKHIN, P.I.; OSADCHIY, V.Ya.; GOLUBCHIK, R.M.; KIRVALIDZE, N.S.

Experimental investigation of the tube piercing process. Izv. vys. ucheb. zav.; chern. met. 4 no.7:88-96 '61.
(MIRA 14:8)

1. Moskovskiy institut stali i Yuzhnotrubnyy zavod.
(Pipe mills)

POLUCKIN, P.I.; GOLUBCHIK, R.M.; OSADCHIY, V.Ya.; KIRVALIDZE, N.S.

Methods of measuring the axial forces acting on the mandrel in the tube reeling process. Izv. vys. ucheb. zav.; chern. met. 4 no.8:72-77 '61. (MIRA 14:9)

1. Moskovskiy institut stali i Yuzhnotrubnyy zavod.
(Pipe mills)

S/130/63/000/001/005/008
A006/A101

AUTHORS: Kirvalidze, N. S., Dergach, A. Ya., Samoylenko, V. D.

TITLE: Improving heat treating conditions for pipe blanks

PERIODICAL: Metallurg, no. 1, 1963, 27 - 28

TEXT: At the Nikopol' Yuzhnotrubnyy Plant a new method of preheating the metal in continuous and annular furnaces was brought into use. The metal is subjected to intensified heating with natural gas when it enters the furnace; the temperature drops at the furnace end. The temperature of a 1 X18 H9 T (1Kh18N9T) steel blank was 1,160°C in the center of the blank; it was attained when the blank was approximately in the middle of the furnace, where the metal was held for an extended period of time at optimum temperature. Under these heating conditions overheating of the metal was prevented. The specific duration of heating was 8 - 10 min/cm of the blank diameter against 6.5 - 7.0 min/cm previously. Rejects were reduced by about a factor of 1.5 and the efficiency of the unit increased by up to 30%.

ASSOCIATION: Nikopol'skiy yuzhnotrubnyy zavod (Nikopol' Yuzhnotrubnyy Plant)

Card 1/1

AKIMOVA, Ye.P.; RUDOY, V.S.; SHEVCHENKO, L.N.; NESTEROVA, N.N.;
Prinimali uchastiye: VASILENKO, S.I.; ZUYEV, I.I.; VIL'YAMS, O.S.,;
LAGUTINA, R.V.; DERGACH, A.Ya.; KITANENKO, V.P.; KIRVALIDZE, N.S.;
YAKIMENKO, N.S.; SAMOYLENKO, V.D.

Effect of the method of manufacturing EI847 steel on the quality of tubes. Stal' 21 no.12:1113-1114 D '61. (MIRA 14:12)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut (for Akimova, Rudoy, Shevchenko, Nesterova). 2. Nikopol'skiy yuzhnotrubnyy zavod (for Vasilenko, Zuyev, Vil'yams, Lagutina, Dergach, Kitanenko, Kirvalidze, Yakimenko, Samoylenko).
(Steel, Stainless--Electrometallurgy)
(Pipe mills--Quality control)

GULIAYEV, G.I., kand.tekhn.nauk; YURGELENAS, V.A., kand.tekhn.nauk; YEROKHIN, I.N., inzh.; GALITSKIY, B.M., inzh.; DERGACH, A.Ya., inzh.; KIRVALIDZE, N.S., inzh.; KURILENKO, V.Kh., inzh.

Potentialities of pipe reduction in automatic pipe mills. Met.i gornorud.prom. no.5:33-36 S-O '62. (MIRA 16:1)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut i Yuzhnotrubnyy zavod.

(Pipe mills)

POLUKHIN, P. I., prof., doktor tekhn. nauk; OSADCHIY, V. Ya., kand. tekhn. nauk; GOLUBCHIK, R. M., kand. tekhn. nauk; RYMOV, V. A., inzh.; KIRVALIDZE, N. S., inzh.; YESAULOV, A. T., inzh.; GLADKIKH, D. V., inzh.; MAVRODIY, P. D., inzh.

Improving the grooving of roughing rolls of unit 400 plug rolling mills. Sbor. Inst. stali i splav. no.40:319-326 '62. (MIRA 16:1)

1. Moskovskiy institut stali i Yuzhnotrubnyy zavod.

(Rolls(Iron mills)) (Pipe mills)

VOLKOVITSKIY, G.I., dotsent, kand. tekhn. nauk; PISHCHIKOV, G.P., inzh.; YUFEROV, V.M., dotsent, kand. tekhn. nauk; DZYUBA, M.I., inzh.; SAY, N.F., inzh.; Prinimali uchastiye: SURZHIKOV, V.A., inzh.; KOVALEVA, A.D., inzh.; TKACHENKO, A.V., inzh.; KIRVALIDZE, N.S., inzh.; GLADKIKH, D.V., inzh.; YESAULOV, A.T., inzh.

Characteristics of producing large-diameter pipe of Kh18N12M2T steel. Stal' 22 no.6:532-535 Je '62. (MIRA 16:7)

1. Yuzhnotrudnyy zavod (for Surzhikov, Kovaleva, Tkachenko, Kirvalidze, Gladkikh, Yesaulov).
(Pipe, Steel) (Rolling(Metalwork))

KIRVALIDZE, N.S.; DERGACH, A.Ya.; SAMOYLENKO, V.D.

Improving conditions of heating a pipe blank. Metallurg 8 no.1:27-28 Ja '63. (MIRA 16:1)

1. Nikopol'skiy yuzhnotrubnyy zavod.
(Pipe mills) (Furnaces, Heating)

ACCESSION NR: AR4014146 S/0137/63/000/012/D035/D035

SOURCE: RZh. Metallurgiya, Abs. 12D214

AUTHOR: Ostrenko, V. Ya.; Dferov, V. M.; Geyko, I. K.; Pechennikova, I. S.; Lagutina, R. V.; Kirvalidze, N. S.

TITLE: Hot rolling of pipes from EP38, EP39, and EI993 steels

CITED SOURCE: Sb. Proiz-vo trub. M., Metallurgizdat, vy*p. 9, 1963, 5-12

TOPIC TAGS: Steel pipe hot rolling, pipe steel composition, steel pipe rolling

TRANSLATION: Chemical compositions of the indicated steels to be used in production and the mechanical properties of the tube blanks are given. The mechanical properties of these steels are examined in detail. The mechanical properties of the pipes obtained are indicated, and recommendations designed to improve the quality of the pipes are given for the procedure of their hot rolling.

DATE ACQ: 09Jan64 SUB CODE: ML ENCL: 00

Card 1/1

[illegible], V.S., kand. tekhn. nauk; CHERKASOV, N.E.; [illegible], kand. tekhn. nauk; KIRVALIDZE, N.S.

Improving the quality of pipe of high alloy and low alloy brand steel. Met. i gornorud. prom. no.4:44-50 Jl-Ag '64. (MIRA 18:7)

CHERURKO, N.I., kand. tekhn. nauk; BUYNOVSKIY, A.M.; STEPANSKIY, I.S.; KIRVALIDZE, N.S.; PANYUSHKIN, A.V.; TARASENKO, V.A.; SHERSTYUK, Ya.P.

Extrusion of bimetallic pipe made of steel and copper. Met. i gornorud. prom. no.6:36-38 N-D '64. (MIRA 18:3)

KOSUL'NIKOV, R.M., inzh.; KIRVALIDZE, N.G., inzh.; YAKIMENKO, N.S., inzh.; FRIDMAN, G.Ye., inzh.; KOVALEV, R.G., inzh.

Eliminating high wall thickness variations in steel tube extrusion on vertical mechanical presses. Stal' 25 no.2. 143-146 F '65. (MIRA 18:3)

1. Nikopol'skiy Yuzhnotrubnyy zavod.

L 20601-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k) JD/HW

ACC NR: AP6010136 SOURCE CODE: UR/0133/66/000/003/0248/0250

AUTHOR: Rudoy, V. S. (Candidate of technical sciences); Alferova, N. S. (Doctor of technical sciences); Minarich, B. A. (Engineer); Bogdanova, T. M. (Engineer); Sadokov, G. M. (Engineer); Mel'nichenko, I. F. (Engineer); Kirvalidze, N. S. (Engineer); Kurilenko, V. Kh. (Engineer); Onishchenko, M. P. (Engineer)

ORG: none

TITLE: Production of tubes from OKh20N5T stainless steel

SOURCE: Stal', no. 3, 1966, 248-250

TOPIC TAGS: stainless steel, low nickel steel, stainless steel tube, tube rolling, hot rolling / Okh20N5T steel, EP299 steel

ABSTRACT: Technological properties of EP299 (OKh20N5T) stainless steel and the conditions for tube rolling this steel have been studied. The steel, annealed at 1050C for 15 min and air cooled, has a tensile strength of 101 kg/mm^2, a yield strength of 34 kg/mm^2, an elongation of 40.6%, and a reduction of area of 62.1%. Corresponding figures for test temperature at 350C are 52 kg/mm^2, 39.0% and 69.7%. The steel is very sensitive to the cooling rate: slow cooling sharply reduces the elongation and impact strength. The plasticity of EP299 steel does not change in the 1100—1250C range, but increases sharply with further increases in temperature and rapidly increasing content of α-phase. Up to 1250C the plasticity of EP299 steel is much

Card 1/2 UDC: 621.744.35

L 20601-66
ACC NR: AP6010136

lower, but at 1275C and over much higher, than that of Kh18N10T and EI-811 steels. The hot working of EP299 steel must be done at temperatures over 1250C. The steel, however, has a tendency to stick to guide bars. With guide bars made from G18 steel (1.4—1.8% C, 16—19% Mn) and piercing done at 1275—1300C, the tendency to stick was greatly reduced. The mechanical properties and surface quality of hot-rolled and heat-treated EP299 tubes were satisfactory, and the tubes were suitable for cold rolling and cold drawing. Orig. art. has: 2 figures. [AZ]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4225

Card 2/2

L 08947-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/JM

ACC NR: AP6031515 SOURCE CODE: UR/0383/66/000/004/0035/0036

AUTHOR: Rudoy, V. S. (Candidate of technical sciences); Chekmarev, I. A. (Candidate of technical sciences); Sukonnik, I. M.; Geppa, S. A.; Berbin, L. V.; Yermolov, I. V.; Chizh, V. A.; Derbasov, V. I.; Kurilenko, V. Kh.; Kiryalidze, N. S.; Pasternak, N. M.

ORG: none

TITLE: Improving the plasticity of Kh18N10T tube steel by vacuum-arc melting

SOURCE: Metallurgicheskaya i gornorudnaya promyshlennost', no. 4, 1966, 35-36

TOPIC TAGS: austenitic steel, plasticity, ~~steel plasticity improvement~~, vacuum arc, ~~vacuum melting~~ VACUUM MELTING, METAL TUBE / Kh18N10T STEEL

ABSTRACT: The plasticity of conventionally arc melted and vacuum arc melted Kh18N10T steel was tested by rolling conical specimens in a piercing mill and by torsion tests, both at 1000—1300C. It was found that in piercing, the critical reduction depends primarily upon the α-phase content. Metal with a high α-phase content cannot be easily pierced at a temperature of 1200C or higher regardless of the melting method. The content of impurities and gases is of secondary importance. In torsion tests, plasticity was found to depend mainly upon the metal purity. Inasmuch as vacuum arc melting yields steel of a higher purity, its plasticity is also higher than that of conventionally melted steel. The increase of α-phase con-

Card 1/2 UDC: 669.15—194.621.774.35

L 08947-67

ACC NR: AP6031515 O

tent up to a certain limit does not substantially affect the plasticity of Kh18N10T steel, but an increase over this limit lowers the steel plasticity. Orig. art. has: 2 figures. [ND]

SUB CODE: 11,13 / SUBM DATE: none/ ORIG REF: 002/

Card 2/2 mjt

KIRVALIDZE, R.I., Cand Agr Sci -- (diss) "Effect of perennial grasses on the structure and strength of the brown soils of the Mukhranskiy Valley."
Tbilisi, 1958, 19 pp (Min of Agr USSR. Georgian Order of Labor Red Banner Agr Inst) 120 copies (KL, 28-58, 108)

KIRVDA, F.P.; NOVIKOV, V.T.

Device for gas-cutting of frozen ground. Suggested by F.P.Krivda, V.T.Novikov. Rats. i izobr. predl. v stroi. no.15:37-38 '60. (MIRA 13:9)

1. Po materialam Tekhnicheskogo upravleniya Ministerstva stroitel'stva USSR, Kiyev, ul.Sverdlova, 17.
(Gas welding and cutting) (Frozen ground)

., KIRVEL, M.M., PARAMONENKOVA, A.Ye., BRUDNIKOVA, M.B., AND KHANIN, S.G.

"Effectiveness of Dried Live NIIEG Tularemia Vaccine Being Turned Out by IEM," a monograph extract Effect of Vaccination Against Tularemia, 1953 p. 143

Translation D 568409

KIRVEL M.M.

EL'BERG, B.Ya.; YUDENICH, V.A.; KIRVEL', M.M.; PRUDNIKOVA, M.N.; KHANIN, G.S.; MATSKEVICH, A.L.

Comparative effectiveness of nasal and cutaneous vaccination against tularemia in experimental conditions. Zhur.mikrobiol.epid.i immun. no.8:71-72 Ag '54. (MLRA 7:9)

1. Iz kafedry mikrobiologii (zav. prof. B.Ya.El'bert) Minskogo meditsinskogo instituta.

(VACCINES AND VACCINATION,
*tularemia, cutaneous & nasal admin. in animals, comparison)
(TULAREMIA, prevention and control,
vacc., cutaneous & nasal admin. in animals, comparison)

KIRVEL', M.M.

EL'BERT, B.Ya.; KIRVEL', M.M.; FALITAREK, S.S.; KVITNITSKAYA, G.V.; KLIMOV, Yu.N.; MININ, G.A.

Preventive immunization against tularemia in muscrat breeding. Zhur. mikrobiol. epid. i immun. no.10:99 O '54. (MLRA 8:1)
(TULAREMIA--PREVENTIVE INOCULATION)
(MUSKRATS--DISEASES)

USSR / Microbiology. Microbes Pathogenic to Man and Animals. Tularemia Microbe. F

Abs. Jour : Ref. Zhur - Biol., No. 21, 1958, No. 95181

Author : Kirvali, M. M.
Inst : Smolensk Medical Institute.
Title : Antigen Structure of Virulent Strains of Tularemia

Orig Pub : Tr. Smolenskogo med. in-ta, 1957, 7, 208-215

Abstract : 29 strains of virulent cultures of a tularemic microbe (TM) in the presence of O- and H-antigens were investigated by methods of agglutination reaction with immune agglutinating serum and of adsorption with live suspensions of microbes heated to 100° and formalinkilled. It was shown that no H-antigen is contained in virulent TM. The author thinks that be-

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USSR / Microbiology. Microbes Pathogenic to Man and Animals. Tularemia Microbe. F

Abs Jour : Ref. Zhur - Biol., No. 21, 1958, No. 95181

sides the somatic O- antigen, TM contains a capsule antigen which needs further serological study. -- M. Ya. Boyarskaya.

Card 2/2

KIRVEL', M.M.

Effect of antibiotics on the course of experimental tularemic infection in white mice exposed to the action of ionizing radiations. Zhur. mikrobiol., epid. i immun. 33 no.2:98-102 F '62. (MIRA 15:3)

1. Iz Smolenskogo meditsinskogo instituta.
(RADIATION SICKNESS)
(TULARMIA) (ANTIBIOTICS)

KIRVEL', M.M.

Mutation of pathogenic Escherichia coli under the influence of hyaluronidase. Zhur. mikrobiol., epid. i immun. 41 no.1: 63-66 Ja '64. (MIRA 18:2)

1. Smolenskiy meditsinskiy institut.

TSVETKOV, V.N.; SKAZKA, V.S.; KIRVORUCHKO, N.M.

Relation between the molecular weight and the intrinsic viscosity of stereoregular polymethyl methacrylate fractions in benzene. Vysokom.soed. 2 no.7:1045-1048 Jl '60. (MIRA 13:8)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta i Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Methacrylic acid)

AM4017341 BOOK EXPLOITATION S

Granatman, Vsevolod Vladimirovich; Danilov, Vladimir Ivanovich, Kiryachek, Andrey Yakovlevich

Industrial contactless apparatus with discrete action; a survey (Promy*shlennaya beskontaktnaya apparatura diskretnogo deystviya; obzor), Leningrad, LDNTP, 1963, 102 p. illus., biblio. 4,500 copies printed. (At head of title: Leningradskoye otdeleniye Obshchestva po rasprostraneniyu politicheskikh i nauchny*kh znaniy RSFSR)

Series Note: Leningradskiy Dom nauchno-tekhnicheskoy propagandy*. Seriya: Pribory* i elementy* avtomatiki

TOPIC TAGS: contactless apparatus, automation, magnetic core, automation, magnetic logic element, ferrite transistor logic element, square hysteresis loop

TABLE OF CONTENTS [abridged]:

Card 1/2

ZYTNER, David Yakovlevich; KIRYACHEK, Andrey Yakovlevich; BER, Ya.M., inzh., retsenzent; GRACHEV, A.I., inzh., nauchn.red.; VAYTS, V.M., red.

[Automated control of the electric drives of continuous-line systems] Avtomatizirovannoe upravlenie elektroprivodami potochno-transportnykh sistem. Moskva, Energiia, 1965. 207 p. (MIRA 18:5)

KIRYACHKO, B. A.

"The Effect of Chronic Lead and Tetraethyl-Lead Poisoning on the Immunobiological Properties of the Organism." Khar'kov Medical Inst., Khar'kov, 1955. (Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

EXCERPTA MEDICA Sec.17 Vol.4/3 Public Health,etc. Mar58

KIRYACHKO, B.A.

732. THE EFFECT OF CHRONIC LEAD POISONING ON THE IMMUNOLOGIC REACTIVITY OF ANIMAL ORGANISMS (Russian text) - Kiryachko B. A. GIGIENA 1957, 8 (30-34) Tables 3

Experimental investigations were carried out on rabbits which were immunized with typhoid vaccine during a chronic lead poisoning. Under such conditions the immunobiological reactivity was greatly decreased.

Chair of Work Hygiene & Occupational Diseases Ukr. Inst Advanced Training of Physicians

KIRYAGIN, I.I.

"Material for the study of weeds and cereals of the Nakhichevan A.S.S.R." Sh.G.Dadashev. Reviewed by I.I.Kariagin. Izv.AN Azerb. SSR no.9:124 S '55. (MLRA 9:1)
(Nakhichevan A.S.S.R.--Weeds) (Dadashev, Sh.G.)

IVKOV, A.D.; KIRYAKINA, G.K.; KUR'YEV, Yu.N.

Characteristics of anesthesia in regional perfusion. Ortop. travm. i protez. 26 no.6:36-40 Je '65. (MIRA 18:8)

1. Iz kafedry travmatologii i ortopedii (nachal'nik - prof. I.L. Krupko) Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova. Adres avtorov: Leningrad K-9 Botkinskaya ul., d.13 klinika ortopedii i travmatologii Voyenno-meditsinskoy akademii imeni Kirova.

VVEDENSKIY, A.A.; YAKUSHKIN, M.I.; GULYAKOVA, T.N.; KIRYAKINA, N.P.

Ammonolysis of caproic and caprylic acids to nitriles. Khim.prom. no.1:11-14 Ja '62. (MIRA 15:1)
(Hexanoic acid) (Heptanoic acid) (Nitriles)

L 12045-66 FSS-2/EWT(1) WR

ACC NR: AP6001174 SOURCE CODE: UR/0256/65/000/007/0041/0045

55

AUTHOR: Kiryakov, B. A. (Captain)

47
B

ORG: None

TITLE: The orientation of radar stations 41,55

SOURCE: Vestnik protivovozdushnoy oborony, no. 7, 1965, 41-45

TOPIC TAGS: radar station, tracking radar, radar tracking

ABSTRACT: The author notes that radar stations tracking the same target can give different coordinates for this target because the station that is properly oriented reports the correct coordinates, whereas the station incorrectly oriented gives incorrect coordinates. If a station is oriented with respect to the true azimuth with an error of angle $+\alpha$, the data reported will be for a position the aircraft has already passed over and if the error is $-\alpha$ the data will pertain to an area the aircraft has yet to reach. The calculation of the angular errors of orientation of the radar station which cause appreciable linear distortions in target coordinates during its tracking are tabulated. After this introduction the author mathematically develops an accurate and reliable method of determining the direction of the true meridian and true azimuth for proper orientation of radar stations and thus eliminate errors in reporting the coordinates of radar-tracked targets. Orig. art. has: 2 tables, 6 figures, and 5 formulas.

SUB CODE: 17 / SUBM DATE: none

Card 1/1 UDC(A)

KIR'YAKOV, G. M.

Kir'yakov, G. M. - "A solution for conditional equations by means of approximations without compiling normal equations through correlatives", Sbornik nauch.-tekhn.li priozvod. statey po geodezii, kartografii, topografii, aeros"yemke i gravimetrii, Issue 21, 1948, p. 58-76.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

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~~3(7)~~ 3.4000 SOV/154-59-5-11/17

AUTHOR: Kir'yakov, G. M., Docent, Candidate of Technical Sciences

TITLE: Position Lines and Their Representation on Cartographic Nets

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 5, pp 125-136 (USSR)

ABSTRACT: In the present paper, those position lines are mathematically treated which are dependent on an angular parameter (azimuth) and whose family of curves intersect at one point both on the earth and on the map projection. In order to project the position lines onto the map, a double projection is to be carried out from the terrestrial ellipsoid onto a sphere and from the latter onto the plane. Only the first operation is described here. The following scientists took part in the elaboration of the various modes of projection of position lines: Professor M. D. Solov'yev (Refs 3-5), Professor N. A. Urmayev, Professor V. V. Kavrayskiy, G. A. Ginzburg, Candidate of Technical Sciences (Ref 6), and others. A survey of the cartographic work was given by N. M. Volkov. In the following mathematical treatment of the projections, the author established the general rules governing the variation in curvature of the position

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Position Lines and Their Representation on Cartographic Nets

lines in the case of orthodromic, loxodromic, or stereodromic projection. With an arbitrary projection of the above-mentioned position lines (not one that transforms the curves of the position lines into a straight) a periodic function with a period π results for the curvature, which varies only in dependence on the direction T of the position line. From the determination of the extremes of the curvature it follows that the curvature function is an even function with first-order symmetry. Hence, the curvature is satisfactorily determined within the limits of the azimuth from 0 - $\frac{\pi}{2}$ for any cartographic projection in which the meridians form straight lines. Next, the author attempts to find an approximate determination of the curve from the known length of a position line and from the curvature at definite points (Fig 6). The resulting formula allows to determine the running coordinates of the curve (carried out for mean points). The error occurring and estimated in this representation was found to be within the limits of graphical accuracy. With the help of the formulas obtained the author finally determines the curve from the coordinates of the

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mean points (Fig 7), the rise H of the curvature of position lines on the map as well as the correction on the basis of the approximate calculation. The article will be continued in the following number of this periodical. There are 7 figures and 12 Soviet references.

ASSOCIATION: Irkutskiy gosudarstvennyy universitet im. A. A. Zhdanova (Irkutsk State University imeni A. A. Zhdanov)

SUBMITTED: January 28, 1959

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3(2)

AUTHOR: Kir'yakov, G.M., Docent, Candidate of Technical Sciences SOV/154-59-6-12/19

TITLE: Reference Lines and Their Representation on Map Graticules

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 6, pp 111-133 (USSR)

ABSTRACT: This is the continuation of the paper published in Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 5. The 4th chapter of the present article describes the determination of the curvature in the orthodromic line. Formulas are given for the determination of the orthodromic coordinates, for the determination of the differential variations in latitude, longitude, and azimuth in the orthodromic lines, and the general formulas for the orthodromic curvature in map projections are shown. Moreover, formulas are written down for the orthodromic curvature in length-preserving, angle-preserving conical, cylindrical, and azimuthal projections. The determination of orthodromic curvature in the area-preserving pseudocylindrical projection by Sanson is shown and illustrated by a numerical example. The method of plotting the orthodromic line on maps is investigated, and a

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recommendation is made in this connection. An evaluation of orthodromic properties of map projections is given at the end of the chapter. A comparative evaluation of these properties is given by examples. As these properties are determined by the magnitude of orthodromic curvature, a synoptic table is offered covering the largest and the smallest curvatures in cylindrical, conical, and azimuthal projections. The Soviet professors V.V. Kavrayskiy (Ref 4), M.D. Solov'yev (Refs 8,9, 10), N.G. Kell', A.P. Yushchenko, and N.A. Urmayev (Refs 2,5) have intensively dealt with angle-preserving conical, cylindrical, and azimuthal projections. These projections are widely spread in the USSR, especially as regards navigation maps. In geodetic as well as cartographic operations the passage to the new dimensions of the earth ellipsoid (worked out by Professor F.N. Krasovskiy and Professor A.A.Izotov (Ref 11)) has already been accomplished. The 5th chapter deals with the determination of the curvature in the loxodromic line. The general formulas are written down, and the determination of the loxodromic and H-index curvature in the case of a loxodromic line in stereographical angle-preserving conical

and azimuthal projections is described. The following conclusions are drawn: the reference lines intersecting in one point exhibit general cartographic characteristics. The curvature of the reference lines in map projection serves as a measure to evaluate the dromic properties of these projections. By the aid of the method of mean points in the approximated determination of the curve, the reference lines can be set up after a diagram. In the case of angle-preserving conical, cylindrical, and azimuthal projections it is necessary to plot the divisions of the curvature, and the divisions of the 2nd curvature derivative; the plotting of the orthodromic line is simplified in this way. The following persons assisted the author: the collaborators of the Irkutskiy universitet im. A.A.Zhdanova (Irkutsk State University imeni A.A.Zhdanov); Yu.F.Knarkeyevich, Head of the Chair of Geometry, Docent, Candidate of Physical and Mathematical Sciences, T.V.Malomyzheva, Assistant at the Chair of Geodesy and Cartography, and senior laboratory assistant G.N.Mangazeyeva. Mention is made of papers by A.K. Malovichko (Ref 3). There are 3 figures, 10 tables, and 12 references, 10 of which are Soviet.

Reference Lines and Their Representation on Map Graticules

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ASSOCIATION: Irkutskiy Gosudarstvennyy universitet im. Zhdanova (Irkutsk State University imeni Zhdanov)

Card 4/4

BAUSLIT, I.E.; KIR'YAKOV, O.Z.; STENDER, V.V.

Copper hydroelectrometallurgy with the use of anodic depolarization. Characteristics of highly porous carbon anodes and depolarization by sulfur dioxide. Izv.AN Kazakh.SSR Ser.khim. no.1: 21-30 '47. (MLRA 9:8)

(Electrometallurgy) (Sulfur dioxide)

KIR'YAKOV, G. S.

USSR/Chemistry - Electrolysis Dec 51

"Stability of Anodes of Lead and Its Alloys Under Electrolysis of Sulfuric Acid Solutions," G. S. Kir'yakov, V. V. Stender

"Zhur Prik Khim" Vol XXIV, No 12, pp 1263-1273

In search for most stable Pb alloy anodes for electrolysis of H_2SO_4 solns, studied performance of Pb anodes contg admixts of Ag, Tl, Te, Se, Bi, Ca, Au, Hg, As, Ba, Sr, Sn, and Co. Most stable was Pb-Ag-Sn-Co alloy. Discusses effects of different admixts on performance of anodes.

206T31

USSR/Chemistry - Electrolysis Jan 52

"Anode Potentials of Lead and Its Alloys," G. Z. Kir'yakov, V. V. Stender, Inst of Chem Sci, Acad Sci Kazakh SSR

"Zhur Prik Khim" Vol XXVI, No 1, pp 23-29

Studied effects of different alloying admixts (Ag, Pt, Au, Hg, Sn, Co, Ba, Sr, As, Mn) on potential (under electrolysis of H_2SO_4 solns) of Pb alloy anode as compared with pure Pb anode. Among other things, found that potential of most stable alloy under electrolysis (Pb-Ag-Sn-Co) is most electronegative, and potential of most unstable (Pb-Au-Hg)

206T38

USSR/Chemistry - Electrolysis (Contd) Jan 52

is most electropos. Explained fact that small amt of Co reduces potential and increases stability on basis that anode surface acts as catalyst surface.

206T38

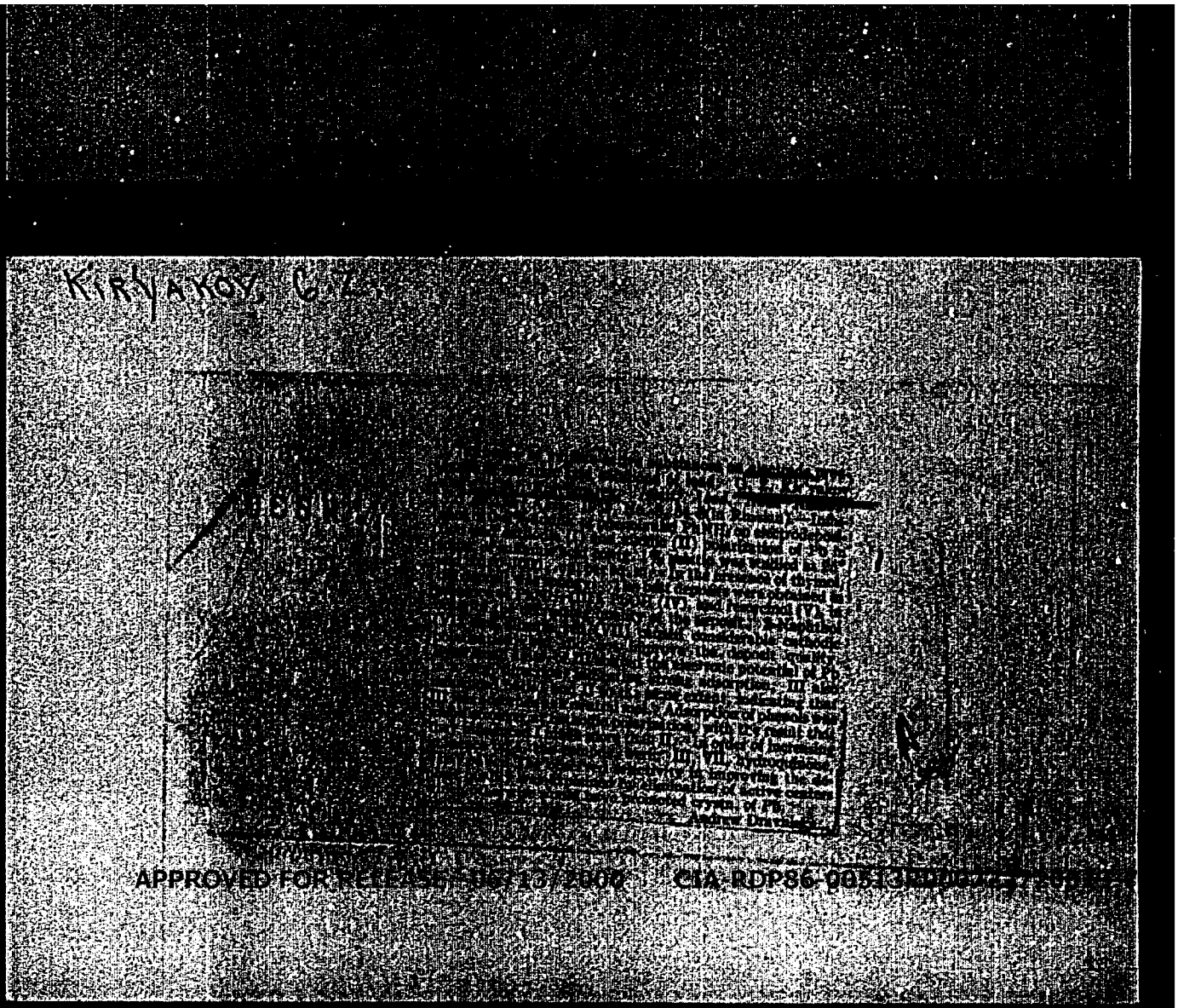
KIR'YAKOV, G. Z.

KIR'YAKOV, O. Z.

Metallurgical Abst.
Vol. 21 May 1954
Electrometallurgy and Electrochemistry

Inst. Chem. Sci
Acad Sci Kazakh SSR

[illegible] Electrochemical Anodic Compounds of Lead and Its Alloying Ingredients. O. Z. Kir'yakov and V. V. Stender (Zhur. Prikład. Khim., 1953, 26, (10), 1050-1061 (in Russian); J. Appl. Chem. U.S.S.R., 1953, 26, (10), 1093-1104 (in English)).—An investigation of the electrochem. mechanism of the action of alloying addn. in protecting Pb from corrosion during anode polarisation in H_2SO_4 by the method of Pecherskaya and S. (ibid., 1950, 23, 920; M.-A., 21, 807), except that the electrode gas was not collected. A plate of Pb and one of the alloying metal being studied, each framed in synthetic resin to give a free surface of 1 cm.², were connected by short thick wires of known resistance and placed in electrolyte to form a short-circuited microcouple. The electrode potential (V) and c.d. (D) were measured with various resistances. Sulphamic acid (60 g./l.) was used as electrolyte (instead of H_2SO_4) so that the Pb anode should not be coated with a film of PbO_2. Results are tabulated for the following couples: Pb/Ag, Pb/Tl, Pb/Au, Pb/Co, with and without anode polarization, at 25° C. Polarising currents of up to 600 m.amp./cm.² were applied. The observed distributions of V and D were confirmed by experiments in H_2SO_4. Ag and Tl protect Pb from corrosion, since, in spite of the high V on them, they collect a larger part of the current (because of the high elect. conductivity of these metals and their oxides). Co partly protects Pb in this way, and partly by alternating discharge of Co^{2+} ions at some points of the anode and catalytic decompn. of oxidised compounds at others. Ca and other electronegative addn. have only a temporary protective effect on Pb, ending when they no longer dissolve from the surface layer. Au and Hg promote the corrosion of Pb, since they are strongly passivated, give oxides of low elect. conductivity, diminish the active area of the anode, and raise the c.d. K. and S. discuss the general results of the three parts of the investigation (see two preceding abstracts).—O. V. K. T.



137-58-2-3534

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 179 (USSR)

AUTHOR: Kir'yakov, G. Z.

TITLE: On the Protective Effect of Alloying Substances in Anodic Corrosion of Lead Alloys (O zashchitnom deystvii legiruyushchikh dobovok pri anodnoy korrozii svintsovykh splavov)

PERIODICAL: Izv. AN KazSSR, Ser. khim., 1956, Nr 10, pp 53-57

ABSTRACT: The protective effect of alloying substances in the process of corrosion of metals not subject to outside polarization may, in accordance with present-day concepts, be explained by an increase in the passivation of the metal surface due to: 1) the development of electrochemical processes induced by cells (composed of the base and the alloying metals), 2) by the packing of the protective film by the oxidation products of the alloying elements, 3) by change in the structure of the metal due to the introduction of these alloying elements. Comparative measurements are presented of the potentials of anodes made of Pb and its alloys, the effect of the porosity of the protective film is determined, and the corrosion strength and the distribution of current at the anode are measured. It is shown

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On the Protective Effect of Alloying (cont.)

that the protective effect of alloying elements is related to nonuniformity in the structure of the metal base of the anode under the film of PbO_2. The current is distributed between the components of the alloy. The Pb is subject to a lesser current density, and the rate at which it dissolves diminishes as a result. In anodic polarization of Pb alloyed by Ag and Tl under conditions in which no protective film is formed, the rate of corrosion of the alloys diminishes as compare with that of the Pb anode.

Ye. K.

1. Lead alloys—Anodic corrosion—Theory

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722720013-7

Card 2/2

KIR'YAKOV, G.Z.

KOZLOVSKIY, M.T.; KIR'YAKOV, G.Z., kandidat khimicheskikh nauk; SHELUDYAKOV, L.N., kandidat tekhnicheskikh nauk.

Vladimir Vil'gel'movich Stender; on his 60th birthday and 36th anniversary of his scientific, civic, and pedagogical activities. Vest. AN Kazakh. SSR 13 no.8:99-103 Ag '57. (MLRA 10:9)

1. Chlen-korrespondent Akademii nauk KazSSR (for Kozlovskiy).
(Stender, Vladimir Vil'gel'movich, 1897-)